

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

In the Matter of)	
)	
Technology Transitions)	GN Docket No. 13-5
)	
USTelecom Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services)	WC Docket No. 13-3
)	
)	
Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers)	RM-11358
)	
)	

DECLARATORY RULING, SECOND REPORT AND ORDER, AND ORDER ON RECONSIDERATION

Adopted: July 14, 2016

Released: July 15, 2016

By the Commission: Chairman Wheeler and Commissioners Clyburn and Rosenworcel issuing separate statements; Commissioner Pai approving in part, concurring in part, and issuing a separate statement; Commissioner O’Rielly approving in part, dissenting in part, and issuing a separate statement.

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I. INTRODUCTION

1. Technology transitions demand regulatory transitions. In recent years, the Commission has focused closely on the ongoing transitions from networks based on time-division multiplexed (TDM) circuit-switched voice services running on copper loops to all-Internet Protocol (IP) multi-media networks using copper, co-axial cable, wireless, and/or fiber as physical infrastructure.¹ We are now at a crossroads where legacy technologies remain relevant for certain consumers but new technologies have exploded in popularity. That crossroads necessitates a regulatory transition period, where we eliminate legacy regulations that are no longer necessary and develop the proper framework for the transition to new technologies.

2. The regulations—even the terminology used in those regulations—that guided our traditional regime will grow increasingly anachronistic as a new world of technologies governs the communications landscape. As the tectonic plates of disruptive technological change settle, our role cannot be to avoid the turbulence but to do our best to provide nimble, common sense solutions in the interim until this as yet not fully formed new regime emerges.

3. Our mission is to strip away the outdated and unnecessary while we build a bridge to the new. As we noted last December, we are committed “to eliminating unnecessary burdens on industry and promoting innovation while ensuring our statutory objectives are met.”² We will consistently aim to “modernize[] our rules by removing outmoded regulations, while preserving requirements that remain essential to our fundamental mission to ensure competition, consumer protection, universal service, and public safety.”³ We seek to maximize opportunities for creative disruption and simultaneously preserve essential regulatory protections.

4. Today, we take several actions aimed at stripping away the anachronistic while ensuring that our fundamental values are preserved.⁴ First, we remove the outdated designation of incumbent carriers as dominant in the legacy switched access marketplace. In particular, we grant a petition from the United States Telecom Association seeking a declaratory ruling that incumbent local exchange carriers (LECs) are non-dominant in their provision of interstate switched access services.

5. Second, we establish a framework for evaluating requests to discontinue a legacy voice service as part of technology transitions. In particular, the Second Report and Order announces a three-pronged test for determining whether a new service qualifies as an adequate replacement for a legacy voice service as part of our Section 214 discontinuance application process. The test will ensure that consumers can continue to expect strong service quality, access to critical applications such as 911, and interoperability with other key applications and functionalities.

6. Third, we refine our Section 214 discontinuance notice requirements to ensure that the public is aware of and prepared for such transitions. We require Section 214 discontinuance applicants to implement customer outreach plans and provide consumer education materials, allow applicants to offer notice via email to increase industry and customer convenience, and require notice to Tribal governments in the state where a discontinuance is proposed.

7. Fourth, and finally, we issue an Order on Reconsideration granting in part a petition by U.S. TelePacific Corporation (TelePacific) to address a gap in the Commission’s rules that potentially left

¹ See, e.g., *Technology Transitions et al.*, Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd 14968, 14969, para. 1 (2014) (*Emerging Wireline Notice*).

² *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. 160(c) from Enf’t of Obsolete ILEC Legacy Regulations That Inhibit Deployment of Next-Generation Networks*, WC Docket No. 14-192, Memorandum Opinion and Order, FCC 15-166, para. 2 (rel. Dec. 28, 2015) (*2015 USTelecom Forbearance Order*).

³ *Id.*

⁴ See, e.g., *Emerging Wireline Notice*, 29 FCC Rcd at 14969, para. 1.

competitive LECs without recourse to avoid violating our discontinuance procedures when an incumbent LEC files a copper retirement notice without an accompanying discontinuance of a TDM-based service. We deny, however, TelePacific's petition to the extent it would impose new obligations on copper retirement by incumbent LECs or otherwise delay copper retirements.

II. DECLARATORY RULING (WC DOCKET NO. 13-3)

8. Today we grant a petition from the United States Telecom Association (USTelecom) for a declaratory ruling that incumbent LECs are non-dominant in their provision of interstate switched access services.⁵ We find that incumbent LECs no longer presumptively exert market power in their provision of these services, so dominant carrier treatment under certain of our rules is no longer warranted. As a consequence of this declaratory ruling, incumbent LECs will enjoy streamlined treatment under the Commission's Section 214 review processes and some reduction of their tariffing obligations. At the same time, the requirements imposed on incumbent LECs in the *USF/ICC Transformation Order*—which are not triggered by a dominance classification—will remain in place to facilitate the transition of interstate switched access services to a modern “bill-and-keep” regime.⁶ This ruling takes further steps to modernize the Commission's regulation of incumbent LEC legacy telephone services and encourage more robust deployment of broadband technologies.

A. USTelecom's Petition

9. On December 19, 2012, USTelecom filed a petition for a declaratory ruling that incumbent LECs “are no longer presumptively dominant when providing interstate mass market and enterprise switched access services.”⁷ USTelecom clarified that its Petition “does not encompass dedicated services such as special access” or seek relief from wholesale obligations such as the provision of unbundled network elements (UNEs).⁸ The Wireline Competition Bureau (Bureau) sought comment on the Petition in 2013⁹ and sought further comment to “refresh the record” in early 2016.¹⁰

B. Background

10. *Dominant Carrier Regulation.* In the 1980 *Competitive Carrier First Report and Order*, the Commission established a “two-tiered regulatory approach” under which common carriers are either dominant or non-dominant in their provision of regulated services.¹¹ The defining characteristic of a

⁵ See Petition of USTelecom for a Declaratory Ruling That Incumbent LECs Are Non-Dominant in the Provision of Switched Access Services, WC Docket No. 13-3 (filed Dec. 19, 2012) (USTelecom Petition).

⁶ See *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *aff'd sub nom In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014).

⁷ USTelecom Petition at 9.

⁸ USTelecom Petition at 1 n.2.

⁹ See *Wireline Competition Bureau Seeks Comment on United States Telecom Association Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, Public Notice, 28 FCC Rcd 107 (WCB 2013).

¹⁰ *Wireline Competition Bureau Seeks Comment to Refresh the Record on United States Telecom Association Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Nondominant in the Provision of Switched Access Services*, Public Notice, 31 FCC Rcd 254 (WCB 2016). Comments responsive to the earlier public notice are cited as “Comments [or Reply] to USTelecom Petition” and those responsive to the “refresh-the-record” public notice are cited as “Refresh Comments [or Reply]”.

¹¹ See *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, First Report and Order, 85 FCC 2d 1, 5, para. 22, (1980) (*Competitive Carrier First Report and Order*). This Report and Order was the first of several adopted in CC Docket 79-251, a docket commonly known as the “Competitive Carrier proceeding.” See Further Notice of Proposed Rulemaking, 84 FCC 2d 445 (1981); Second Further Notice of Proposed Rulemaking, 47 Fed. Reg. 17308 (1982); Second Report and Order, 91 FCC 2d 59 (1982); Order on Reconsideration, 93 FCC 2d 54 (1983); Third Further Notice of Proposed Rulemaking, 48 Fed.

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dominant carrier is the possession of market power, which in turn is defined as the power to control prices.¹² The Commission explained that carriers in this position have “substantial opportunity and incentive to subsidize the rates for [their] more competitive services with revenues obtained from [their] monopoly or near-monopoly services.”¹³ By contrast, non-dominant carriers lack “the market power necessary to sustain prices either unreasonably above or below costs.”¹⁴ The Commission determined that relaxed regulatory treatment of carriers in the latter category would reduce barriers to entry and thereby fulfill consumer demand more efficiently than applying the same regulatory requirements to all carriers.¹⁵ Accordingly, it streamlined its regulation of non-dominant carriers while continuing to regulate dominant carriers more extensively.¹⁶

11. To determine whether a carrier possesses market power and is thus dominant, the Commission historically has examined “clearly identifiable market features” such as “the number and size distribution of competing firms, the nature of barriers to entry, and the availability of reasonably substitutable services.”¹⁷ The Commission has recognized that changes in the marketplace can erode the market power of a carrier once considered dominant. Indeed, AT&T, the quintessential dominant carrier in 1980, was declared non-dominant in its provision of domestic interexchange services in 1995.¹⁸

12. *Interstate Switched Access Services.* Incumbent LECs are regulated as dominant carriers in their provision of interstate switched access services.¹⁹ These services are the means by which interexchange carriers (IXCs) obtain access to local telephone exchanges to complete interstate long distance telephone calls.²⁰ IXCs historically paid LECs a per-minute charge for this access.²¹ In this market, an IXC seeking access to a particular subscriber has no choice but to connect with the LEC that serves that subscriber and to pay that LEC’s tariffed rate for the access service. The Commission has thus observed that the market for interstate switched access services “does not appear to be *structured* in a

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Reg. 28292 (1983); Third Report and Order, 48 Fed. Reg. 46791 (1983); Fourth Report and Order, 95 FCC 2d 554 (1983) (*Competitive Carrier Fourth Report and Order*), vacated, *AT&T v. FCC*, 978 F.2d 727 (D.C. Cir. 1992) (*AT&T v. FCC*), cert. denied, *MCI Telecomms. Corp. v. AT&T*, 509 U.S. 913 (1993); Fifth Report and Order, 98 FCC 2d 1191 (1984); Sixth Report and Order, 99 FCC 2d 1020 (1985) (*Competitive Carrier Sixth Report and Order*), vacated, *MCI Telecomms. Corp. v. FCC*, 765 F.2d 1186 (D.C. Cir. 1985), *aff’d*, *MCI v. AT&T*, 512 U.S. 218 (1994) (*MCI v. AT&T*).

¹² See 47 CFR § 61.3(q); see also *Competitive Carrier First Report and Order*, 85 FCC 2d at 6, para. 26, 14-15, para. 56.

¹³ *Competitive Carrier First Report and Order*, 85 FCC 2d at 4, para. 15.

¹⁴ *Id.* at 4, para. 16; see also *id.* at 15, para. 56.

¹⁵ *Id.* at 8, para. 33.

¹⁶ *Id.* at 6, para. 25.

¹⁷ *Competitive Carrier First Report and Order*, 85 FCC 2d at 14, para. 57.

¹⁸ See *Motion of AT&T Corp. to Be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271 (1995) (*AT&T Non-Dominance Order*).

¹⁹ See *Competitive Carrier First Report and Order*, 85 FCC 2d at 6, para. 26; see also *id.* at 15, paras. 62-64.

²⁰ See, e.g., Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(C) in the Phoenix, Arizona Metropolitan Statistical Area, Memorandum Opinion and Order, 25 FCC Rcd 8622, 8649, para. 50, 8678, para. 111 (2010) (*Qwest Phoenix Forbearance Order*).

²¹ See, e.g., FCC, Connecting America: The National Broadband Plan at 142 (2010), <http://download.broadband.gov/plan/national-broadband-plan.pdf>. (National Broadband Plan).

manner that allows competition to discipline rates.”²² In the 2010 *Qwest Phoenix Forbearance Order*, the Commission declared that LECs “[have] market power over originating and terminating switched access.”²³

C. The Market for Interstate Switched Access Services Today

13. Incumbent LECs today provide interstate switched access services under circumstances that have continued to change dramatically even in the six years since the Commission issued the *Qwest Phoenix Forbearance Order*. Specifically, the Commission has adopted rate reforms that fundamentally change the market in which incumbent LECs provide these services. At the same time, Americans have continued to move away from switched access voice lines as they adopt new and more advanced ways of communicating.

1. A New Regulatory Model for Interstate Switched Access

14. The regulatory reforms adopted in the 2011 *USF/ICC Transformation Order* undermine the distinction between dominant and non-dominant providers of interstate switched access services. That order comprehensively reformed the Commission’s intercarrier compensation and universal service rules to promote broadband availability for all Americans.²⁴ An integral component of these reforms was the adoption of bill-and-keep as “the default methodology” for the exchange of telecommunications traffic, including interstate switched access.²⁵ Under bill-and-keep, a carrier “looks to its end users” rather than to “other carriers and their customers” to recover the costs of exchanging traffic.²⁶ Bill-and-keep has been a success for the mobile wireless industry and offers many advantages over per-minute access charges as a method of compensating LECs for their provision of interstate switched access.²⁷ Perhaps most significantly, bill-and-keep exposes end users more directly to the costs of their telephone service.²⁸ Doing so reduces opportunities for “arbitrage and competitive distortions” in the pricing of interstate switched access and encourages deployment of advanced networks and services.²⁹

15. To facilitate the transition to bill-and-keep, the Commission established a transition path requiring scheduled reductions to intercarrier compensation charges, including interstate switched access charges.³⁰ Under this transition, interstate switched access services are no longer subject to traditional price cap and rate-of-return regulation.³¹ All interstate switched access rate elements are capped, and

²² See *Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 9923, 9936, para. 32 (2001) (*CLEC Access Charge Reform Order*).

²³ *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8664, para. 79.

²⁴ See generally *USF/ICC Transformation Order*. While the Commission’s intercarrier compensation reforms encompass both interstate and intrastate switched access services, see *USF/ICC Transformation Order*, 26 FCC Rcd at 17916-17, paras. 764-65, USTelecom’s petition—and our ruling—concerns only the former. See USTelecom Petition at 9.

²⁵ *USF/ICC Transformation Order*, 26 FCC Rcd at 17904, para. 736.

²⁶ *Id.* at 17904, para. 737.

²⁷ *Id.* at 17904, para. 737. VoIP-PSTN “toll” traffic is subject to interstate access charges. See *id.* at 18008, paras. 943-44.

²⁸ *Id.* at 17904, para. 738.

²⁹ *Id.* at 17911, para. 752 (capitalization removed).

³⁰ See 47 CFR pt. 51 subpt. J (Transitional Access Service Pricing). When referring to rules and reforms adopted “in” or “as part of” the *USF/ICC Transformation Order*, we include subsequent amendments to those rules.

³¹ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17916, para. 764; see also 47 CFR § 51.907(a) (“Carriers will remove [interstate switched access] services from price cap regulation in their July 1, 2012 annual tariff filing.”); *Connect America Fund et al.*, Order, 28 FCC Rcd 3319, 3323, para. 8 (2013) (explaining that the

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terminating access rate elements are being transitioned to bill-and-keep on a multi-year timetable.³² A recovery mechanism is in place to partially offset incumbent LECs' loss of access charge revenues during this transition.³³

2. Continuing Decline of Switched Access Voice Services

16. The ability of callers to place and receive long distance calls over their landlines is what historically made interstate switched access a valuable service.³⁴ Yet demand for this service continues to plummet as subscribership to traditional voice phone service reaches new lows. The Commission observed last year that "almost 75 percent of U.S. residential customers (approximately 88 million households) no longer receive[d] telephone service over traditional copper facilities."³⁵ By USTelecom's estimate, only 16 percent of households retained incumbent LEC switched access lines as of the end of 2015.³⁶ As USTelecom documents in its Petition and in subsequent filings, the switched access lines that once dominated the landscape "have been displaced by wireless and VoIP connections."³⁷ USTelecom asserts that, as of the end 2013, 43 percent of households relied solely on wireless connections for voice service and 30 percent used wired alternatives to incumbent LEC switched voice.³⁸ In addition, USTelecom presents evidence that "the widespread deployment of wired and wireless IP-based networks" has fostered greater reliance on voice alternatives such as text, email, video chat, and social networking applications.³⁹

17. While we agree with commenters that these statistics are too broad and general to support detailed competitive findings,⁴⁰ the overall trends are clear and have only accelerated since USTelecom

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transitional rules "removed rate-of-return carriers from rate-of-return cost-based recovery for interstate switched access services").

³² See 47 CFR §§ 51.907 (Transition of price cap carrier access charges.), 51.909 (Transition of rate-of-return carrier access charges.).

³³ See 47 CFR §§ 51.915 (Recovery mechanism for price cap carriers.), 51.917 (Revenue recovery for Rate-of-Return Carriers.). As part of the transitional recovery mechanism, the Commission defined as Eligible Recovery the amount of intercarrier compensation revenue reductions that incumbent LECs would be eligible to recover through a combination of end-user charges (the Access Recovery Charge (ARC)) and, where eligible and if a carrier elects to receive it, intercarrier compensation replacement Connect America Fund support. A carrier's Eligible Recovery is based on a percentage of the reduction in revenue each year resulting from the intercarrier compensation reform transition. See *USF/ICC Transformation Order*, 26 FCC Rcd at 17957-61, paras. 850-51.

³⁴ See *CLEC Access Charge Reform Order*, 16 FCC Rcd at 9938, para. 38 (noting that end users are "beneficiaries" of interstate switched access).

³⁵ *2015 USTelecom Forbearance Order* at 5-6, para. 6.

³⁶ See USTelecom Refresh Comments at 4 (Chart: ILEC Switched vs. Wireless-Only and Interconnected VoIP Households).

³⁷ USTelecom Petition at iii; see also Verizon Comments to USTelecom Petition at 3-7.

³⁸ USTelecom Refresh Comments at 3.

³⁹ USTelecom Petition at 41-42; see also Verizon Comments to USTelecom Petition at 7-8.

⁴⁰ See COMPTTEL Comments to USTelecom Petition at 3-4; MDTC Comments to USTelecom Petition at 5-7; Cox Comments to USTelecom Petition at 4; NCTA Comments to USTelecom Petition at 6-7; Cbeyond et al. Comments to USTelecom Petition at 6; Ad Hoc Telecommunications Users Committee Comments to USTelecom Petition at 4-5; XO Reply to USTelecom Petition at 5-6; Mich. PSC Refresh Comments at 1-4; GCI Refresh Comments at 4-5; South Dakota Telecom. Assoc. Refresh Reply at 1-2.

filed its Petition.⁴¹ There has been an indisputable “societal and technological shift” away from switched telephone service as a fixture of American life.⁴² Consumers are increasingly able and willing to abandon their landlines in favor of communications technologies that do not rely on local telephone switches. In turn, they are depending less and less on the interstate switched access services of incumbent LECs to facilitate communications across state lines.

18. With these marketplace developments in mind, we turn to the question of whether incumbent LECs remain dominant carriers in their provision of interstate switched access services. For the reasons explained below, we find that incumbent LECs lack market power and therefore are non-dominant in the provision of these services.

D. Determination that Incumbent LECs Are Non-Dominant When Providing Interstate Switched Access Services

19. The Commission regulates carriers as dominant only to the extent they possess market power. Below, we find that regulatory changes have restructured the marketplace in which incumbent LECs provide interstate switched access services so as to deny them market power. For the reasons stated below, we declare incumbent LECs non-dominant in their provision of interstate switched access services.⁴³ This declaration is based in part upon our understanding, as also discussed below, of the regulatory consequences of this ruling and our identification of safeguards that will remain in place to protect consumers; guard against waste, fraud and abuse; and ensure the transition is implemented properly as the marketplace continues to evolve.

20. Before proceeding further, we reject the argument that USTelecom’s request for a declaratory ruling is procedurally improper.⁴⁴ The Commission has authority to issue a declaratory ruling “terminating a controversy or removing an uncertainty.”⁴⁵ USTelecom has raised a significant question as to whether recent marketplace developments have divested incumbent LECs of market power over interstate switched access. Where carriers lack market power, they are entitled to treatment as “non-dominant” rather than “dominant” carriers under existing Commission rules.⁴⁶ We thus find that a declaratory ruling is appropriate to clarify the proper regulatory treatment of incumbent LECs in their provision of interstate switched access services under the market conditions in which they provide these

⁴¹ See *supra* para. 1; *Technology Transitions et al.*, Report and Order, Order on Reconsideration and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372, 9379, para. 9 (2015) (*Emerging Wireline Order and Further Notice*); see also USTelecom Refresh Comments at 3-6.

⁴² USTelecom Petition at ii; see also Free State Comments to USTelecom Petition at 4-5; IIA Comments to USTelecom Petition at 6-7; AT&T Comments to USTelecom Petition at 7-10, Attach. A, B; Digital Policy Institute Comments to USTelecom Petition at 5-6; ITTA Comments to USTelecom Petition at 3-5.

⁴³ The scope of this declaratory ruling is limited to interstate switched access services. We do not address the regulatory treatment of incumbent LECs in their provision of special access services (i.e., Business Data Services). Cf. Sprint Refresh Comments at 6. In addition, non-dominant status does not extend to centralized equal access providers because such carriers do not provide service to end users. See, e.g., *Application of Iowa Network Access Division for Authority Pursuant to Section 214 of the Communications Act of 1934 and Section 63.01 of the Commission’s Rules and Regulations to Lease Transmission Facilities to Provide Access Service to Interexchange Carriers in the State of Iowa*, Memorandum Opinion, Order and Certificate, 3 FCC Rcd 1468 (CCB 1988) (granting authority to operate facilities to provide the benefits of equal access and interexchange carrier competition from a central location in Des Moines Iowa).

⁴⁴ Cbeyond at al. Comments to USTelecom Petition at 3-4; ViaSat Comments to USTelecom Petition at 1; Cox Reply to USTelecom Petition at 1-2; XO Reply to USTelecom Petition at 1-3; South Dakota Telecom. Assoc. Refresh Reply at 3-4.

⁴⁵ See 5 U.S.C. § 554(e); see also 47 CFR § 1.2.

⁴⁶ See 47 CFR § 61.3(q) (definition of “dominant carrier”).

services today.⁴⁷ This holds true regardless of whether we could have chosen a different procedural vehicle, such as a forbearance proceeding, to reach a similar regulatory outcome.

1. Market Power Analysis

21. The Commission defines a dominant carrier as one that possesses market power. Below, we determine that incumbent LECs no longer possess market power over interstate switched access. We then respond to various arguments that incumbent LECs nevertheless remain dominant carriers. We reject these arguments and ultimately declare incumbent LECs as non-dominant in their provision of interstate switched access services.

a. Absence of Market Power

22. Market power is defined for this purpose as “power to control prices.”⁴⁸ The ability of a carrier to exercise this power depends, in part, on the structure of the market in which the carrier operates.⁴⁹ The market for switched access services has changed dramatically with the Commission’s adoption of bill-and-keep as a new methodology for intercarrier compensation. In addition, the overall importance of interstate switched access has continued to decline as consumers have discarded their switched access lines in favor of more advanced technologies. In today’s marketplace, incumbent LECs cannot control prices for, and thus lack market power over, interstate switched access.

23. Prior Commission determinations reaching a contrary conclusion about incumbent LEC market power took place against the backdrop of an “access charge regime” for interstate switched access.⁵⁰ This system was “designed for an era of separate long-distance companies and high per-minute charges.”⁵¹ The purpose of regulated access charges was to allocate the costs of long distance telephone service; LECs were permitted to charge above-cost rates for switched access, generating subsidies for the local network that helped keep basic telephone service affordable.⁵²

24. By 2011, the Commission had long recognized that this model was no longer tenable. The hidden subsidies it produced for traditional phone companies put wireless carriers and other voice providers at a competitive disadvantage and discouraged investment in more advanced, IP-based networks.⁵³ Moreover, the system of regulated per-minute access charges had become “riddled with inefficiencies and opportunities for wasteful arbitrage” that ultimately meant higher telephone bills for consumers.⁵⁴

25. Under the reforms adopted in the *USF/ICC Transformation Order*, the Commission is now phasing out per-minute charges for interstate switched access as it implements bill-and-keep as “the default methodology for all intercarrier compensation traffic.”⁵⁵ While this transition is occurring over

⁴⁷ Cf. Cbeyond at al. Comments to USTelecom Petition at 3-4; ViaSat Comments to USTelecom Petition at 1; Cox Reply to USTelecom Petition at 1-2; XO Reply to USTelecom Petition at 1-3; South Dakota Telecom. Assoc. Refresh Reply at 3-4.

⁴⁸ See 47 CFR § 61.3(q).

⁴⁹ See, e.g., *CLEC Access Charge Reform Order*, 16 FCC Rcd at 9936, para. 32; see also *AT&T Non-Dominance Order*, 11 FCC Rcd at 3293, para. 38.

⁵⁰ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17916, para. 764; see also *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8678, para. 111.

⁵¹ *USF/ICC Transformation Order*, 26 FCC Rcd at 17669, para. 9.

⁵² See *National Broadband Plan* at 142.

⁵³ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17669, para. 9.

⁵⁴ *Id.* at 17669, para. 9.

⁵⁵ *Id.* at 17904, para. 36; see also 47 CFR §§ 51.901-51.919.

several years,⁵⁶ significant regulatory developments have already taken place. Interstate switched access services have been removed from traditional access charge regulation and placed under transitional pricing rules that cap the rates charged for each rate element.⁵⁷ The rules specify dates certain for the transition of terminating switched access rate elements to bill-and-keep, with an end date of July 1, 2018, for price cap carriers and July 1, 2020, for rate-of-return carriers.⁵⁸ Originating access and other remaining rate elements will remain capped at current levels until a transition timetable is established for these rate elements.⁵⁹ The rate caps these rules prescribe are “default rates,” from which the rules permit carriers to deviate by private agreement.⁶⁰ Carriers “who are otherwise required to file tariffs” must “tariff rates no higher than the default transitional rates” set forth in the rules.⁶¹

26. USTelecom argues that adoption of these reforms has rendered concerns about incumbent LEC market power over interstate switched access moot.⁶² We agree. The purpose of these reforms was to establish a uniform set of requirements governing the exchange of switched access traffic. Under the transitional rules adopted to implement the reforms, there are two theoretical options for recovery of interstate switched access revenues: tariffs and private agreements. Tariffed rates may not exceed the “default” rates established under the rules, and private agreements require a willing negotiating partner. The rules thus deny incumbent LECs unilateral control over the prices they charge IXCs for interstate switched access services. When the reforms reach their end point, incumbent LECs will have no right to demand payment for interstate switched access except under the terms of a private agreement.⁶³ We find no basis to ascribe market power to incumbent LECs in their provision of a service that they must provide without any expectation of payment.

27. Of course, the full implementation of bill-and-keep for interstate switched access services is years away. Some commenters suggest that the Commission should await the completion of this process before taking action on USTelecom’s Petition.⁶⁴ We disagree. The Commission’s intercarrier compensation reforms have already progressed to a point where incumbent LECs no longer possess market power over interstate switched access. The transitional access service pricing rules have already put default rates for interstate switched access service into effect, even for rate elements that lack an established timetable for transition to bill-and-keep. Incumbent LECs’ ability to control prices for interstate switched access under these rules is narrowly circumscribed; they only can charge rates at or below the prescribed default rate. These rules prevent incumbent LECs from charging IXCs excessive rates for switched access or inappropriately shifting costs among rate elements.⁶⁵ Accordingly, incumbent LECs are already divested of market power in their provision of interstate switched access services under these rules.

⁵⁶ Its ultimate end date has yet to be established, because the Commission has not adopted a transition timetable for originating access or other interstate switched access rate elements.

⁵⁷ See 47 CFR §§ 51.907, 51.909.

⁵⁸ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17934-35, Fig. 9; see also 47 CFR §§ 51.507-51.509.

⁵⁹ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17905, para. 739, 17933-34, para. 800 & n.1494.

⁶⁰ See 47 CFR § 51.905(a).

⁶¹ See 47 CFR § 51.905(b).

⁶² See USTelecom Reply to USTelecom Petition at 17-18 n.49.

⁶³ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17904-05, paras. 737-38; see also COMPTEL Comments to USTelecom Petition at 11.

⁶⁴ See Granite Comments to USTelecom Petition at 19-20; see also Cox Comments to USTelecom Petition at 5-6; NCTA Comments to USTelecom Petition at 3-4; Sprint Refresh Comments at 2.

⁶⁵ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17934, para. 800 n.1494.

28. This finding is consistent with today's marketplace realities. Interstate switched access was once an indispensable functionality that made long distance communications across multiple networks possible. When every telephone subscriber used a switched access line, every long distance caller relied on interstate switched access by technological necessity. Today, switched access telephone lines are far from "a monopoly platform for the delivery of voice services."⁶⁶ Consumers and businesses rely less than ever on local telephone switches—and, accordingly, on interstate switched access—to communicate over long distances.⁶⁷

29. These "broad market trends"⁶⁸ are persuasively documented in USTelecom's and its supporters' filings.⁶⁹ The competitive decline of switched telephone service could provide a compelling basis for finding that incumbent LECs lack market power over interstate switched access, at least in markets where these competitive trends are most pronounced.⁷⁰ Yet we base our ruling today primarily on changes to the regulatory structure of interstate switched access that are largely independent of these trends. Accordingly, our ruling is not dependent on the extent of competition among geographic and product markets for retail voice services. For instance, even if Granite is correct that "most business locations (especially small and medium business customer locations) do not face facilities-based competitors for switched access services to business customers,"⁷¹ that finding would not undercut our analysis. The same is true of Michigan PSC's claim that rural areas such as Michigan's Upper Peninsula lack reliable wireless service,⁷² and of Sprint's argument that alternatives to incumbent LEC switched voice service are often provided by incumbent LECs themselves or their affiliates.⁷³ Claims such as these are consistent with our finding that incumbent LECs lack market power over the interstate switched access they provide IXCs to complete long distance calls, for the reasons discussed above.

30. Opponents of USTelecom's Petition argue that incumbent LECs' "terminating monopoly" compels a finding that they retain market power over interstate switched access.⁷⁴ Some insist that USTelecom has conceded as much with its observation that LECs may "continue to have power with respect to their own end users."⁷⁵ We disagree. This observation proves too much in the context of deciding whether a LEC is dominant or non-dominant in the provision of switched access services. The Commission has long recognized that *all* LECs—both incumbents and their competitors—have control

⁶⁶ See USTelecom Petition at iii; see also Verizon Comments to USTelecom Petition at 2-3.

⁶⁷ See Verizon Comments to USTelecom Petition at 2 ("[M]ost voice connections and traffic no longer originate on the traditional copper network. In fact, since the peak, ILECs have lost more than 60 percent of their switched access lines and an even greater share of this traffic."); see also FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, Local Telephone Competition: Status as of December 31, 2013 at 2 (2014), https://apps.fcc.gov/edocs_public/attachmatch/DOC-329975A1.pdf.

⁶⁸ See 2015 USTelecom Forbearance Order at 5, para. 6.

⁶⁹ See *supra* Section II.C.2.

⁷⁰ See *Hyperion Telecommunications, Inc. Petition Requesting Forbearance et al.*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 12 FCC Rcd 8596, 8609, para. 24 (1997) (citing competitive carriers' "extremely small market share of the interstate access market" as support for the conclusion that these carriers lack market power) (*Hyperion Forbearance Order*).

⁷¹ Granite Comments to USTelecom Petition at 9 (italics omitted).

⁷² Mich. PSC Refresh Comments at 3.

⁷³ See Sprint Refresh Comments at 5-6.

⁷⁴ See COMPTTEL Comments to USTelecom Petition at 6-7; see also Granite Comments to USTelecom Petition at 3-4; Sprint Comments to USTelecom Petition at 2.

⁷⁵ COMPTTEL Comments to USTelecom Petition at 6 (citing USTelecom Petition at 9 n.16); see also Granite Comments to USTelecom Petition at 3.

over access to their own telephone subscribers.⁷⁶ Yet the Commission has continued to regulate competitive LECs as non-dominant in their provision of interstate switched access services.⁷⁷ The Commission has based this regulatory treatment on external factors that served to constrain competitive LECs' rates, notwithstanding their control over end user access.⁷⁸ Today we find that the Commission's intercarrier compensation reforms have placed incumbent LECs on similar footing. The market for interstate switched access services is no longer structured in a way that permits incumbent LECs to exert market power over these services in a way that is materially different to other (i.e., competitive) LECs.

31. We decline to engage in a more granular market power analysis as some commenters urge.⁷⁹ The transitional pricing rules adopted for switched access services deny incumbent LECs market power over these services.⁸⁰ Because the rules apply categorically to these services, we find no reason to disaggregate our market power analysis by carrier or geographic region. Nor do we distinguish the mass market from enterprise markets in our analysis. The Commission observed in the *Qwest Phoenix Forbearance Order* that incumbent LECs' charges for interstate switched access do not typically vary based on the identity of the end user that generates the traffic.⁸¹ We find no basis in the record for revising that view. Accordingly, we find that incumbent LECs lack market power over both "interstate mass market *and* enterprise switched access services."⁸² Also, because we find that a categorical ruling is appropriate, we decline to grant "presumptive" relief that bases the treatment of an incumbent LEC in a particular market on "case-by-case" factors.⁸³

32. We also decline to engage in a more rigorous examination of traditional market power factors such as market share; demand and supply elasticity; and the size, resources, and cost structure of firms operating in interstate switched access markets.⁸⁴ The Commission has taken such factors into account when assessing whether sufficient marketplace competition exists to deny a carrier market power.⁸⁵ We make no such assessment today. Rather, we find that the Commission's intercarrier compensation reforms have restructured the market for interstate switched access services in a manner that divests incumbent LECs of market power over these services. Although we also take into account the rising competition for voice services documented in USTelecom's filings, standalone competition for interstate switched access services *themselves* is not central to our analysis. A more thorough examination of the competitive dynamics of this market would therefore not improve our analysis.⁸⁶

⁷⁶ See *Hyperion Forbearance Order*, 11 FCC Rcd at 8608-09, para. 24; *CLEC Access Charge Reform Order*, 16 FCC Rcd at 9935, para. 30; see also CenturyLink Refresh Comments at 7 ("[W]hatever the merits of this termination monopoly theory in the past, it is a phenomenon that is equally true for all providers.")

⁷⁷ See generally *Hyperion Forbearance Order*.

⁷⁸ See *id.* at 8608-09, paras. 24-25; see also *CLEC Access Charge Reform Order* 16 FCC Rcd at 9937-40, paras. 37-44.

⁷⁹ See, e.g., COMPTTEL Comments to USTelecom Petition at 3-4; Granite Comments to USTelecom Petition at 2-3; Mich. PSC Refresh Comments at 1-2; Pa. PUC Refresh Reply at 2-3.

⁸⁰ See *supra* Section II.D.1.a.

⁸¹ *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8679, para. 112.

⁸² See USTelecom Petition at 9 (emphasis added).

⁸³ See *id.* at 47.

⁸⁴ See *AT&T Non-Dominance Order*, 11 FCC Rcd at 3293, para. 38; see also *Competitive Carrier First R&O*, 85 FCC 2d at 14, para. 57.

⁸⁵ See, e.g., *AT&T Non-Dominance Order*.

⁸⁶ Cf. MDTC Comments to USTelecom Petition at 3; Cbeyond et al. Comments to USTelecom Petition at 7-8.

33. The market power analysis we perform today is tailored to the characteristics of the markets and services at issue in USTelecom's Petition. We assess market power by evaluating the market conditions that would exist were incumbent LECs not regulated as dominant carriers in their provision of interstate switched access services.⁸⁷ As explained above, we find that the Commission's comprehensive overhaul of its intercarrier compensation and universal service regimes has fundamentally changed the regulatory character of interstate switched access. This regulatory restructuring of the marketplace has led to conditions under which no carrier can exert market power in its provision of these services, regardless of its dominance classification. Failure to take these reforms into account would yield an analysis that exaggerates the ability of incumbent LECs to exert market power over these services in the absence of dominant carrier treatment. We thus find it appropriate to conduct our market power analysis against the backdrop of these regulatory reforms.

34. The possession of market power is what defines a "dominant carrier" under Part 61 of the Commission's rules.⁸⁸ Incumbent LECs no longer possess market power over interstate switched access, so we find that they are no longer dominant in their provision of interstate switched access services. Because this decision is based on our analysis of the market conditions under which incumbent LECs provide these services today, we find irrelevant COMPTTEL's assertion that USTelecom has failed to substantiate any harms "attributable to dominant carrier regulation."⁸⁹ While this declaratory ruling will have certain deregulatory consequences for incumbent LECs,⁹⁰ these consequences follow from rather than dictate the ruling.

b. Other Arguments in the Record

35. Some commenters raise arguments against USTelecom's Petition that do not go directly to the question whether incumbent LECs possess market power over interstate switched access. As explained below, we do not find any of these arguments persuasive.

36. We first reject the argument that incumbent LECs' access to Connect America Fund support as part of the transition to bill-and-keep is premised on their designation as dominant in the provision of interstate switched access.⁹¹ The Commission established this recovery mechanism for incumbent but not competitive LECs because the former have "regulatory constraints on their pricing and service requirements . . . that otherwise limit their ability to recover their costs."⁹² These "constraints" include federal and state law requirements that limit the revenues incumbent LECs can recover from their end user telephone subscribers; competitive LECs do not face similar restrictions.⁹³ Because the ruling we issue today preserves this disparate regulatory treatment of end user charges, there remains a reasoned basis for providing incumbent LECs with a recovery mechanism that is not available to competitive LEC providers of interstate switched access.

37. We also are not convinced that the specialized role of price cap incumbent LECs in Connect America Phase I and Phase II is a reason to maintain dominant treatment of these carriers in their

⁸⁷ See, e.g., *Competitive Carrier First Report and Order*, 85 FCC 2d at 14, para. 55 (describing market power in terms whether a carrier has the "ability [and] incentive" to engage in the very forms of misconduct to which dominant carrier regulation is addressed).

⁸⁸ 47 CFR § 61.3(q).

⁸⁹ Cf. COMPTTEL Comments to USTelecom Petition at 8-12; Cox Comments to USTelecom Petition at 5-6.

⁹⁰ See *infra* Section II.D.2.b.

⁹¹ See Sprint Comments to USTelecom Petition at 3-4; see also NCTA Comments to USTelecom Petition at 4; CCA Comments to USTelecom Petition at 2-4; Pa, PUC Reply to USTelecom Petition at 10-11; XO Reply to USTelecom Petition at 4.

⁹² *USF/ICC Transformation Order*, 26 FCC Rcd at 17964, para. 862.

⁹³ *Id.* at 17965, para. 862 & n.1666.

provision of interstate switched access services.⁹⁴ Phase I of the Connect America Fund provided price cap LECs with an initial burst of funding to support immediate broadband deployment.⁹⁵ Under Phase II, price cap LECs were granted the opportunity to receive six years of Connect America funding conditioned on state-level build-out commitments, after which support would be provided through a competitive bidding process.⁹⁶ The design of Connect America Phase I and Phase II reflects a careful balancing of policy considerations, with the overriding goal of expediting broadband deployment for “millions more unserved Americans.”⁹⁷

38. The Commission observed that the historical regulatory treatment of price cap incumbent LECs has left these carriers particularly well-situated to deploy broadband services expeditiously across broad geographies.⁹⁸ Accordingly, the Commission adopted a framework for disbursement of Connect America funds that relied in the first instance on price cap incumbent LECs to deliver voice and broadband services to rural and unserved areas. The decision to structure the Connect America Fund in this manner was thus based on considerations that had nothing to do with whether or not incumbent LECs continue to possess market power over interstate switched access or are constrained by rules that apply specifically to dominant carriers. We are therefore not convinced that price cap LECs enjoy “disproportionate regulatory benefits” under the Connect America Fund such that we must continue to treat these carriers as dominant in their provision of interstate switched access services.⁹⁹

39. Finally, we dismiss a number of miscellaneous objections that have no relevance to our decision. These include generalized claims in the record that incumbent LECs act in ways that betray their status as dominant carriers. COMPTTEL, for instance, asserts that “only a dominant carrier” would adopt the bargaining position the largest incumbent LECs have taken with respect to IP-to-IP interconnection.¹⁰⁰ Sprint meanwhile accuses “certain ILECs” of unlawful access charge practices that it claims are “hardly consistent with a lack of dominance.”¹⁰¹ Assertions such as these do not speak to the precise question at issue in this proceeding, namely whether incumbent LECs continue to possess market power over interstate switched access. Nor does Cbeyond et al.’s contention that “[g]rant of USTelecom’s Petition could lead to a slippery slope in which incumbent LECs rely on the Commission’s nondominance ruling to seek further deregulation.”¹⁰² The ruling we issue today follows from our finding

⁹⁴ Sprint Comments to USTelecom Petition at 3-4; NCTA Comments to USTelecom Petition at 4; *see also* ViaSat Comments to USTelecom Petition at 1-4; CCA Comments to USTelecom Petition at 3-4.

⁹⁵ *USF/ICC Transformation Order*, 26 FCC Rcd at 17673, para. 22.

⁹⁶ *Id.* at 17673-74, para. 24.

⁹⁷ *Id.* at 17673, paras. 22-23; *see also id.* at 17725, para. 156.

⁹⁸ *Id.* at 17730-31, para. 175.

⁹⁹ *See* Sprint Comments to USTelecom Petition.

¹⁰⁰ COMPTTEL Reply to USTelecom Petition at 4-6; *see also* Cox Comments to USTelecom Petition at 3; Cox Reply to USTelecom Petition at 4-5. *But see* AT&T Comments to USTelecom Petition at 3. COMPTTEL, a trade association representing competitive carriers, changed its name to INCOMPAS on October 19, 2015. We refer to its filings in this record under the COMPTTEL name if they were filed before that date.

¹⁰¹ *See* Sprint Refresh Comments at 3 (“Although the Commission has repeatedly found that intraMTA traffic is subject to reciprocal compensation rates, including when an interexchange carrier connects a CMRS carrier and a LEC, certain ILECs continue to insist that access charges apply when they deliver intraMTA traffic over FGD/IXC facilities.” (internal citations omitted)).

¹⁰² Cbeyond et al. Comments to USTelecom Petition at 11; *see also* Sprint Refresh Comments at 4-5 (citing forbearance relief granted to incumbent LECs in other proceedings as a basis for denying UST’s petition); New Networks Institute Refresh Comments at 1 (arguing that the requested ruling “is just another part of the AT&T-Verizon-CenturyLink-USTA plan to remove the companies’ remaining overall obligations”).

that incumbent LECs no longer possess market power over interstate switched access.¹⁰³ The fact that incumbent LECs may cite this ruling in future proceedings as support for “further deregulation” is of no consequence. We will review issues raised in each proceeding independently on the basis of the facts and law at issue therein. Similarly irrelevant is Sprint’s observation that recent decisions have already brought incumbent LECs significant regulatory relief.¹⁰⁴

2. Streamlined Regulation of Incumbent LEC Interstate Switched Access Services

40. Our declaration that incumbent LECs are non-dominant in their provision of interstate switched access services will result in streamlined regulatory treatment of these services. We discuss these deregulatory consequences below. In particular, our ruling will (i) reduce incumbent LEC obligations in their tariffing of interstate switched access services; and (ii) streamline the Section 214 transfer of control and discontinuance review procedures that apply to these services.

41. At the outset, we observe that incumbent LECs are members of several overlapping regulatory categories. Different obligations flow from membership in each category; for instance, some requirements apply to price cap or rate-of-return carriers, some to incumbent LECs,¹⁰⁵ and still others to common carriers or telecommunications carriers. We here identify the obligations that apply to incumbent LECs in their provision of interstate switched access services solely by virtue of their designation as dominant carriers. This question is subtly different from whether a requirement has been or could be characterized as dominant carrier regulation.¹⁰⁶ Our ruling does not affect requirements that may fall in this broader category but that do not turn directly on the designation of an incumbent LEC as dominant under our rules.

42. USTelecom has presented its own analysis of the regulatory consequences of granting its Petition.¹⁰⁷ This analysis includes a table that purports to identify the “affected rules.”¹⁰⁸ We find this analysis relevant and informative, and it largely tracks the discussion that follows. We nevertheless make clear that USTelecom’s analysis is not dispositive. The following discussion reflects the Commission’s understanding and intent regarding the impact our decision will have on the regulatory treatment of incumbent LECs and other carriers under our rules.¹⁰⁹

a. Transition to Bill and Keep

43. The reforms of the *USF/ICC Transformation Order* lie at the heart of today’s ruling. As USTelecom asserts, treating incumbent LECs as non-dominant in their provision of interstate switched

¹⁰³ See *supra* Section II.D.1.a.

¹⁰⁴ See Sprint Refresh Comments at 4-5.

¹⁰⁵ See 47 U.S.C. § 251(h) (defining “incumbent local exchange carrier” for purposes of Section 251 of the Communications Act of 1934, as amended (the Act)).

¹⁰⁶ Compare USTelecom Petition at 9-10 (describing the general concept of “dominant carrier regulation”), with Letter from Diane Griffin Holland, V.P., Law & Policy, USTelecom, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-3 (filed Apr. 1, 2016) (identifying the specific regulatory consequences of declaring incumbent LECs non-dominant in the provision of interstate switched access services) (USTelecom April 1 *Ex Parte* Letter).

¹⁰⁷ See USTelecom April 1 *Ex Parte* Letter; cf. NCTA Comments to USTelecom Petition at 6 (insisting that USTelecom’s petition lacked adequate detail on “the scope of the petition and the consequences of the requested relief”) (capitalization removed).

¹⁰⁸ See USTelecom April 1 *Ex Parte* Letter at Attach. (capitalization removed).

¹⁰⁹ But see South Dakota Telecom. Assoc. Refresh Reply at 3 (arguing that USTelecom has not adequately identified the consequences of granting its petition); NCTA Comments on USTelecom Petition at 5-6. These comments predate USTelecom’s April 1 filing.

access services will not “alter the substantive requirements” of this transition.¹¹⁰ The rules adopted to implement this transition set forth requirements that apply respectively to price cap and rate-of-return carriers.¹¹¹ An incumbent LEC is a price cap carrier if “specified by Commission order” as such.¹¹² Those incumbent LECs that are not price cap carriers are rate-of-return carriers by default.¹¹³ Because the ruling we issue today says nothing about the “specification” of any incumbent LEC as a price cap carrier, it does not alter the status of any incumbent LEC as either a price cap or rate-of-return carrier. Accordingly, the rules that are not premised on a carrier’s dominant or non-dominant status will continue to apply to each incumbent LEC as they do now. We thus reject Michigan PSC’s argument that dominant carrier treatment of incumbent LEC interstate switched access services is necessary to “safeguard customers” from unfair or unjust rates for these services.¹¹⁴

b. Tariffing Obligations and Protections

44. The interstate switched access tariffs filed as part of the transition to bill-and-keep are governed by procedural requirements set forth in Parts 51 and 61 of our rules.¹¹⁵ These rules permit non-dominant carriers to file tariffs on one day’s notice;¹¹⁶ dominant carriers and any carrier seeking deemed lawful treatment of its tariff filing must give seven days’ notice for tariff filings that propose only a rate decrease and fifteen days’ notice for all other filings.¹¹⁷ In addition, supporting data must be filed with certain dominant carrier tariff filings.¹¹⁸ There are also customer notification and minimum effective period requirements that apply only to dominant carriers.¹¹⁹ By redesignating incumbent LECs non-dominant with regard to interstate switched access services, we relieve them of tariffing obligations that apply only insofar as they are dominant.

45. We reject GCI’s argument that permitting incumbent LECs to file tariffs on one day’s notice would unfairly disadvantage competitive LECs by requiring them to adjust their “benchmark” rates more expeditiously.¹²⁰ GCI does not cite any requirement that relief properly granted to certain carriers must never “increase the regulatory burdens of other carriers.”¹²¹ At any rate, GCI has not made clear the harm that would befall competitive LECs were incumbent LEC interstate switched access tariffs filed on one day’s notice. Competitive LECs would remain entitled to fifteen days from the effective date of an

¹¹⁰ USTelecom Petition at 10 n.16.

¹¹¹ See 47 CFR §§ 51.907 (price cap), 51.909 (rate-of-return).

¹¹² See 47 CFR § 61.41(a)(2). While the rule subpart that contains Section 61.41 “appl[ies] to all dominant carriers,” 47 CFR § 61.31, a carrier can be both a price cap carrier and nondominant in its provision of a particular service. Our ruling preserves treatment of price cap incumbent LECs as “dominant carriers” in their provision of such services as special access. But even if a price cap LEC ceased to be dominant with regard to any service, it would remain a “price cap local exchange carrier” unless the Commission issued an order removing this “specifi[cation].” See 47 CFR § 61.41(a)(2).

¹¹³ See 47 CFR § 51.903(g).

¹¹⁴ See Mich. PSC Refresh Comments at 5.

¹¹⁵ See generally 47 CFR pts. 51 & 61.

¹¹⁶ 47 CFR § 61.58(f).

¹¹⁷ 47 CFR § 61.58(a)(2)(i); see also 47 U.S.C. § 204(a)(3).

¹¹⁸ 47 CFR §§ 61.38-39, 61.41, 61.49, 61.58.

¹¹⁹ 47 CFR §§ 61.58(a)(4) (customer notification), 61.59 (minimum effective periods).

¹²⁰ See GCI Refresh Comments at 7-8.

¹²¹ See *id.* at 7 (emphasis omitted).

incumbent LEC tariff filing to adjust benchmarked rates as necessary.¹²² GCI does not explain why fifteen days is insufficient.

46. In any event, we expect that most incumbent LEC interstate switched access tariff filings will continue to be filed on seven or fifteen days' notice as they are now. Most of these filings are submitted as part of an annual tariff filing process prescribed in the Part 51 rules, under which the seven- and fifteen-day notice periods apply.¹²³ More generally, both dominant and non-dominant carriers must file on seven or fifteen days' notice to receive the benefit of "deemed lawful" rates.¹²⁴ Any tariff filed on shorter notice is not presumed to be just and reasonable and may be subject to refund. Filing on shorter notice also precludes Commission review before a tariff filing takes effect. Commission staff carefully review interstate switched access tariff filings from incumbent LECs to ensure that ARCs and Connect America Fund recovery amounts are computed correctly and to guard against waste, fraud and abuse.¹²⁵ Because the public interest demands that we preserve this opportunity for review, we will continue to require incumbent LECs that participate in the recovery mechanism set forth in the Part 51 transitional rules¹²⁶ to file interstate switched access tariff filings on as many days' notice as must be provided today, whether seven or fifteen days.¹²⁷ Retaining this requirement is necessary to ensure a smooth and orderly implementation of the Commission's intercarrier compensation reforms, a key premise of today's ruling.¹²⁸ This need arises not from the analysis of whether a LEC is dominant or non-dominant, but rather from the fact that the LECs in question receive prescribed recovery amounts, including from the Connect America Fund, in connection with the transition to bill-and-keep

47. We also clarify that incumbent LECs may remain obligated to file cost support with their interstate switched access tariffs for reasons not "tied to" market power over interstate switched access.¹²⁹ Those incumbent LECs that participate in the recovery mechanism are already required under the transitional rules to submit cost support as part of their annual tariff filings.¹³⁰ Moreover, as USTelecom observes, the Commission may require filing of additional cost support "where deemed necessary to serve a valid regulatory purpose."¹³¹

48. Overall, the ruling we issue today will reduce the tariffing obligations of incumbent LECs while ensuring that the transition to bill-and-keep continues apace. Tariffing of interstate switched access services is an integral component of that transition. Accordingly, we decline to impose mandatory detariffing on such services as some commenters propose.¹³² Finally, we clarify that this ruling leaves in

¹²² See 47 CFR § 61.26(c).

¹²³ See 47 CFR § 51.919; see also *July 1, 2016 Annual Access Charge Tariff Filings*, Order, 31 FCC Rcd 2002 (WCB 2016).

¹²⁴ See 47 U.S.C. § 204(a)(3).

¹²⁵ The rules governing ARCs and Connect America Fund recovery amounts contain detailed requirements. See 47 CFR §§ 51.915, 51.917.

¹²⁶ See 47 CFR §§ 51.915, 51.917

¹²⁷ See 47 CFR § 61.58(a)(2)(i); see also 47 CFR §§ 51.915, 51.917 (recovery mechanism).

¹²⁸ See USTelecom Refresh Comments at 9 ("To the extent the Commission is concerned that [the requested] ruling might have unintended consequences such as the elimination of a regulation or requirement that might ultimately harm consumers, it has broad discretion to carve out or retain such requirements to the extent they are in the public interest.").

¹²⁹ See USTelecom April 1 *Ex Parte* Letter at 2.

¹³⁰ See 47 CFR § 51.919.

¹³¹ See USTelecom April 1 *Ex Parte* Letter at 3; see also 47 CFR §§ 61.38(a), 61.39(a).

¹³² See Sprint Refresh Comments at 7; INCOMPAS Refresh Reply at 4, n.11.

place the existing requirements that govern NECA pooling,¹³³ including the requirements set forth in the transitional rules.¹³⁴

c. Section 214 Oversight

49. Dominant carriers are generally regulated more carefully than non-dominant carriers under two application filing procedures rooted in Section 214 of the Act. We discuss each of these in turn.

50. *Service Discontinuances.* A common carrier that seeks to discontinue an interstate telecommunications service must notify affected customers and file an application for Commission approval of the discontinuance.¹³⁵ Unless the Commission notifies the applicant otherwise, an application is granted automatically after either 60 days for dominant carriers or 31 days for non-dominant carriers.¹³⁶ Built into these respective timelines are 30-day and 15-day comment periods, during which affected customers or others may register concerns with the proposed discontinuance.¹³⁷ As a result of this declaratory ruling, incumbent LEC applications for discontinuance of interstate switched access services will be placed on the 31-day timeline for streamlined approval, with its 15-day comment period.

51. We are not convinced that preserving the 60-day timeline for review of incumbent LEC applications to discontinue interstate switched access services is necessary to protect consumers. The Michigan PSC does not explain why a streamlined review period would deny adequate protection of “rural and underserved customers” of these services.¹³⁸ At any rate, the Commission’s discontinuance rules grant the Commission discretion to remove an application from streamlined treatment when the public interest demands a more searching review. The Commission has exercised this option in the past when addressing discontinuance applications that raised significant issues that required further scrutiny to protect consumers and the public interest.¹³⁹ The Commission thus has broad flexibility to administer the Section 214 process in a manner that serves the public interest, regardless of which review timeline applies to any application.

¹³³ Cf. GCI Refresh Comments at 7 (urging the Commission to ensure that “any relief granted has no effect on pooling, the pooling process, or the substantive or procedural requirements that apply with regard to pooling and NECA tariff filing”).

¹³⁴ See, e.g., 47 CFR § 51.909(a)(4).

¹³⁵ 47 U.S.C. § 214(a); 47 CFR § 63.71. For convenience, in certain circumstances this item uses “discontinue” (or “discontinued” or “discontinuance,” etc.) as shorthand that encompasses the statutory terms “discontinue, reduce, or impair” unless the context indicates otherwise.

¹³⁶ 47 CFR § 63.71.

¹³⁷ 47 CFR § 63.71(a).

¹³⁸ See Mich. PSC Refresh Comments at 5. We similarly reject New Networks Institute’s claim that “once the ILECs are ruled non-dominant they will simply have carte blanche to shut off all copper networks they want [and] not deliver services.” Net Networks Institute Refresh Comments at 1. Following today’s ruling, incumbent LECs will remain obligated under Section 214 to seek Commission approval before discontinuing interstate switched access services.

¹³⁹ See *Applications of Verizon New Jersey, Inc. and Verizon New York, Inc. to Discontinue Domestic Telecommunications Services Will Not Be Automatically Granted*, Public Notice, 28 FCC Rcd 12252, 12253 n.5 (WCB 2013) (noting that “more than 70 comments” had been received and citing the need for “a thorough investigation of the issues involved in this proceeding”); see also, e.g., *Application of Sprint Communications Company L.P. to Discontinue Domestic Telecommunications Services is Not Automatically Granted*, Public Notice, 30 FCC Rcd 10143 (WCB 2015).

52. We reject the Pennsylvania PUC's argument that placing incumbent LEC service discontinuance applications on the 31-day timeline could interfere with state law.¹⁴⁰ First, the Commission's Section 214 authority applies only to interstate telecommunications services; wholly intrastate services such as local telephone service are excluded from its reach. Moreover, the Section 214 process is not intended to preempt or displace carrier of last resort (COLR) or other service obligations that states may impose on incumbent LECs. Section 214 authority to discontinue an interstate switched access service does not carry with it relief from any COLR or other state law obligations that require a carrier to provide local service.¹⁴¹ The ruling we issue today has no effect on this balance of regulatory oversight between the Commission and the states. Contrary to Michigan PSC's suggestion, this ruling will not "constrain" states in their efforts to address "unique conditions that may exist" within their borders.¹⁴² Rather, states will remain free to regulate intrastate services to the extent they are now.¹⁴³ Also, states retain the option of filing comments on any discontinuance application that raises particular concerns; the Commission will take seriously concerns from a state government authority in evaluating whether to remove an application from streamlined treatment and in evaluating whether to grant.

53. *Transfers of Control.* The applications that carriers must file when they seek to transfer control of lines are also subject to rules that apply differently based on whether or not an applicant is a dominant carrier.¹⁴⁴ Applications that fall within defined categories are eligible for streamlined treatment, under which the application is granted on the 31st day after filing unless the Commission notifies the applicant otherwise.¹⁴⁵ The dominance status of a carrier is relevant to whether an application falls in a streamlined category; for instance, applications may be eligible for streamlining where "[n]either of the applicants is dominant with respect to any service."¹⁴⁶ Today's declaratory ruling thus expands the range of circumstances in which transfers of control involving incumbent LECs would be eligible for streamlined treatment.

54. This relief preserves sufficient Commission oversight of transfers of control. As with service discontinuance applications, the Commission retains broad discretion to remove transfer-of-control applications from streamlined processing. Accordingly, the ruling will not interfere with our ability and willingness to "scrutinize incumbent LECs transactions carefully."¹⁴⁷ We will continue to exercise our discretion to remove applications from streamlined processing where circumstances and the public interest warrant. Moreover, the ruling we issue today does not redesignate incumbent LECs as non-dominant with respect to *all* regulated interstate services.¹⁴⁸ The practical impact of the ruling on

¹⁴⁰ See Pa. PUC Reply to USTelecom Petition at 3-5; see also MDTC Comments to USTelecom Petition at 7-8; cf. Mich. PSC Refresh Comments at 6-7.

¹⁴¹ But see ITTA Comments to USTelecom Petition at 6 (implying that the relief USTelecom seeks would remove "legacy obligations that require ILECs to maintain POTS") (quoting National Broadband Plan at 59). As we explain, our ruling does not affect state law obligations to provide local service. Cf. New Networks Institute Refresh Comments at 1 (arguing that the Commission "seem[s] to have forgotten" the oversight role of states).

¹⁴² See Mich. PSC Refresh Reply at 6-7; see also MDTC Comments to USTelecom Petition at 7-8.

¹⁴³ While the *USF/ICC Transformation Order* expressly brought intrastate access charges under the Commission's Section 251(b)(5) authority, *USF/ICC Transformation Order*, 26 FCC Red at 17920, para. 772, it disclaimed any attempt to preempt or override COLR or similar state law obligations. *Id.* at 17672, para. 15, 17694, para. 82.

¹⁴⁴ See 47 CFR § 63.03; see also 47 U.S.C. § 214.

¹⁴⁵ 47 CFR § 63.03(b).

¹⁴⁶ 47 CFR § 63.03(b)(2)(i).

¹⁴⁷ See Cbeyond et al. Comments to USTelecom Petition at 11.

¹⁴⁸ In particular, the ruling does not affect treatment of incumbent LECs as dominant with respect to Business Data Services (i.e., special access services).

Commission review of transfer-of-control applications may therefore be more limited than some commenters surmise.

d. Additional Safeguards

55. Many of the regulatory protections that apply to incumbent LECs in their provision of interstate switched access services do not depend on their status as dominant carriers. Perhaps the most significant of these are the pricing rules adopted to implement the transition of interstate switched access services to bill-and-keep. Below we discuss additional regulatory safeguards that will remain in place to protect consumers and competition.

56. *Regulation of End User Access Charges.* As noted above, interstate switched access services provide a direct benefit to two distinct customer groups: the IXCs that purchase the regulated access service, and end users that rely on that service to place and receive long distance calls.¹⁴⁹ In recognition of this benefit for end users, the Commission permits incumbent LECs to assess a flat-rated charge on their subscribers to recover a portion of their interstate costs.¹⁵⁰ This subscriber line charge (SLC) may not exceed \$6.50 per month for any residential customer with a single telephone line.¹⁵¹ The intrastate costs of telephone service for end users are governed by state law.

57. As USTelecom concedes, treatment of incumbent LECs as non-dominant in their provision of interstate switched access services does not relieve them from compliance with the SLC cap.¹⁵² The two Commission rules that implement this cap apply respectively to price cap local exchange carriers and non-price cap incumbent local exchange carriers.¹⁵³ Logically, every incumbent LEC falls within one, and only one, of these categories. Therefore, the charges that incumbent LECs impose on end users in conjunction with interstate switched access service will remain capped under the existing rules.

58. *Incumbent LEC Obligations.* Certain obligations apply generally to incumbent LECs as a class, whether or not they are dominant carriers. These include the local competition safeguards set forth in Section 251(c) of the Act.¹⁵⁴ This declaratory ruling has no effect on the scope of these obligations, which will continue to play a vital role in ensuring that consumers have access to competitive voice services.

59. *Other Carrier Obligations.* As USTelecom asserts, grant of its Petition has “no impact on public policy obligations applicable to all carriers such as 911, customer privacy and disabilities access.”¹⁵⁵ The ruling also leaves in place the bedrock protections of Sections 201 and 202 of the Act, under which incumbent LECs must act justly and reasonably and without unjust or unreasonable discrimination in their provision of interstate switched access services.¹⁵⁶

¹⁴⁹ See *supra* Section II.C.2; see also *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8678, para. 111.

¹⁵⁰ See *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8678, para. 111; see also 47 CFR §§ 69.104, 69.152.

¹⁵¹ See *Access Charge Reform et al.*, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, and Eleventh Report and Order in CC Docket No. 96-45, 15 FCC Rcd 12962 (2000) (*CALLS Order*); see also 47 CFR §§ 69.104, 69.152. In the *USF/ICC Transformation Order*, the Commission sought comment on possible changes to the SLC, including the eventual elimination of any distinct end user charge for users of voice service. See *USF/ICC Transformation Order*, 26 FCC Rcd at 18121-22, paras. 1330-33.

¹⁵² See USTelecom April 1 *Ex Parte* Letter at 2 n.5.

¹⁵³ 47 CFR §§ 69.104, 69.152.

¹⁵⁴ See 47 U.S.C. § 251(c); see also USTelecom Petition at 1 n.2 (clarifying that the petition does not seek relief from Section 251(c)(3) unbundling obligations).

¹⁵⁵ USTelecom Petition at 1 n.2.

¹⁵⁶ 47 U.S.C. §§ 201, 202.

III. SECOND REPORT AND ORDER

60. In this Second Report and Order, we update our review and notice procedures governing the filing and processing of applications pursuant to Section 214 of the Communications Act of 1934, as amended (the Act) to discontinue, reduce, or impair service (the Section 214 discontinuance process).¹⁵⁷ Section 214 of the Act and the Commission's implementing rules generally require telecommunications carriers¹⁵⁸ and interconnected Voice over Internet Protocol (VoIP) providers¹⁵⁹ to obtain Commission authority to discontinue interstate or foreign service to a community or a party of a community.¹⁶⁰ We start with an overview of the current discontinuance process and then describe our new "adequate replacement" test, which will apply solely to the context of Section 214 discontinuance applications that involve technology transitions, as defined in detail below. Finally, this Second Report and Order addresses notice and review procedures related to both the 214 discontinuance and copper retirement rules.

A. Background

61. The Act charges the Commission with considering the "public convenience and necessity" in evaluating any application to discontinue, reduce, or impair service.¹⁶¹ All applicants seeking to discontinue a service are currently required to file a Section 214 application in accordance with rules governing notice, opportunity for comment, review, and processing requirements.¹⁶² Commenters have 15 days to file objections if the applicant is a non-dominant carrier and 30 days to file if the applicant is a dominant carrier.¹⁶³ The application is automatically granted on the 31st day after filing for non-dominant carriers and on the 60th day after filing for dominant carriers unless the Wireline Competition Bureau (Bureau) has notified the applicant that the grant will not be automatically effective.¹⁶⁴ The Bureau has considerable discretion in determining whether to grant such authority based on the application, responsive comments, and other filings.¹⁶⁵ The Bureau will normally authorize the discontinuance "unless it is shown that customers would be unable to receive service or a reasonable

¹⁵⁷ 47 U.S.C. § 214(a).

¹⁵⁸ See 47 U.S.C. § 214(a); see also 47 CFR § 63.61 ("Any carrier subject to the provisions of Section 214 of the Communications Act proposing to discontinue, reduce or impair interstate or foreign telephone or telegraph service to a community, or a part of a community, shall request authority therefor by formal application or informal request as specified in the pertinent sections of this part . . ."). The Commission relieved Commercial Mobile Radio Service (CMRS) providers of this obligation in 1994. *Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services*, Second Report and Order, 9 FCC Rcd 1411, 1481, para. 182 (1994); see also 47 CFR §§ 20.15(b)(3), 63.19(c) (exempting CMRS providers).

¹⁵⁹ *VoIP Discontinuance Order*, 24 FCC Rcd at 6045-46, para. 11 (extending "the Commission's domestic discontinuance requirements to interconnected VoIP providers" in order to "safeguard[] the public interest in continuity of such services" without classifying interconnected VoIP services as either telecommunications services or information services). The *VoIP Discontinuance Order* moots any need to find a separate basis of authority over VoIP providers in connection with this Second Report and Order, as NARUC previously contended. See Letter from James Bradford Ramsay, General Counsel, NARUC, to Chairman Tom Wheeler and Commissioners Mignon Clyburn, Jessica Rosenworcel, Ajit Pai, and Michael O'Reilly, GN Docket No. 13-5 at 4 (filed July 7, 2016). (NARUC July 7, 2016 *Ex Parte* Letter).

¹⁶⁰ 47 U.S.C. § 214(a).

¹⁶¹ *Id.*

¹⁶² 47 CFR § 63.71(a)-(b).

¹⁶³ 47 CFR § 63.71(a)(i)-(ii).

¹⁶⁴ 47 CFR § 63.71(e).

¹⁶⁵ *FCC v. RCA Commc'ns, Inc.*, 346 U.S. 86, 90 (1953); see also 47 CFR § 0.91(d) (delegating authority to the Wireline Competition Bureau to adjudicate Section 214 discontinuance applications).

substitute from another carrier or that the public convenience or necessity is otherwise adversely affected.”¹⁶⁶

62. In evaluating whether the discontinuance will harm the public interest, the Commission has for many years employed a five factor balancing test to analyze: (1) the financial impact on the common carrier of continuing to provide the service; (2) the need for the service in general; (3) the need for the particular facilities in question; (4) increased charges for alternative services; and (5) the existence, availability, and adequacy of alternatives.¹⁶⁷ We have concluded that the existence, availability, and adequacy of alternatives, or the adequate replacement factor, has heightened importance in the context of technology transitions.¹⁶⁸ Indeed, the public interest demands that we define more specifically what carriers’ obligations are when discontinuing voice services as part of a technology transition.¹⁶⁹

B. Overview of Our New Approach for Technology Transitions

63. Consistent with the proposals in the *Emerging Wireline Further Notice*,¹⁷⁰ we now adopt an updated approach for preparing, reviewing, and evaluating Section 214 discontinuance applications that relate to technology transitions (technology transition discontinuance applications).¹⁷¹ In this section, we provide an overview of the framework and address generalized arguments raised by various commenters.

64. *The Framework for the Adequate Replacement Test.* We conclude that the public interest requires that applications seeking to discontinue a legacy TDM-based voice service as part of a transition to a new technology, whether IP, wireless, or another type, indicate that a technology transition is implicated.¹⁷² To be clear, the requirements articulated herein for eligibility for automatic grant of discontinuance applications involving a technology transition apply only to legacy voice services.¹⁷³ For

¹⁶⁶ 47 CFR § 63.71(a)(5)(i)-(ii).

¹⁶⁷ *Applications for Authority Pursuant to Section 214 of the Communications Act of 1934 to Cease Providing Dark Fiber Service*, Memorandum Opinion and Order, 8 FCC Rcd 2589, 2600, para. 54 (1993), *remanded on other grounds, Southwestern Bell v. FCC*, 19 F.3d 1475 (D.C. Cir. 1994). Although the five factor test described herein generally provides the basis for reviewing discontinuance applications, our “public interest evaluation necessarily encompasses the ‘broad aims of the Communications Act.’” *Applications of Charter Communications, Inc., Time Warner Cable, Inc., and Advance/Newhouse Partnership For Consent to Assign or Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, FCC 16-59, para. 27 (May 10, 2016) (*Charter*) (quoting *Western Union Division, Commercial Telegrapher’s Union, A.F. of L. v. United States*, 87 F. Supp. 324, 335 (D.D.C. 1949), *aff’d*, 338 U.S. 864 (1949)).

¹⁶⁸ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9481, para. 210. Previously, the Commission has referred to this factor as the adequate substitute factor. We now conclude using the term adequate replacement more accurately captures the concept of “the existence, availability, and adequacy of alternatives” and avoids confusion with other related concepts that employ the term substitute.

¹⁶⁹ *See id.* at 9478, para. 204.

¹⁷⁰ *See id.* at 9478, para. 208. The Commission initiated this rulemaking in November 2014 to help guide and accelerate technology transitions and, among other things, sought comment on proposals for possible criteria against which to measure what would constitute an adequate replacement for retail services that a carrier seeks to discontinue in connection with a technology transition. *Emerging Wireline Notice*, 29 FCC Rcd at 15006, para. 93. Subsequently, in August 2015, the Commission sought comment on specific criteria for the adequate replacement test as well as other aspects of how the test would operate as part of the Section 214 discontinuance process. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478, para. 202.

¹⁷¹ *See infra* Section III; Appendix A, Final Rules, new Section 63.60(h).

¹⁷² *See infra* Appendix A, Final Rules, new Section 63.602(a)(2).

¹⁷³ In the *Further Notice*, we sought comment on the scope of legacy services to which the adequate replacement test should apply. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9481, para. 209. We conclude that the special and long-standing importance of voice service to consumers warrants developing today additional criteria for
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any other domestic service for which a discontinuance application is filed, section 63.71(e) of our rules (redesignated as § 63.71(f) herein) shall continue to govern automatic grant procedures. This approach furthers the public interest because adopting clear, streamlined criteria will eliminate uncertainty that could potentially impede the industry from a prompt transition to newer technologies. Unlike traditional applicants, technology transition discontinuance applicants seeking streamlined treatment will be required to submit with their application either a certification or a showing as to whether an adequate replacement exists in the service area. Applications either (i) certifying or (ii) demonstrating successfully through their showing that an adequate replacement exists will be eligible for automatic grant pursuant to Section 63.71(d) of the Commission's rules as long as the existing requirements for automatic grant are satisfied.¹⁷⁴ We stress that attempting to satisfy the adequate replacement test is entirely voluntary for an applicant.¹⁷⁵ Voice technology transition discontinuance applicants that decline to pursue this path are not eligible for streamlined treatment and will have their applications evaluated on a non-streamlined basis under the traditional five factor test. Moreover, the showing made regarding an adequate alternative under the five factor test does not require the network performance testing and other specific showings required under the adequate replacement test for streamlined treatment.

65. We further conclude that an applicant for a technology transition discontinuance may demonstrate that a service is an adequate replacement for a legacy voice service by certifying or showing that one or more replacement service(s) offers all of the following: (i) substantially similar levels of network infrastructure and service quality as the applicant service; (ii) compliance with existing federal and/or industry standards required to ensure that critical applications such as 911, network security, and applications for individuals with disabilities remain available; and (iii) interoperability and compatibility with an enumerated list of applications and functionalities determined to be key to consumers and competitors. One replacement service must satisfy all the criteria to retain eligibility for automatic grant.

66. We decide to codify this three-pronged test in part in response to concerns that the proposed eight criteria test would be too complicated and burdensome.¹⁷⁶ This straightforward, streamlined approach will promote clarity, certainty, and efficiency. The test encapsulates the important criteria identified in the *Emerging Wireline Further Notice*, but categorizes them conceptually based on the issues raised and the methodology involved in the analysis. As described in further detail below, we group concepts such as service quality and network availability together as they involve a quantitative analysis of performance and are susceptible to empirical benchmarks.¹⁷⁷ Similarly, ensuring continued accessibility for 911 and PSAP services is naturally connected to ensuring accessibility to applications for

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streamlined treatment during technology transitions. Other services to which Section 214(a) discontinuance obligations apply and voice services subject to Section 214(a) being discontinued in non-technology transitions circumstances will continue to be subject to our pre-existing discontinuance process, which provides the public an opportunity to comment and to which our traditional five-factor balancing test applies. We thus decline to apply the adequate replacement test to legacy data services, as suggested by some commenters. See Letter from C. Douglas Jarrett, Counsel to NRECA, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5 & 12-353, Attach. 1 at 1 (filed July 8, 2016) (NRECA July 8 *Ex Parte* Letter).

¹⁷⁴ See *infra* Appendix A, Final Rules, new Section 63.602(b); see also 47 CFR §§ 63.71(a)(5)(i)-(ii), 63.71(d)-(e). This approach is conceptually consistent with AT&T's proposal. See Letter from David L. Talbott, Asst. V.P., Federal Regulatory, AT&T Services Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5 & 12-353, Attach. 1 at 1 (filed May 31, 2016) (AT&T May 31 *Ex Parte* Letter).

¹⁷⁵ See Letter from Katherine R. Saunders, Assoc. General Counsel, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5 et al. at 1 (filed July 7, 2016) (Verizon July 7 *Ex Parte* Letter).

¹⁷⁶ See, e.g., ITTA Comments at 7; USTelecom Comments at 7.

¹⁷⁷ See *infra* Section III.C.1.

individuals with disabilities, as both represent overarching values subject to existing bodies of Commission rules to which an applicant can certify.

67. Technology transition applicants can either demonstrate compliance with these objective criteria or make a demonstration that, despite not being able to meet the criteria, the totality of the circumstances demonstrates that an adequate replacement nonetheless exists.¹⁷⁸ If an applicant cannot certify or make that showing, or declines to pursue the voluntary path of streamlined treatment, it must include in its application an explanation of how its proposed discontinuance will not harm the public interest, with specific reference to the five factors the Commission traditionally considers.¹⁷⁹ The Bureau will then weigh that information as part of the traditional multi-factor evaluation,¹⁸⁰ placing particular scrutiny on the adequate replacement factor under the newly-enhanced test.¹⁸¹

68. This streamlined test addresses all of the important criteria identified in the *Emerging Wireline Further Notice* while categorizing them conceptually to focus on the issues most important to consumers. We take this approach to assuage concerns about the perceived sprawling nature of the proposed test for a replacement service serving as a barrier to technology transitions.¹⁸² Nonetheless, the approach adopted today retains the strong objective standards outlined in the *Emerging Wireline Further Notice* that ensure that technology transitions benefit all Americans.

69. This framework is grounded in the values that the public interest requires us to protect during technology transitions. First, consumers expect and deserve a replacement that will provide comparable network quality and service performance.¹⁸³ Second, the public needs to be assured that critical applications related to public safety and protecting those most vulnerable remain accessible and operational through any transition.¹⁸⁴ Third, consumers should have access to the applications and functionalities they have come to associate as—and which currently remain—key components of a legacy communications service.¹⁸⁵ Fourth, the clarity that comes from established criteria gives applicants,

¹⁷⁸ See *infra* Appendix A, Final Rules, new Section 63.602(b); see also 47 CFR § 63.71(b)(5) (requiring that a carrier include in its discontinuance application, among other things, “[a]ny other information the Commission may require”).

¹⁷⁹ See *supra* para 62; see also AT&T May 31 *Ex Parte* Letter, Attach. 1 at 1.

¹⁸⁰ See 47 CFR §§ 63.51, 63.71(a)(5)(i)-(ii). Only meaningful, factual objections regarding the reliability of certifications provided will be persuasive. We find this approach should address concerns, such as those raised by USTelecom that “even carriers that certify that they meet all the criteria will bear an increased burden of demonstrating that each of the criteria is met, since competitive providers will have incentive to, and thus will challenge all such certifications.” USTelecom Comments at 3. Conversely, our approach of requiring testing data to satisfy the criteria addresses Edison’s concerns that self-certification is not sufficient and applicants should be required to make a detailed showing. Edison Comments at 10. Edison or any other entity or individual may object to the certification or showing, and the Commission will consider the objection and determine if the applicant needs to provide additional support.

¹⁸¹ Mich. PSC Comments at 2-4.

¹⁸² See, e.g., AT&T Comments at 3, 4; Verizon Comments at 5; Alaska Rural Coalition Comments at 4; USTelecom Comments at; CenturyLink Comments at 25; ITTA Comments at 7.

¹⁸³ See AARP Comments at 25; NARUC Comments at 6; Consumer Advisory Committee to the Federal Communications Commission Advisory Recommendation Regarding Technology Transition 08/15 Order and FNPRM, GN Docket No. 13-5 et al., at 3 (adopted June 10, 2016) (CAC June 10, 2016 Technology Transition Recommendation).

¹⁸⁴ See Mich. PSC Comments at 10-11; NARUC Comments at 5; CAC June 10, 2016 Technology Transition Recommendation at 3.

¹⁸⁵ See CWA Comments at 12; NASUCA Comments at 10; CAC June 10, 2016 Technology Transition Recommendation at 3. Many of these applications and functionalities, such as fax machines and point-of-sale terminals, operate over lines traditionally used for the provision of voice service.

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.¹⁸⁶

70. In adopting objective, quantifiable standards for the adequate replacement test, we seek to minimize uncertainty or confusion that could slow or even discourage technology transitions.¹⁸⁷ Moreover, we do not want to stifle the new and innovative ways that a replacement service could benefit customers.¹⁸⁸ For that reason, we announce a test that sets clear, achievable benchmarks but leaves flexibility, recognizing that a shift from a TDM network to a new technology will never be a purely apples-to-apples comparison.

71. The approach we adopt today places a new prominence on the adequate replacement analysis,¹⁸⁹ which we conclude is entirely appropriate.¹⁹⁰ The five factor test is aimed at promoting—and where necessary, balancing—the four missions of our agency, namely to protect consumers, promote competition, ensure universal access, and strengthen public safety.¹⁹¹ Four of the factors—(1) the financial impact on the common carrier of continuing to provide service, (2) the need for the service in general, (3) the need for the particular facilities in question, and (4) increased charges for alternative services—offer a traditional balancing of the financial and competitive needs of industry against the values of consumer affordability and expectations.¹⁹²

72. The adequate replacement factor, in contrast, aims to balance all four missions as a means of ensuring all Americans benefit from these exciting new technologies. This has always required a deeper analysis, but that need is particularly acute in the context of discontinuances involving legacy voice services related to technology transitions.¹⁹³ For example, the adequate replacement test must balance the benefits to a consumer of requiring a replacement service to offer interoperability with applications available through the legacy voice service against the cost and difficulty of maintaining the application in that form to the industry.¹⁹⁴ We conclude, however, that certain principles—such as access

¹⁸⁶ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9480, para. 207; CAC June 10, 2016 Technology Transition Recommendation at 3.

¹⁸⁷ See Mich. PSC Comments at 2; Pa. PUC Comments at 17-18.

¹⁸⁸ See USTelecom Comments at 7; CenturyLink Comments at 25; ITTA Comments at 7.

¹⁸⁹ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9481, para. 210.

¹⁹⁰ We thus disagree with commenters that argue we should not focus so closely on the existence of alternatives. See USTelecom Comments at 10 (disagreeing with proposal to present more prominently the adequate replacement factor); CenturyLink Comments at 11-12, 15. The new emphasis on the adequate replacement analysis does not, however, displace the Commission's traditional five-factor test outside the context of technology transition discontinuance applications seeking streamlined treatment. See Letter from Diane Griffin Holland, V.P., Law & Policy, USTelecom Association, to Marlene Dortch, Secretary, FCC, GN Docket Nos. 13-5 & 12-353, at 2 (filed June 20, 2016) (USTelecom June 20 *Ex Parte* Letter).

¹⁹¹ *Technology Transitions et al.*, Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, 29 FCC Rcd 1433, 1441, para. 23 (2014) (*Technology Transitions Order*).

¹⁹² *Verizon Tel. Cos., Section 63.71 Application to Discontinue Expanded Interconnection Service Through Physical Collocation*, Order, 18 FCC Rcd 22737, 22742, para. 8 (2003).

¹⁹³ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478, 9480, paras. 202, 207.

¹⁹⁴ See *id.* at 9480, para. 207. Compare Greenlining Comments at 2 (“The Commission should ensure that the ‘tech transition’ does not simply replace the current network with technology that offers equivalent service; rather, the Commission should craft rules that ensure the tech transition fixes historical inequities in telecommunications access.”) with AT&T Comments at 5-6 (“Rarely will a new technology duplicate each and every capability of a legacy technology, but that hardly means that, on balance, it is not an ‘adequate substitute.’ Indeed, in some instances, the new technology obviates the need for the legacy service.”). We disagree with CenturyLink that the action we take today is inconsistent with the Commission's recent revisions to the universal service program rules,

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to critical applications such as 911—are not subject to balancing and must remain available and fully functional as part of any transition.¹⁹⁵ The streamlined, technology neutral framework that we describe below will help to protect those principles.

73. *Limited to the Technology Transition Context.* We conclude that the adequate replacement test we discuss here should only apply to any application involving a technology transition from TDM to IP or wireline to wireless in which the applicant intends to discontinue completely customers' access to the legacy voice service.¹⁹⁶ The components of the test we set out below are specifically tailored to measure considerations relevant to a technology transition that are not as prominent in other contexts. For example, requiring minor discontinuances of particular applications or functionalities (such as operator-assisted functionalities) associated with a service¹⁹⁷ to demonstrate that an adequate replacement is available is not necessary. Although comments on this issue were limited, none specifically had concerns about limiting the adequate replacement test to applications involving technology transitions. In fact, Verizon endorsed that approach as preferable to the alternative,¹⁹⁸ and the Michigan Public Service Commission (PSC) endorsed it explicitly.¹⁹⁹ We conclude that limiting the test to the context of technology transitions accomplishes our regulatory goals in an appropriately narrow manner.²⁰⁰

74. *No Presumptions or Exclusions Regarding Specific Technologies.* We reject calls from incumbent LECs to presume that particular technologies, by their nature, represent an adequate replacement for legacy voice services in all instances. CenturyLink and Verizon urge adoption of a presumption that certain services *per se* constitute adequate replacements.²⁰¹ Verizon urges the Commission to establish a “safe harbor” under which it would automatically grant Section 214 applications that involve “outdated, legacy services” when discontinuing service will not terminate the user’s ability to call 911.²⁰²

75. We reject such requests because our public interest analysis demands that applicants provide objective evidence showing a replacement service will provide quality service and access to

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particularly in the Connect America Fund proceeding. See CenturyLink Comments at 18-20. We made it clear in the *December 2014 Connect America Order* that even though we were forbearing “from enforcing a federal high-cost requirement that price cap carriers offer voice telephony service throughout their service areas pursuant to Section 214(e)(1)(A) in three types of geographic areas,” those carriers are still subject to Section 214(a)’s mandate regarding the need for Commission authorization before discontinuing a service. *Connect America Fund et al.*, Report and Order, 29 FCC Rcd 15644, 15663-64, para. 51 (2014) (*December 2014 Connect America Order*).

¹⁹⁵ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9479, para. 205; see also Mich. PSC Comments at 4-5; AARP Comments at 20-22.

¹⁹⁶ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478, para. 202; *Emerging Wireline Notice*, 29 FCC Rcd at 15014-15, para. 113; see also Verizon Comments at 6-7; AT&T May 31 *Ex Parte* Letter, Attach. 1 at 1.

¹⁹⁷ See, e.g., Section 63.71 Application of AT&T Alaska et al. for Authority Pursuant to Section 214 of the Communications Act of 1934, as Amended, to Discontinue the Provision of Service, WC Docket No. 16-13 (filed Jan. 6, 2016), <http://apps.fcc.gov/ecfs/comment/view?id=60001372231>.

¹⁹⁸ See Verizon Comments 6-7.

¹⁹⁹ See Mich. PSC Comments at 2.

²⁰⁰ See, e.g., Mich. PSC Comments at 2-4, Verizon Comments 6-7.

²⁰¹ See CenturyLink Comments at 28; Verizon Comments at 8-9 (specifying VoIP, wireless, and over-the-top service over wireline or wireless). CenturyLink contends that facilities-based VoIP has been called a “reasonable substitute” in other proceedings and that should close the issue of whether it is an adequate replacement in this context. See CenturyLink Comments at 31.

²⁰² See Verizon Comments at 3-4.

needed applications and functionalities.²⁰³ We agree with commenters that IP-based and other new services should demonstrate that they meet consumers' and providers' fundamental needs through satisfaction of performance standards, compliance with Commission rules, and harmony with key legacy functionalities and applications before we grant permission to remove existing voice services from the marketplace.²⁰⁴ Moreover, it is critical that we retain the ability to examine each discontinuance application given the potential for variability in different implementations of the same technology. The same technology could nonetheless utilize different features, be produced by different vendors with different methodologies, and use different quality measurement techniques, any of which could result in varied service quality and thus lead to potential interoperability issues.²⁰⁵

76. At the same time, we recognize the importance of promoting speedy transitions and therefore reject calls to eliminate the streamlining and automatic grant procedures for discontinuance applications related to technology transitions. For example, we disagree with AARP and others who argue that any path to automatic grant should be eliminated.²⁰⁶ Our goals here are not only to protect consumers and competition but also to do so in a manner that facilitates the benefits of technology transitions and promotes their occurrence with all reasonable efficiency. We believe the current discontinuance process, subject to the changes adopted today, provides the appropriate balance of allowing for public comment and objections while retaining the opportunity for speedy and effective resolutions.

77. We intend to retain largely the same standards for automatic grant that apply under the current regime for the special context of technology transitions.²⁰⁷ We do adopt, however, AT&T's proposal to allow a more streamlined approach for discontinuances involving services that are substantially similar to those for which a Section 214 discontinuance has previously been approved, as discussed more fully below. We also take action to streamline our Section 214 process in instances where consumers no longer subscribe to legacy voice services. Although our actions today focus primarily on technology transitions, we recognize that the market is constantly evolving even outside the context of these crucial transitions. For that reason, we adopt AT&T's common sense proposal that a Section 214 discontinuance application be eligible for automatic grant without any further showing if the applicant can demonstrate that the service has zero customers in the relevant service area and no requests for service in the last six months.²⁰⁸

78. *No Arbitrary Timelines.* We are not persuaded by incumbent LECs that contend that we should establish timelines for reviewing applications that are not eligible for automatic grant.²⁰⁹ We reject

²⁰³ See, e.g., NASUCA Comments at 4-6; Public Knowledge et al. Comments at 1-2; cf. AARP Comments at 14-20 (discussing the problems associated with CenturyLink's proposed rebuttable presumption and Verizon's proposed safe harbor)

²⁰⁴ See Pa. PUC Comments at 3.

²⁰⁵ See *Technology Transitions Order* 29 FCC Rcd at 1527-28, Appendix B, paras. 33-34. As described in further detail below, we will allow testing data from one area to be used to support future discontinuance applications in another area, conditioned on certifications that the network is built according to the same detailed design plan as the network supporting the service under the prior discontinuance. See *infra* Section III.C.1.a. This requirement prevents consumers from being harmed by implementation variability.

²⁰⁶ See AARP Comments at 8-9; cf. Letter from Harold Feld, Sr. V.P., Public Knowledge, to Marlene H. Dortch, Secretary, FCC GN Docket Nos. 13-5 and 12-353, at 1 (filed June 6, 2016) (Public Knowledge June 6 *Ex Parte* Letter) ("With regard to discontinu[ing] entire TDM-based systems as part of the tech transition, however, it is premature to discuss streamlining.").

²⁰⁷ See 47 CFR § 63.71.

²⁰⁸ See AT&T May 31 *Ex Parte* Letter, Attach. 1 at 1; see also Public Knowledge June 6 *Ex Parte* Letter at 1; USTelecom June 20 *Ex Parte* Letter at 2.

²⁰⁹ See, e.g., Verizon Comments at 7-9; AT&T Comments at 14-16; AT&T May 31 *Ex Parte* Letter, Attach. 1 at 2.

this request because the public interest demands that we provide appropriate scrutiny and careful review to discontinuance applications related to technology transitions given their novelty and complexity, and we cannot guarantee at this time how long that process will take. If we were to adopt arbitrary timelines now, in advance of receiving a significant number of discontinuance applications associated with technology transitions, it could force us to shortchange our responsibility to ensure that technology transitions result in high service quality and successful customer experiences. In rejecting this request, we note that an application will remain under consideration for automatic grant unless: (i) the Commission receives comments setting forth significant, meaningful, evidence-based objections or (ii) after reviewing the application, Commission staff has concerns about the impact of the planned discontinuance on the public convenience and necessity.²¹⁰ Should such an objection arise, we will review the applicant's and objector's showings as expeditiously as possible. We do intend, as described in further detail below, to rely on the efficiencies of precedent and data provided regarding similar transitions when factually or legally similar disputes arise. Finally, should it be determined that the existing process is resulting in unacceptable delay or inefficiency, we will revisit our decision not to establish timeframes for acting on Section 214 applications.

79. Incumbent LECs further contend we should establish benchmarks for when a Public Notice should be released for a technology transition discontinuance application following its submission.²¹¹ Although we recognize the importance of processing applications promptly, we decline at this time to adopt a hard deadline. Staff review applications for completeness, accuracy, and fulfillment of all predicate requirements, including providing notice to affected customers, before issuing the Public Notice. Imposing a hard deadline could result in issuance of public notice of defective applications, and commenters have not identified a pattern of undue delay. Based on actual experience with the streamlined process we adopt today, we can revisit this issue at a future date if necessary. Moreover, to facilitate public input on these types of applications,²¹² the Wireline Competition Bureau will not only continue to list such notices prominently, but will also identify them specifically as applications related to technology transitions on the Commission's website.

80. *An Objective Factor-Based Test Is Preferable To A Subjective Case-by-Case Approach for Technology Transition Discontinuances.* We conclude that adopting a criteria-based approach is appropriate, and retaining the existing case-by-case approach in the context of technology transitions would be ineffective.²¹³ We disagree with commenters who argue in conclusory terms that imposing any new adequate replacement test will be harmful to the success of technology transitions.²¹⁴ Indeed, the three-pronged test tied to specific benchmarks will allow industry to establish reasonable expectations about the investments necessary to satisfy the test while also protecting consumers.²¹⁵ Specifically, the first prong calls for achievement of objective, measurable benchmarks. The second prong requires certification of compliance with existing Commission rules or industry standards. The third prong requires compatibility and interoperability with an enumerated list of applications and functionalities. Notably, through the detailed articulation that we provide today, the adequate replacement standard will be substantially clearer than it has been to this point.

²¹⁰ See 47 CFR § 63.71(a)(5); see also Pa. PUC Comments at 18.

²¹¹ AT&T July 7 *Ex Parte* Letter Attach at 3.

²¹² See Public Knowledge and CWA July 8 *Ex Parte* Letter at 1-2.

²¹³ See *Emerging Wireline Order and Further Notice*, 30 FCC Red at 9478, para. 204; see also Greenlining Comments at 2; Mich. PSC Comments at 2-4; CAC June 10, 2016 Technology Transition Recommendation at 3.

²¹⁴ See AT&T Comments at 4; CenturyLink Comments at 25; TIA Comments at 5.

²¹⁵ See *infra* Section III.C.

81. Nor does this new approach unfairly burden incumbent LECs. Common carriers have always faced a unique set of public interest obligations under the Act, including Section 214,²¹⁶ and the rules we announce today add meaning and structure to an existing framework.²¹⁷ Moreover, where the adequate replacement test we adopt today is in fact tied to Commission rules, those are rules of general applicability that apply to all carriers in the context of 911/PSAP, applications for individuals with disabilities, and emergency operability requirements.²¹⁸ We conclude that adopting clear, streamlined criteria will eliminate uncertainty that could potentially impede the industry from a prompt transition to newer technologies. Moreover, we limit the burden on applicants by allowing repeat applicants the opportunity, where appropriate, to rely on testing data from previously approved applications involving networks constructed using the same design plan.

82. *Successful Prior Certifications Will Streamline Future Applications.* We adopt a modified form of AT&T's proposal that a repeat applicant for a 214 discontinuance application in the technology transition context can rely on its successful certification of compliance with all three prongs of the adequate replacement test in a previously approved application involving a substantially similar service.²¹⁹ A substantially similar service is one offered by the same applicant relying on the same technology and utilizing a comparable network infrastructure. The practical effect of this rule is to allow the applicant to bypass the performance testing requirements described in detail below.²²⁰ This streamlined approach will benefit applicants, while protecting the interests of all stakeholders, industry and consumers.

83. This approach should go a long way to addressing incumbent LEC concerns that the adoption of new requirements for Section 214 discontinuances will slow technology transitions.²²¹ We agree that an application should be eligible for an automatic grant where a substantially similar showing made by that same applicant has satisfied our public interest considerations. Nonetheless, we recognize that expectations do not always match reality. Therefore, commenters will have the opportunity to rebut an applicant's planned reliance on a previous application if they can offer substantial evidence that the technology or network infrastructure are not in fact substantially similar to the service subject to the certifications in the previous application or the certifications have been proven unreliable, based on significant consumer complaints or new independent data.

84. *Treating First and Third Party Services Equally.* We conclude that both first and third party services should be eligible as potential adequate replacement services. The *Emerging Wireline Further Notice* raised the question of whether an applicant must show that its own replacement services, or first party services, satisfy the criteria or whether services provided by third parties in the service area in question should qualify.²²² Commenters were generally supportive of allowing third party services to be deemed adequate replacement theoretically,²²³ but raised legitimate practical concerns about requiring applicants to certify to performance and compliance standards on behalf of third parties.²²⁴ We agree with

²¹⁶ See 47 U.S.C. § 214; *Western Union*, 87 F. Supp. at 335-36.

²¹⁷ See *Western Union*, 87 F. Supp. at 335-36.

²¹⁸ See *infra* Section III.C.2.

²¹⁹ See AT&T May 31 *Ex Parte* Letter, Attach. 1 at 3.

²²⁰ See *infra* Section III.C.1.a.

²²¹ See, e.g., ACS Comments at 4-5; ITTA Comments at 7; USTelecom Comments at 8-9.

²²² See *Emerging Wireline Order and Further Notice*, 30 FCC Red at 9482, para. 213.

²²³ See, e.g., AARP Comments at 8-9; Mich. PSC Comments at 3; Pa. PUC Comments at 17; AT&T Reply at 8-9; Joint States Reply at 3; see also USTelecom June 20 *Ex Parte* Letter at 2.

²²⁴ See, e.g., AICC Comments at 3; AARP Comments at 10; Cal. PUC Comments at 8; CenturyLink Comments at 16-17; ITTA Comments at 20. On October 30, 2015, the California PUC filed a motion for acceptance of its late-

(continued . . .)

commenters that there is no theoretical reason to exclude third party services. Indeed, third party services have always been eligible for consideration under the 214 discontinuance process as potential adequate replacements.²²⁵ The question is whether an adequate replacement exists in the service area, not who provides the service that provides that adequate replacement.

85. Applicants seeking to discontinue a service have the burden of demonstrating that the discontinuance will not harm the public interest. Relying on third party services inevitably raises questions about competitive considerations and potential gamesmanship; we recognize that in many cases third parties would be unwilling to provide access to proprietary information, which would make it difficult for an incumbent to rely upon the existence of a third party service.²²⁶ Moreover, we recognize that applicants will not be able to certify on behalf of a third party and will thus be required to rely on the option of providing enough information to make an adequate showing to demonstrate that third party service is an adequate replacement.

86. We thus conclude that applicants relying on a third party service should be allowed to make a *prima facie* showing based on publicly available information as to whether the third party service meets our test as an adequate replacement. The adequate replacement test is only part of our public interest analysis, and we will take into account an applicant's faultless inability to access necessary data and information from a third party when reviewing any application that relies on the existence of third party services to meet the adequate replacement test. Any commenter opposing grant of a Section 214 application relying on a third party service must rebut the *prima facie* showing made by the applicant. Should the objecting commenter raise legitimate concerns, we will remove the application from consideration for automatic grant. We note that, in attempting to rebut such a showing, members of the public who use the third party service can agree to participate in tests necessary to measure network performance, as required under the criteria.

87. *Requiring A Single Service to Satisfy All Prongs.* To ensure that consumers receive the integrated service experience they need and deserve, we require that a single service (whether first- or third-party) satisfy all three prongs of the adequate replacement test in order to be eligible for automatic grant.²²⁷ Presuming that it is appropriate to force consumers to mix and match different services would undermine the entire effort.²²⁸ It is reasonable for customers to expect a single service to provide adequate network infrastructure and service quality, performance from critical applications, and access to other key applications and functionalities, as described below – and we accordingly will forgo the more exacting review that accompanies non-streamlined applications only where the carrier demonstrates that a single service will satisfy all three prongs of the adequate replacement test.²²⁹

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filed comments, because key staff were out of the office at critical points in the development of the comments and an unexpected, significant budget constraint required an internal redirection of resources. See Motion of the Cal. PUC for Acceptance of Late-Filed Comments at 1, GN Docket No. 13-5 et al. (filed Oct. 30, 2015). No oppositions to this motion were filed. We grant the California PUC's motion and accept its comments, which we cite herein without reference to the date filed.

²²⁵ In the context of 214 discontinuance applications, applicants have always been able to rely on third party services to demonstrate that an adequate replacement exists. See, e.g., *AT&T Corp. Application for Authority under Section 214 of the Communications Act, as amended, to Discontinue the Offering of High Seas Service and to Close its Three Radio Coast Stations (KMI, WOM and WOO)*, Memorandum Opinion and Order, 14 FCC Rcd 13225, 13230-31, paras. 12-13 (1999) (*AT&T High Seas Order*); see also AICC Comments at 3-4.

²²⁶ AICC Comments at 3; AARP Comments at 10.

²²⁷ See Public Knowledge et al. Comments at 1.

²²⁸ See Greenlining Comments at 5; NASUCA Comments at 12; Public Knowledge et al. Comments at 1-2.

²²⁹ Public Knowledge et al. Comments at 2.

C. The Three Prongs of the Adequate Replacement Test

88. Having described this general framework, we now explain in more detail the three prongs of the test.

1. Network Infrastructure and Service Quality

89. As described above, the test we announce today measures whether a service based on a new technology qualifies as an adequate replacement for a legacy voice service, generally referring to a time-division multiplexed (TDM) circuit-switched voice service running on copper loops.²³⁰ To satisfy the first prong of the adequate replacement test,²³¹ and thereby be eligible for automatic grant, an applicant must demonstrate that at least one service provides:

- substantially similar network performance as the service being discontinued;
- substantially similar service availability as the service being discontinued; and
- coverage to the entire affected geographic service area.²³²

90. Customers rightfully expect that any adequate 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.²³³ However, we recognize that a comparison between a legacy voice service and its potential replacement is not an apples-to-apples comparison. We thus provide applicants the flexibility either to demonstrate compliance with all of the benchmarks described more fully below, or to provide evidence that demonstrates that, despite falling short of certain specified benchmarks, the network providing the replacement service nonetheless provides substantially similar performance and availability when considering the totality of the circumstances. Thus, a replacement network's performance will be evaluated against objective benchmarks, but falling short of any single metric will not automatically disqualify it from being

²³⁰ See *supra* para 64.

²³¹ We tentatively concluded in the *Emerging Wireline Further Notice* that “network capacity and reliability,” “service quality,” and “coverage” should serve as criteria as part of the adequate replacement test. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9480, para. 208. We further tentatively concluded that transmission capability and connection persistence should not be included as separate criteria and that the proposed criteria fully captured what would be measured to demonstrate adequate network infrastructure and service quality. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491, para. 234. Commenters expressed concern about the precision of the terminology used to identify those criteria. See, e.g., AT&T Comments at 4; cf. Rural Associations Comments at 4 (“[A] rule-based approach, which clearly identifies specific concerns and then develops solutions or practices to address them, should be the paradigm, rather than vague guidelines that undermine rather than promote certainty in investment decisions.”). We have thus refined and grouped these criteria to reflect more precisely the measurements we determine are crucial to determine whether a replacement network provides adequate network infrastructure and service quality.

²³² These criteria received support from utilities, state utility commissions, and public interest commenters. See, e.g., NASUCA Comments at 5, 6; AARP Comments at 10-15, 25; NENA Comments at 3, 6; Utilities Telecom Council Comments at 3-4; CWA Comments at 13; Edison Comments at 6 (asserting that “special emphasis should be given to network capacity, performance, quality of service and reliability”); Pa. PUC Comments at 6-7; Mich. PSC Comments at 4; Public Knowledge June 6 *Ex Parte* Letter at 1; NARUC July 7, 2016 *Ex Parte* Letter at 1. In contrast, incumbent LECs generally oppose such metrics. See, e.g., AT&T Comments at 9-10; Verizon Comments at 5-6; TIA Comments at 7; Alaska Rural Coalition Comments at 4-5; AT&T May 31 *Ex Parte* Letter, Attach. 1 at 6; USTelecom June 20 *Ex Parte* Letter at 2. AT&T recommends a rulemaking to set reliability standards for providers and to develop an IP standard for communications providers. See AT&T Comments at 6. ITTA believes carriers should have flexibility in testing methods for network performance. See ITTA Comments at 5.

²³³ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9484, para. 218, 9485, para. 220, 9488, para. 225; see also Mich. PSC Comments at 4; NARUC Comments at 5; CWA Comments at 7.

considered adequate. The actual performance numbers will be evaluated in a holistic manner to determine the overall network performance, enabling the carrier to show that the totality of circumstances demonstrate adequate performance.²³⁴

91. As described in further detail below, we adopt benchmarks related to various metrics that, if satisfied, would demonstrate that a service is performing adequately enough to serve as a replacement for a legacy TDM service. There are two ways of demonstrating adequacy: (i) through performance testing that demonstrates satisfaction of each of the benchmarks, or (ii) a demonstration, based on the totality of the circumstances, the network still provides substantially similar performance and availability.²³⁵ We interpret “substantially similar” in this context to mean that the network operates at a sufficient level with respect to the metrics identified below,²³⁶ such that the network platform will ensure adequate service quality for interactive and highly-interactive applications or services, in particular voice service quality, and support applications and functionalities that run on those services.²³⁷ Under either approach, the applicant initially provides the results of network testing, as well as outage and repair reporting, that demonstrate achievement of the benchmarks, although it may rely in subsequent applications on testing data from a previously approved discontinuance application.

92. Overall, this approach to reviewing network performance and service quality and availability is necessary in the context of technology transitions.²³⁸ We rely on metrics that have relevance across various technologies that form telecommunications networks. Moreover, the opportunity to demonstrate achievement of objective benchmarks allows for clarity and certainty. However, applicants also have the option to make an individualized demonstration of adequacy, thus recognizing there may be subjective elements to any apples-to-oranges comparison. Either way, applicants meeting this prong of for an adequate replacement will still have the opportunity for automatic grant, allowing for speedy review where an applicant complies with all relevant standards. Our mission here is to ensure a customer experience with the replacement service that is substantially similar to the

²³⁴ Retaining a robust network infrastructure and strong service quality is important for all customers, although we recognize certain components are more critical for particular types of customers than for others. *See, e.g.*, Edison Comments at 3-4 (“Electric utilities are Critical Industry Infrastructure entities, and they rely on communications for such critical functions as network monitoring and substation control, which are vital to maintaining reliability of the electric grid. As a result, utilities require a higher quality of service – both in reliability and in performance – than service levels normally provided to residential consumers.”). As discussed above, legacy data services will not be subject to the adequate replacement test and associated streamlined processing that we announce today. Rather, those services would be evaluated under the traditional process, and the Commission will continue to closely scrutinize such applications in determining whether the public interest would be harmed by the discontinuance.

²³⁵ As an example, an applicant might fall just short of our data loss benchmark but nonetheless make a showing that the totality of the circumstances demonstrates adequate performance. That showing would presumably include test data demonstrating achievement of the remaining benchmarks as well as an explanation for why the network fell short of the data loss benchmark and any planned improvements to the network which would allow for enhanced performance in the future.

²³⁶ *See infra* Section III.C.1.a.

²³⁷ *See* CWA Comments at 7 (“Consumers expect their voice communications to be clear, understandable, and free of distortion and their data connections to be sufficiently robust and reliable to access the video- and data-intensive applications on today’s Internet.”). *See* International Telecommunications Union, Series Y: Global Information Infrastructure, Internet Protocol Aspects and Next-Generation Networks, Network Performance Objectives for IP-Based Services, ITU-T Recommendation Y.1541, at 12, table 2 (Dec. 2011), <http://www.itu.int/rec/T-REC-Y.1541-201112-I/en> (ITU Recommendation Y.1541) (defining classes of service, which include applications such as VoIP and Video Conferencing (VTC)). At least one commenter supports referring to standards defined in ITU-T Recommendation Y.1541. *See, e.g.*, CWA Comments at 7.

²³⁸ *See Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9479-80, n.656.

customer experience with the service being discontinued,²³⁹ not to create new obligations.²⁴⁰ We conclude this approach addresses incumbent LEC commenter concerns that the metrics proposed in the *Emerging Wireline Further Notice* would have required the same or better service.²⁴¹

93. We disagree with incumbent LECs who question our focus on network infrastructure.²⁴² Indeed, even in this context, the Commission already considers infrastructure in evaluating discontinuance applications when it considers the need for the particular facilities in question.²⁴³ Relying on performance measurements obtained through testing and reporting to measure service quality has long been a key part of the Commission's public interest responsibilities. The Commission has also required the disclosure of data regarding compliance with various technical metrics for use in evaluating network performance in numerous other contexts and applied the requirements to providers offering services encompassing numerous technologies. Cable operators have been required since 1990 to submit signal leakage reports to show compliance with the performance criteria established by the Commission to test for the interference potential to aircraft communications and navigation over a cable system's distribution plant.²⁴⁴ Our equipment authorization requirements are predicated on testing of radiofrequency device emissions and evaluation of that testing data to determine whether marketing of the device is permissible, and in some cases the results of these tests must be submitted to the Commission.²⁴⁵ As another example, the Commission requires carriers that control the initial call path for more than 100,000 subscriber lines to file call completion data with the Commission.²⁴⁶ Covered providers submit detailed call performance data regarding interstate and intrastate calls to each rural provider of local telecom service.²⁴⁷ Both legacy

²³⁹ See, e.g., AARP Comments at 13; Pa. PUC Comments at 9; TIA Comments at 6; Alaska Rural Coalition Comments at 4-5; Rural Associations Reply at 5.

²⁴⁰ See, e.g., Verizon Comments at 11; Rural Associations Comments at 3; GVNW Reply at 3.

²⁴¹ See, e.g., AT&T Comments at 5-6; CenturyLink Comments at 11-15; TIA Comments at 6; Rural Associations Comments at 3, 9; Rural Associations Reply at 5 (asserting that it is reasonable to inquire whether a replacement service meets existing quality standards); see also *Verizon Metallic Services Order*, 28 FCC Rcd 13826, 13828-29 (2013) ("Consistent with our precedent, we will review each discontinuance application to determine . . . whether customers or other end users are able to receive service or a reasonable substitute from another carrier . . .").

²⁴² See, e.g., Verizon Comments at 1-2, 5-6, 11-12 (asserting that the proposed standards inappropriately focus on technology and facilities rather than services); AT&T July 6, 2016 *Ex Parte* Letter Attach at 3 (contending metrics are likely to become obsolete and inconsistent).

²⁴³ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478-79, n.656; *Section 63.71 Application of Verizon New Jersey Inc. and Verizon New York Inc. for Authority to Discontinue Domestic Telecommunications Services*, Order, 28 FCC Rcd 13826, 13830, para. 4 (WCB 2013) (*Verizon Metallic Services Order*).

²⁴⁴ See generally *Amendment of Part 76 of the Commission's Rules to Add Frequency Channeling Requirements & Restrictions & to Require Monitoring for Signal Leakage from Cable Television Sys.*, Report and Order, 65 FCC 2d 813 (1977); *Amendment of Part 76 of the Commission's Rules to Add Frequency Channeling Requirements & Restrictions & to Require Monitoring for Signal Leakage from Cable Television Sys.*, Second Report and Order, 99 FCC 2d 512 (1984).

²⁴⁵ See generally 47 CFR §§ 2.803, 2.901 *et seq.*, 15.1 *et seq.*; FCC, Equipment Authorization Procedures, <https://www.fcc.gov/general/equipment-authorization-procedures>.

²⁴⁶ See *Rural Call Completion*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154, 16185, para. 68 (2013) (*Rural Call Completion Order*).

²⁴⁷ See *Rural Call Completion Order*, 28 FCC Rcd at 16174-91, paras. 40-84. Specifically, covered providers must identify the number of total calls, answered calls, and non-answered calls. *Id.* at 16185, para. 68. For non-answered calls, the covered provider identifies whether the attempts were signaled busy, ring no answer, or unassigned number. *Id.* at 16175, para. 43. Covered providers also submit these same data on an aggregate nationwide basis regarding calls to nonrural carriers. *Id.* at 16185, para. 68.

voice and VoIP providers must file an annual certification documenting efforts to comply with applicable accessibility requirements.²⁴⁸

a. Network Performance

94. We conclude that one aspect of determining whether a service is an adequate replacement for a legacy voice service is network performance. We find that there are two essential metrics used to determine whether a particular data transmission network is an adequate replacement for a legacy wireline voice service: latency and data loss.²⁴⁹ These generic metrics have different names as applied to each discrete technology, but they both measure an essential characteristic of a data transmission network. We conclude these metrics are appropriate for replacement networks in order to provide substantially similar performance as a legacy TDM service. We will rely on the specific performance benchmarks in the chart below for determining whether a network provides substantially similar performance to be considered an adequate replacement for a legacy TDM-based service. We note again that the failure to satisfy a single metric is not disqualifying. An applicant may either demonstrate achievement of both benchmarks, thus presumptively showing adequate performance, or demonstrate that the totality of the circumstances, including the voice service availability and network coverage criteria, demonstrates adequate network performance.²⁵⁰

95. We note that the Commission received limited responses to our request for comment on the appropriate benchmarks and metrics.²⁵¹ We therefore rely on industry technical standards and our approaches in other proceedings to adopt the benchmarks we will use in our Section 214 process.²⁵² The performance benchmarks are measured in accordance with our Technical Appendix.²⁵³

Metric	Benchmark
Latency	100 milliseconds or less for 95% of all peak period round trip measurements, a benchmark consistent with previous Commission decisions in the universal service context, informed by ITU-T standards, and comparable to demonstrated performance under the Commission's Measuring Broadband America program. ²⁵⁴

²⁴⁸ See 47 CFR § 14.31.

²⁴⁹ The ITU-T, which defines metrics, standards for measurement, and performance requirements, is consistent in their identification of the essential characteristics. See ITU-T Recommendation Y.1541, at 25, Table 1 (Mar. 2011), <https://www.itu.int/rec/T-REC-Y.1540-201103-I/en> (ITU-T Recommendation Y.1540); see also *id.* at 20; see also generally International Telecommunications Union, Series G: Transmission Systems and Media, Digital Systems and Networks, *International telephone connections and circuits – General Recommendations on the transmission quality for an entire international telephone connection - One-way transmission time*, ITU-T Recommendation G.114 (May 2003), <https://www.itu.int/rec/T-REC-G.114-200305-I/en> (ITU-T Recommendation G.114).

²⁵⁰ By “presumptive” we refer to the fact the Commission may seek additional proof beyond certification. See *supra* para. 91.

²⁵¹ *Emerging Wireline Notice*, 29 FCC Rcd at 15006-09, paras. 93-101; *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478-86, 9492, paras. 202-21, 234. In the *Emerging Wireline Further Notice*, we sought comment on whether including a throughput metric would help measure network performance and service quality. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9483, para. 217. We find compelling AT&T's argument that such a metric is not independently necessary to determine whether a replacement service will offer substantially similar performance and quality as a legacy voice service. See AT&T July 6, 2016 *Ex Parte* Letter at 4-5.

²⁵² See *infra* paras. 95-102, notes 254-76.

²⁵³ See *infra* Appendix B, Technical Appendix, for a description of the measurement process for these metrics.

²⁵⁴ 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*) (adopting latency

(continued . . .)

Data Loss	Less than or equal to 1 percent for packet based networks. ²⁵⁵
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96. To understand how performance could differ significantly from a legacy voice service, it is important to understand the fundamental differences between the circuit-switched networks used for most traditional plain old telephone service (POTS) and services utilizing IP networks. For most data communications, a packet-switched network (i.e., an IP network) is more efficient than a circuit-switched network (i.e., a TDM network) because a packet-switched network does not dedicate capacity for the duration of a particular call or session. In an IP network, communications are broken down into discrete packets that disperse in search of the most effective, least congested route to their destination. For time-sensitive applications like voice service, a packet-switched network uses specific performance objectives to meet required quality-of-service.²⁵⁶ The metrics and benchmarks we describe in Appendix B specify where these quality-of-service objectives are measured.²⁵⁷

97. Latency and data loss are the terms used for the two essential metrics described above for measuring network performance as a means of comparison to a legacy wireline voice service. We plan to apply the same metrics and benchmarks to all replacements, whether fixed or mobile, wireline or wireless, terrestrial or satellite. These metrics reflect the type of performance that should be expected of a sophisticated packet-based network infrastructure that can carry one or more applications including voice calls, fax, security/health alerts, gaming, video streaming and video conferencing. In order to be

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metrics for rate-of-return carriers electing model-based Connect America Fund support); *see also* Office of Engineering and Technology & Consumer and Governmental Affairs Bureau, FCC, 2015 Measuring Broadband America Fixed Broadband Report: A Report on Consumer Fixed Broadband Performance in the United States, at 17 (2015), <http://data.fcc.gov/download/measuring-broadband-america/2015/2015-Fixed-Measuring-Broadband-America-Report.pdf> (2015 *Measuring Broadband America Fixed Broadband Report*) (providing data that show ISPs meet latency target). This metric also provides for a latency performance that will allow the applicant's network to perform its portion of an end-to-end voice call.

²⁵⁵ See J.H. James, et al., *Implementing VoIP: A Voice Transmission Performance Progress Report*, Institute of Electrical and Electronics Engineers, at 36, <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1316528&tag=1> (last visited July 7, 2016) (IEEE VoIP Data Loss Article) (“Considering all the qualifying factors, we believe that VoIP networks must hold packet loss below 1 percent in order to deliver a level of voice quality that is public switched telephone network (PSTN) equivalent.”); *see also* 2015 *Measuring Broadband America Fixed Broadband Report* at 19, Chart 8. In adopting this benchmark, we find compelling AT&T's argument that “any packet loss below 1 [percent] is not discernable by the user.” *See also* Letter from David L. Talbot, Asst. V.P., Federal Regulatory, AT&T Services Inc., to Marlene H. Dortch, Secretary, FCC GN Docket Nos. 13-5, 12-353, Attach. at 4 (filed July 7, 2016) (AT&T July 7, 2016 *Ex Parte* Letter).

²⁵⁶ Traditionally, “real-time applications proceed far more smoothly in a circuit-switched environment, where bandwidth is guaranteed, than in a . . . packet-switched environment,” where there is extensive and constant competition for bandwidth. Jonathan E. Nuechterlein & Phillip Weiser, *Digital Crossroads* 169 (2d. ed. 2013). More specifically, a packet-switched network's ability to support real-time applications can be undercut by “latency” (i.e., “perceptible delays” in the delivery of information packets) and “jitter” (i.e., “disruptive packet-to-packet variability in delay”). *See* Nuechterlein & Weiser at 31 (defining latency and jitter). In contrast, communication through a conventional TDM network occurs through centralized switches, which tightly control applications that run on the network. *See* Nuechterlein & Weiser at 28-29. A traditional TDM network “guarantee[s] bandwidth by dedicating a circuit to each call, even when no one is talking, while conserving on the network's overall switching and transport needs by limiting the bandwidth assigned to each circuit.” Nuechterlein & Weiser at 168. *See* James F. Kurose & Keith W. Ross, *Computer Networking: A Top-Down Approach* 41(6th ed. 2013), <http://www.nylxs.com/docs/cmpnet.pdf> (explaining packet loss).

²⁵⁷ *See infra* Appendix B, Technical Appendix.

eligible for automatic grant, an applicant must be prepared to demonstrate the replacement service will perform as effectively as the legacy voice service.²⁵⁸

98. *Latency.* In order for a replacement service to meet this aspect of the network performance prong and be eligible for streamlined treatment, latency must be limited to 100 milliseconds or less. Latency measures the time it takes for a data packet to travel from one point to another in a network, and is a significant factor in analyzing a network's performance.²⁵⁹ The Commission has measured latency as the round-trip time from the consumer's home to the closest designated speed measurement server within the provider's network and back.²⁶⁰ The *2015 Measuring Broadband America Fixed Broadband Report* found that the differences in average latencies among terrestrial-based broadband service areas are small and unlikely to affect the perceived quality of web browsing and video streaming.²⁶¹ Average latency for all terrestrial technologies ranged from 14 milliseconds to 52 milliseconds.²⁶² In an order reforming rate-of-return universal service mechanisms, the Commission required rate-of-return carriers accepting model-based support to certify that 95 percent or more of all peak period measurements of network round-trip latency are at or below 100 milliseconds.²⁶³

99. AT&T asserts that the 100 millisecond roundtrip benchmark cannot be applied to the network architecture of certain non-packet based wireless services and that, as a result, the Commission

²⁵⁸ See ITU-T Recommendation G.114 at 3 (Using the E-Model shows that one-way latency less than approximately 280 milliseconds will result in an R-factor of 80 or above, which is "users satisfied" or better, and latency less than approximately 375 milliseconds will result in an R-factor of 70 or above, which is "some users dissatisfied" or better. Data rate (speed) on for PSTN voice DS-0 (Digital Signal) defines separate 64Kbps upstream and downstream data rate (speed) circuits.); see also, e.g., Letter from Harold Feld et al., Public Knowledge, to Chairman Tom Wheeler, FCC, GN Docket Nos. 12-353 and 13-5, Attach. CTC Technology & Energy, A Brief Assessment of Engineering Issues Related to Trial Testing for IP Transition at 1 (filed Jan. 13, 2014) (stating that "the basic core functionality of the PSTN holds critical importance to American citizens, businesses, and institutions. As a result, the transition to IP technology—which is an upgrade to the PSTN, not a replacement—requires verification that the new IP environment delivers the same capabilities, reliability, and other critical aspects of the old technologies upon which Americans have long relied."); AARP Comments at 14 ("AARP believes that replacement services should have availability that is consistent with legacy service standards.").

²⁵⁹ See Pa. PUC Comments at 8-9. *But see* Edison Comments at 9 (asserting that certain utility applications require less than 100 millisecond latency). Measuring Broadband America data shows that wireline broadband providers meet this requirement. See *2015 Measuring Broadband America Fixed Broadband Report* at 17.

²⁶⁰ See Office of Engineering and Technology & Consumer and Governmental Affairs Bureau, FCC, 2014 Measuring Broadband America Fixed Broadband Report: A Report on Consumer Fixed Broadband Performance in the U.S., at 15-16 (2014) (*2014 Measuring Broadband America Fixed Broadband Report*), <http://data.fcc.gov/download/measuring-broadband-america/2014/2014-Fixed-Measuring-Broadband-America-Report.pdf>.

²⁶¹ *2015 Measuring Broadband America Fixed Broadband Report* at 18.

²⁶² *Id.* at 17.

²⁶³ *Rate-of-Return Reform Order*, 31 FCC Rcd at 3099, para. 28; see also *Connect America Fund et al.*, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051, 7103-04, paras. 149, 152 (2014); *Connect America Fund*, Report and Order, 28 FCC Rcd 15060, 15068-72, paras. 19-25 (WCB 2013) (*CAF Phase II Service Obligations Order*). More recently, the Commission decided to allow bidders in the Phase II competitive bidding process to designate whether their bids would be "low latency" (committing to under 100 milliseconds of latency) or "high latency" (committing to under 750 milliseconds of latency and a Mean Opinion Score of 4 or better for voice services). It did so in order to make the auction "as competitive as possible," while also concluding that it would weigh high latency bids differently than low latency bids. It concluded that it preferred low latency over high latency. *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No 10-90 et al., FCC 16-64, paras. 33, 84 (rel. May 25, 2016).

should “adopt[] a threshold of less than 200 milliseconds measured mouth-to-ear.”²⁶⁴ The 100 millisecond roundtrip standard is consistent with the *CAF Phase II Service Obligations Order*, where the Wireline Competition Bureau explained that it designed the 100 millisecond roundtrip latency standard to ensure that consumers ultimately achieve 200 milliseconds mouth-to-ear latency.²⁶⁵ That being said, with respect to AT&T’s concerns about certain non-packet based wireless voice services for which AT&T asserts the 100 millisecond roundtrip benchmark is inappropriate, the totality of the circumstances approach allows applicants to provide objective evidence to support their showing that the replacement service would offer substantially similar network performance and service availability, even if that evidence is not identical to the exact metrics that we identify.²⁶⁶ Specifically, because the 100 millisecond roundtrip standard is designed to ensure that consumers achieve 200 millisecond mouth-to-ear latency,²⁶⁷ objective evidence that a non-packet based replacement service meets the underlying 200 millisecond mouth-to-ear standard would be compelling as a component of a totality of the circumstances showing.

100. *Data Loss.* In order for a replacement service to meet this aspect of the network performance prong, data loss should be less than 1 percent for packet-based networks.²⁶⁸ We conclude that data loss exceeding 1 percent for packet-based networks would cause performance issues that warrant further examination. Applicants would need to demonstrate data loss is lower than this benchmark in order to have the opportunity to be eligible for automatic grant. Data loss is often referred to as the IP Packet Loss Ratio (IPLR) in IP networks.²⁶⁹ This metric measures the ratio of total lost IP packet outcomes to total transmitted IP packets in the environment under review.²⁷⁰ Consecutive packet loss is of particular concern for certain time-sensitive applications, such as voice and video.²⁷¹

²⁶⁴ AT&T July 7, 2016 *Ex Parte* Letter at 2. Specifically, AT&T asserts that the 100 millisecond benchmark applies to the roundtrip path from the input device to the Internet core, and the network architecture for certain wireless voice services that do not utilize Internet Protocol or an Internet Exchange Point. *See id.* at 1-2.

²⁶⁵ *See CAF Phase II Service Obligations Order*, 28 FCC Rcd at 15068-72, paras. 19-24; *see also* ITU Series G.114 at 3. After factoring in delays caused by communications equipment and transmittal through the Internet backbone, the *CAF Phase II Service Obligations Order* found that the roundtrip latency to the network core should be no more than 100 milliseconds in order to ensure that consumers achieved the 200 millisecond mouth-to-ear latency for VoIP calls. *See CAF Phase II Service Obligations Order*, 28 FCC Rcd at 15068-72, paras. 19-24. This 200 millisecond “mouth-to-ear” transmission delay includes latency caused by the transmission of a data packet from one point to another across the Internet, as well as latency generated by sources outside of the network, including data processing delays generated by communications equipment.

²⁶⁶ *See supra* Section III.B. Our metrics, benchmarks, and methodologies measure packet-based technologies, which we expect will most frequently be associated with next generation technologies. *See Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9373, para. 1 (“Communications networks are rapidly transitioning away from the historic provision of time-division multiplexed (TDM) services running on copper to new, all-Internet Protocol (IP) multimedia networks using copper, co-axial cable, wireless, and fiber as physical infrastructure.”). We also note several examples of packet mobile networks. *See, e.g.*, ITU-R M.2134, Requirements Related to Technical Performance for IMT-Advanced Radio Interface(s) at para. 1 & §§ 4.5.2, 4.7, & 4.8 (2008), https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-M.2134-2008-PDF-E.pdf (last visited July 7, 2016); *see also* Magdalena Nohrborg, *LTE Overview*, 3GPP, <http://www.3gpp.org/technologies/keywords-acronyms/98-lte> (last visited July 7, 2016); ETSI TS 123 401 V13.6.1, LTE; General Packet Radio Service (GPRS) Enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) Access (3GPP TS 23.401 version 13.6.1 Release 13) (May 2016), http://www.etsi.org/deliver/etsi_ts/123400_123499/123401/13.06.01_60/.

²⁶⁷ *See CAF Phase II Service Obligations Order*, 28 FCC Rcd at 15068-72, paras. 19-24.

²⁶⁸ *Cf.* AT&T July 7, 2016 *Ex Parte* Letter at 4 (“any packet loss below 1 [percent] is not discernable by the user”).

²⁶⁹ *See* IEEE VoIP Data Loss Article at 36.

²⁷⁰ *See id.* The following resources note metrics for describing one-way loss patterns. *See generally* Internet Engineering Task Force, Network Working Group, Request for Comment 3357, One-way Loss Pattern Sample Metrics (Aug. 2002), <https://tools.ietf.org/html/rfc3357>; *see also generally* Internet Engineering Task Force,

(continued . . .)

101. We have chosen a packet loss rate of less than 1 percent because it will allow for successful quality voice calls and other highly interactive applications.²⁷² We further find that this data loss benchmark is appropriate to ensure successful transmission of voice and video communications.²⁷³

102. We reiterate that network performance has long been a hallmark of this country's communications networks and that continues during the technology transitions. These service metrics and benchmarks address regulatory "substance" over "form" as recommended by TIA.²⁷⁴ Our metrics are designed to "impact[] an end user's expectation regarding service availability and performance" rather than address attributes associated with a specific technology.²⁷⁵ Our metrics encompass many suggested by AARP.²⁷⁶

103. We disagree with Verizon's argument that measurements for data loss and latency are inappropriate because they "relate to the facilities and networks over which services travel, not the services themselves."²⁷⁷ As explained above, although the network infrastructure and the services that run over the network are distinct, network performance affects the service quality being delivered to customers and thus should be measured.²⁷⁸ These measurements are an objective tool for determining when an application will be eligible for automatic grant; if the applicant cannot demonstrate that, it is appropriate to engage in further examination to ensure the services provided over newer technologies are adequate replacements for legacy voice services.²⁷⁹

104. We disagree with CenturyLink that performance metrics are unnecessary if the Commission engages in public outreach and consumer education.²⁸⁰ Although we expect carriers to engage in significant public outreach for their particular discontinuances, we find that adopting objective metrics is nonetheless independently beneficial both to the carriers seeking to file Section 214 discontinuances and the American public. We recognize, as raised by ITTA, that carriers may incur costs

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Network Working Group, Request for Comment 2680, A One-way Packet Loss Metric for IPPM (Sept. 1999), <https://tools.ietf.org/html/rfc2680> (noting metrics for describing one-way loss patterns).

²⁷¹ Alexander F. Ribadeneira, An Analysis of the MOS under Conditions of Delay, Jitter and Packet Loss and an Analysis of the Impact of Introducing Piggybacking and Reed Solomon FEC for VOIP (May 4, 2007), http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1043&context=cs_theses; VoIPTroubleshooter.com, InDepth: Packet Loss Burstiness, Section 4, <http://www.voiptroubleshooter.com/indepth/burstloss.html> (last visited June 20, 2016).

²⁷² Cf. AT&T July 7, 2016 *Ex Parte* Letter at 4 (stating that "any packet loss below 1 [percent] is not discernable by the user").

²⁷³ *Id.*

²⁷⁴ TIA Comments at 6.

²⁷⁵ TIA Comments at 6; *see also* Public Knowledge et al. Comments at 5 (arguing that measuring the "availability of key functions post-transition; adopting metrics for jitter, packet loss, and through-put . . . are all critical to ensuring the smoothest possible transition"); CWA Comments at 7 ("In addition to standards for voice service, the Commission should adopt standards for data communications, including metrics for jitter, packet loss, and through-put."); Public Knowledge June 6 *Ex Parte* Letter at 1.

²⁷⁶ AARP Comments at 14 (recommending a 99.99 percent data delivery standard, 50 millisecond round-trip latency standard, and 3 millisecond one-way jitter standard); *see also* Public Knowledge et al. Reply at 7 (supporting AARP's proposed metrics).

²⁷⁷ *See* Verizon Comments at 11-12.

²⁷⁸ *See supra* para. 93.

²⁷⁹ *See* Public Knowledge et al. Comments at 2.

²⁸⁰ CenturyLink Comments at 5, 34-35.

in order to demonstrate they meet these benchmarks.²⁸¹ We have taken steps to limit the burden of making these demonstrations in the Section 214 discontinuance process.²⁸² As described above, we allow successful testing results to be used as support for future applications involving the same applicant offering a service on a substantially similar network. Moreover, carriers are not required to meet these standards to file a Section 214 discontinuance; if a carrier does not wish to present such information, its Section 214 application will not be eligible for automatic grant, but rather will be subject to the traditional review process. And finally, as discussed more fully below, we exempt small providers from the requirement to submit testing results in order to be eligible for automatic grant.²⁸³

105. *Wireless – Packet Networks.* We intend to rely on the same metrics and benchmarks, applicable to both wireline and wireless networks, when we examine whether a mobile or fixed wireless network can qualify as an adequate replacement. Appendix B allows for generalized network testing standards which are applicable to both wireline and wireless networks. Specifically, fixed wireless broadband access networks are designed to provide high speed connectivity to multiple fixed subscribers' locations where external, directional antennas are used.²⁸⁴

106. *Testing Methodology and Parameters.* We find testing is necessary, at least initially, to ensure that applicants actually meet the benchmarks we have established to be eligible for automatic grant. We specify the testing methodology to be used in measuring network performance in order to avoid confusion and argument over the merits of particular results reported by carriers in their discontinuance applications.²⁸⁵ Moreover, established testing parameters will ensure that the Commission analyzes similar data sets from applicants in the technology transitions. We offer an overview of those parameters here and additional details in Appendix B to this Order. Although we expect that the Order and Technical Appendix will encompass all of the information that applicants need, we delegate authority to the Office of Engineering and Technology, working in consultation with the Wireline Competition Bureau and the Wireless Telecommunications Bureau, to issue more specific testing requirements, as necessary.²⁸⁶

107. In order to comply with the testing parameters listed below, we note that applicants filing their first technology transition discontinuance application will need to begin testing at least 30 days prior to filing that application.²⁸⁷ The 30-day test period is intended to ensure that the network is in a stable state and to allow for long-term projection of network infrastructure performance. Shorter periods would not account for variation in patterns and usage and could allow the applicant time to traffic engineer their network so that the chosen test customers performed better for a short period of time. This is less likely to happen with a longer test period.²⁸⁸

²⁸¹ ITTA Comments at 12 (“For measuring latency, jitter, packet loss, and speed through-put to evaluate the performance, successful routing, completion of connections, and quality deterioration of the service being offered is a costly and painstaking process that could require changes to the carrier’s network.”).

²⁸² See *supra* paras. 64, 67, 77, 80-83, 84.

²⁸³ See *infra* paras. 110-11.

²⁸⁴ See Mike Dano, AT&T testing fixed wireless local loop services with speeds of 15-25 Mbps (Oct. 1, 2015), <http://www.fiercewireless.com/story/att-testing-fixed-wireless-local-loop-services-speeds-15-25-mbps/2015-10-01>.

²⁸⁵ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9482, para. 214, 9483-84, para. 217. We thus disagree with ITTA that carriers should have flexibility in how they test network performance. ITTA Comments at 15-16.

²⁸⁶ 47 CFR §§ 0.31, 0.91, 0.241, 0.291.

²⁸⁷ We note that no commenters addressed what would constitute an appropriate testing period.

²⁸⁸ See *2015 Measuring Broadband America Fixed Broadband Report* at 38, Chart 17.1.

108. To demonstrate that replacement services will have adequate network performance and thereby remain eligible for streamlined treatment for a technology transition discontinuance, the provider must perform the following actions, which are summarized below and detailed in Appendix B to this Order:

- Conduct 30 days of performance testing.²⁸⁹
- Use a randomly selected sample group of a total of 50 residential and 50 enterprise customer locations per potential replacement service for testing, to ensure a representative sample.²⁹⁰
- Report results to the Commission.
- Host a website or websites where all test data, results, test plan and all associated documentation that is not subject to a confidentiality request or confidential pursuant to Section 0.441 *et seq.* of our rules are available publicly.²⁹¹

109. While we provide some flexibility in the testing parameters an applicant will use, the Commission will include in its evaluation of the discontinuance application whether the testing conditions used were appropriate to measure performance. Thus, in addition to testing results, the Commission will consider the testing parameters as a factor in determining whether it needs to remove the application from streamlined processing. If the testing parameters raise sufficient concerns such that the Commission removes the application from streamlined processing, the Commission will then consider those testing parameters in any totality of the circumstances analysis of the adequacy of the replacement network.

110. *Small Business Exemption from the Network Performance Testing Requirements.* We recognize that testing requires time and resources, and that certain commenters are concerned that testing would be too burdensome.²⁹² We balance that burden against the need to ensure that next-generation services meet the needs of consumers. We emphasize that no carrier *must* conduct testing or otherwise meet the criteria we adopt today. Compliance with these criteria merely enables potential automatic grant of a discontinuance application. As previously stated, the adequate replacement factor is merely one part of a multifactor balancing test,²⁹³ and the benchmarks associated with the criteria provide guidance to

²⁸⁹ We chose 30 days as a reasonable sampling frame for this testing to include a period that experiences an adequate amount of usage variation. This timeframe allows for: (1) testing of weekday and weekend periods with sufficient repetition to ensure a single outlying week was not chosen, and (2) monthly variation in network usage for individuals paying bills, 30 day/monthly data caps and enterprise end of month processing.

²⁹⁰ The Commission recognizes that fully random selection may not be possible because customer consent is required and other factors may impact the selection process. If the area where service is proposed to be discontinued is very large, for example covering several states or Tribal lands, more than 100,000 customers, or containing several legacy Local Access Target Areas, then several separate sample sets of 30-50 consumer locations would be required per state, region, or geographically referenced area. Use of these numbers and random selection of customers are in alignment with the approach outlined in the *2015 Measuring Broadband America Report*. See *2015 Measuring Broadband America Fixed Broadband Report*, Technical Appendix at Section 2 (2015) (*2015 Measuring Broadband America Technical Appendix*), <http://data.fcc.gov/download/measuring-broadband-america/2015/Technical-Appendix-fixed-2015.pdf>.

²⁹¹ We would generally consider the detailed design document a document that warrants confidential treatment.

²⁹² See, e.g., Rural Associations Comments at 6; ITTA Comments at 15-16. Cf. Alaska Rural Coalition Comments at 7-8 (seeking to extend the Section 251(f) exemption applicable to network change disclosure requirements to requirements pertaining to discontinuance applications, noting that “rural LECs simply cannot continue to face mounting regulatory obligations in an era of decreasing support and revenue”); Rural Associations Reply at 8 (“[T]o the extent the Commission seeks to impose . . . new performance obligations via the 214 review process . . . some type of rural exemption may indeed be required to recognize special circumstances faced by RLECs and similarly-situated carriers.”)

²⁹³ See *supra* paras. 62, 67, 71-72.

carriers and a path toward automatic grant of their technology transitions discontinuance applications. We also reemphasize that once a carrier completes testing of a next-generation service and successfully obtains automatic grant, it need not conduct testing again if it files an application involving a substantially similar replacement service.²⁹⁴

111. That being said, the Commission has recognized in other contexts that smaller carriers may require more tailored solutions.²⁹⁵ We recognize that network testing under the parameters established in Appendix B could be more burdensome for smaller carriers, given their more limited number of customers. We thus decide to provide smaller carriers more flexibility in how they demonstrate network performance under this prong of the three-pronged test.²⁹⁶ We conclude that carriers with 100,000 or fewer subscriber lines, aggregated across all affiliates, may remain eligible for automatic grant without compliance with the specific testing requirements of the network performance criterion we articulate today.²⁹⁷ We encourage them, however, to share with the Commission whatever information they deem probative of their network performance.

b. Service Availability

112. In order to meet this aspect of the network performance prong and be eligible for automatic grant, an applicant must demonstrate a service availability of 99.99 percent. The test we adopt today consists of a standard formula traditionally used by industry to measure telephone service availability for which we have defined the variables to ensure that all discontinuing carriers are measuring the same information.²⁹⁸ The replacement service's availability will be calculated using data regarding customer trouble reports, the average repair interval in responding to those reports, the number of lines in the service area, and the duration of the observation period to reach a representative measurement of a

²⁹⁴ See *supra* paras. 82-83.

²⁹⁵ See *Rural Call Completion Order*, 28 FCC Rcd at 16168-69, para. 27; *Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers et al.*, Second Report and Order and Further Notice of Proposed Rulemaking in CC Docket No. 00-256, Fifteenth Report and Order in CC Docket No. 96-45, and Report and Order in CC Docket Nos. 98-77 and 98-166, 16 FCC Rcd 19613, 19617, para. 4 (2001) (recognizing that smaller carriers “generally have higher operating and equipment costs . . . due to lower subscriber density, smaller exchanges, and limited economies of scale.”).

²⁹⁶ We do not extend this exemption to any other components of the adequate replacement test we adopt today, including both of the other aspects of the network infrastructure prong (service quality and network coverage) or the other two prongs of the test.

²⁹⁷ See *Rural Call Completion Order*, 28 FCC Rcd at 16168-69, para. 27. We further note that this exemption from complying with the specific testing parameters announced herein does not apply to any rate-of-return carrier that is affiliated with a price cap carrier.

²⁹⁸ The Quality Excellence for Suppliers of Telecommunications (QuEST) Forum provides this formula for the average downtime per year for a 30-day study: $12 \times (\text{Sum of } (A_i P_i)) / (\text{Sum of } S_i)$. See QuEST Forum, TL 9000 Quality Management System – SO [System Outage] Examples at 6.1.3 (2013), <http://www.tl9000.org/handbooks/documents/meas-ex-6-1.pdf> (last visited June 16, 2016). If we modify that formula to take into account study (observation) periods other than 30 days, and express downtime as a fraction of the observation period rather than time/year, the formula becomes

$$(\text{Sum of } (A_i P_i)) / (\text{Sum of } S_i) \times (\text{Study Period})$$

We note that average outage duration (average repair interval) is given by $(\text{Sum of } (A_i P_i)) / (\text{Sum of } (A_i))$, that the total number of outages (trouble reports) is just $(\text{Sum of } (A_i))$, and the total number of systems (lines) in service is just $(\text{Sum of } (S_i))$. The formula expressed is for unavailability. (When downtime is expressed as a fraction of time, it is commonly known as unavailability.) Considering that availability = 1 – unavailability, then $1 - (\text{Sum of } (A_i P_i)) / (\text{Sum of } S_i) \times (\text{Study Period})$ is equivalent to the formula in paragraph 115, *infra*.

“four 9s” benchmark used to measure service availability.²⁹⁹ We conclude these variables will provide the best measure of customers’ ability to access their provider’s network.

113. In the *Emerging Wireline Further Notice*, we proposed to measure what we described as a replacement service’s “reliability” as a key criterion in determining whether a replacement service provides an adequate replacement.³⁰⁰ We continue to believe that service reliability is an important metric. We also agree with commenters that argue a service availability standard is necessary,³⁰¹ because a service that is not generally available for use cannot be considered to be reliable.³⁰² Establishing a benchmark for service availability protects consumers, schools, libraries, healthcare facilities, utilities, and small- and medium-sized businesses, all of which depend on a service to be available when needed for everyday or emergency use.³⁰³ Past experiences, including what occurred on Fire Island after Superstorm Sandy, demonstrate the importance of reliability as we undergo technology transitions.³⁰⁴ We now find that a service availability benchmark will help provide interested stakeholders with clear, objective “criteria that will eliminate uncertainty that could potentially impede the industry from actuating a rapid and prompt transition to IP and wireless technology.”³⁰⁵

114. We conclude that a 99.99 percent service availability standard, calculated according to the formula and parameters established herein, is a reasonable approach to ensure that a replacement service presumptively provides substantially similar service as the service being discontinued.³⁰⁶ We find that the so-called “five 9s” (i.e., 99.999 percent availability) standard proposed by commenters such as NENA, AARP, and AICC,³⁰⁷ which would allow a subscriber’s service to have, on average, approximately 5 minutes and 15 seconds of downtime per year,³⁰⁸ is too high a threshold. It would

²⁹⁹ See AARP Comments at 11; AICC Comments at 8; NENA Comments at 3; Utilities Telecom Council Reply at 3.

³⁰⁰ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9480, para. 208.

³⁰¹ See AARP Comments at 4, 11; AICC Comments at 8; CWA Comments at 6-7; Edison Comments at 7; Mich. PSC Comments at 4; NASUCA Comments at 6, 12-14; NENA Comments at 3; NRECA Comments at 3; Pa. PUC Comments at 8; Utilities Telecom Council Comments at 3, 6-7; Public Knowledge et al. Reply at 7; Public Knowledge June 6 *Ex Parte* Letter at 1. *But see* AT&T Comments at 10 (asserting that “there is simply no need for metrics relating to service quality”); CenturyLink Comments at 11-12 (asserting that consumer adoption of non-legacy services demonstrates that they do not care about service quality standards); Verizon Comments at 11-12 (asserting that reliability and service quality requirements are not necessary); AT&T May 31 *Ex Parte* Letter, Attach. 1 at 6; *see also* Rural Associations Reply at 6.

³⁰² The ITU defines “reliability” as “[t]he probability that an item can perform a required function under stated conditions for a given time interval.” International Telecommunications Union, Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, definitions of terms related to quality of service, ITU-T Recommendation E.800 at 7(Sept. 2008), <http://www.itu.int/rec/T-REC-E.800-200809-I>. It defines “availability” as “[a]vailability of an item to be in a state to perform a required function at a given instant of time or at any instant of time within a given time interval, assuming that the external resources, if required, are provided.” *Id.*

³⁰³ See Mich. PSC Comments at 4; Edison Reply at 6-7.

³⁰⁴ *Emerging Wireline Notice*, 29 FCC Rcd at 14970, para. 4 (discussing Verizon’s proposal to replace legacy services on Fire Island with wireless services in the wake of Hurricane Sandy).

³⁰⁵ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478, para. 203.

³⁰⁶ Network Reliability Council (NRC), Reliability Issues - Changing Technologies Focus Group, New Wireline Access Technologies Subteam Final Report at 4 (Feb. 22, 1996), <https://transition.fcc.gov/nric/nric-2/fg3-wireline-access-report.pdf> (noting that “[t]he industry’s goal is to provide 99.99 percent reliability for telephony services provided over [hybrid fiber coax] and [fiber to the curb] access networks”); *id.* at 9.

³⁰⁷ See AARP Comments at 11; AICC Comments at 8; NENA Comments at 3.

³⁰⁸ AICC Comments at 8.

impose a higher standard than currently applies to TDM-based service.³⁰⁹ We also find that the 98 percent availability standard proposed by CWA,³¹⁰ which would allow, on average, approximately 7 days, 7 hours, and 12 minutes of downtime per year,³¹¹ is too low a benchmark for an applicant to be eligible for automatic grant, because it would allow more downtime than consumers should reasonably expect.³¹²

115. Indeed, a seemingly small difference in an availability standard can lead to significant differences in the amount of time a service is available for use. As AICC points out, the difference between a 99.999 percent and a 98 percent reliability standard—less than 2 percent—translates to more than seven additional days’ worth of service downtime per year, an amount that we judge would be quite meaningful to consumers.³¹³ We conclude that if a replacement service faces that much service downtime, the Section 214 application should not be eligible for automatic grant.

116. For carriers to demonstrate satisfaction of the 99.99 percent standard, we establish the following formula.³¹⁴

$$\text{Availability} = 1 - \left[\frac{(\text{Number of Customer Trouble Reports}) \times (\text{Average Repair Interval})}{(\text{Number of Lines (prorated)}) \times (\text{Observation Period Duration})} \right]$$

For the purpose of this calculation, the following definitions apply:

- A “customer trouble report” is any report regarding trouble with service made by a customer to a carrier’s service department in which the customer reports either: (1) a total loss of connectivity, or (2) an inability to make and/or receive any voice calls using the carrier’s voice replacement service while other services provided over the customer’s connection may continue to function.³¹⁵
- A “repair interval” is the elapsed time, as on a running clock, from when a customer reports a trouble to the carrier’s service department until the carrier’s repair of the trouble is complete and the customer’s service is restored.³¹⁶

³⁰⁹ See, e.g., CenturyLink Reply at 5 (citing to AICC’s proposal for a 99.999 percent reliability standard as an example of a “superior performance standard” requested by the alarm monitoring industry).

³¹⁰ See CWA Comments at 6-7.

³¹¹ AICC Comments at 8.

³¹² This conclusion does not prejudice, however, how we might view such an application in the context of a holistic review. As noted in Section III.C.1, *supra*, the Commission will not necessarily deny a Section 214 application if the replacement service does not satisfy every benchmark we adopt today, including the service availability benchmark. Rather, it will engage in a balancing test.

³¹³ See Richard Clapp, What Does Availability/Uptime Mean in the Real World? <https://www.interworks.com/blog/rclapp/2010/05/06/what-does-availabilityuptime-mean-real-world> (last visited June 16, 2016); AICC Comments at 8; Utilities Telecom Council Reply at 3.

³¹⁴ Consider, for example, a study of 100 lines for 30 days, or 720 hours. The total number of line hours in the study is 100 times 720, or 72,000, the *(Number of Lines) x (Observation Period Duration)*. Suppose also that during the 30-day period, five lines failed, and the mean time to repair for these failures was five hours. In that case, the total number of line hours of unavailability would have been 5 times 5, or 25, the *(Number of Customer Trouble Reports) x (Average Repair Interval)*. Thus the average fraction of the time that all lines were unavailable would have been $25/72,000 = 0.00035$, resulting in availability of $1 - 0.00035 = 0.99965$, or between 99.96 and 99.97 percent availability, as given by the formula in the paragraph.

³¹⁵ The number of customer trouble reports must be tallied over all lines that are serving customers in the replacement network in the affected service area at any time during a contiguous 30-day observation period.

³¹⁶ If a customer reports trouble with service during the 30-day observation period that is not resolved by the end of the 30-day observation period, the length of the repair interval runs from the time the trouble with service is reported (continued . . .)

- “Number of lines (prorated)” is the number of replacement network lines being served by the provider during the 30-day observation period.³¹⁷
- The “observation period duration” should be expressed in the same units as the average repair interval.

117. We believe that the metrics used for this test are sufficiently well-defined to ensure accuracy. Moreover, we expect that service providers will continue to track this sort of information as part of managing their businesses, regardless of technology.³¹⁸ And, as with the network performance testing, we believe that a 30-day observation period should ensure network stability and allow for long-term projection of network reliability.³¹⁹

118. In reporting the results of the availability calculation to the Commission as part of an application seeking streamlined treatment for a technology transition discontinuance, the applicant must report: (1) the number of customer trouble reports; (2) the average repair interval; (3) the number of lines (prorated); and (4) the calculated availability.

119. *Congestion-Based Voice Call Failure.* Certain non-packet wireless access technologies providing fixed services can experience the failure of voice calls because of network congestion. To address this potential issue, we establish a metric that applies solely to these technologies for determining the frequency of congestion-based voice call failure, meaning the probability that a customer trying to make a call will be unable to do so due to network congestion. We conclude that probability must be less than one percent during each daily peak busy hour, for at least 95 percent of the 30 days in the measurement period, to serve as an adequate replacement for a legacy voice service.

120. Congestion-based voice call failure occurs when inadequate network resources prevent a call from being successfully completed.³²⁰ Non-packet wireless access technologies used to provide fixed services are of particular concern here because, unlike service over copper loops which is dedicated to

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to the end of the observation period. The elapsed time may be recorded in measurement units of the applicant’s choosing, as precisely as the applicant chooses. When rounding is required, however, elapsed time must always be rounded up to the next higher measurement unit. The “average repair interval” is then calculated by summing the lengths of all repair intervals, over all lines that are serving customers in the replacement network, and dividing that sum by the number of customer trouble reports in the 30-day observation period.

³¹⁷ For the purpose of this calculation, lines served for part of the observation period should be pro-rated. For example, the customer line that is placed into service halfway through the observation period (i.e., 15 days) would be counted as 0.5 lines. Similarly, the line of a customer who initially has service from the provider but discontinues service a quarter of the way through the observation period (i.e., 7.25 days) would be counted as 0.25 lines. A line that is in service for the entire duration of the observation period is counted as 1 line. When required, round fractional lines to the nearest hundredth of a line. Thus, a line that is in service for 1/3 of the observation period would be counted as 0.33 lines.

³¹⁸ See, e.g., Verizon, 2015 Annual Report, at 22-23, http://www.verizon.com/about/sites/default/files/annual/verizon-annual-2015/downloads/15_vz_ar.pdf (last visited May 13, 2016). Verizon reports 18,387,000 total voice connections, which “include traditional switched access lines in service as well as FIOS digital voice connections,” down 1,408,000 connections from 2014. See *id.*

³¹⁹ See *supra* para. 107.

³²⁰ See generally American Tel. and Tel. Co., Bell Tel. Cos., and Bell Tel. Labs., *Telecommunications Transmission Engineering*, Volume 3 – Networks and Services, at 133 (2d ed. 1977) (AT&T et al. Networks and Services). Note that we use the term “congestion-based voice call failure” for the purposes of this Order to avoid confusion with the more commonly-used term “blocking.”

one subscriber, the radio access network is shared by multiple subscribers.³²¹ The network could thus conceivably lack adequate capacity and result in an unacceptable level of failed calls.³²²

121. VoiceLink is one type of non-packet wireless access technology providing fixed services. At least as it was offered in 2013, potential issues with congestion-based call failure came to prominence when the service was initially proposed to replace permanently copper loops that were destroyed on Fire Island during Superstorm Sandy.³²³ Indeed, Verizon disclosed in its then-existing terms regarding VoiceLink service that 911 service could be subject to blocking due to network congestion.³²⁴

122. To calculate this benchmark for purposes of remaining eligible for automatic grant, the provider must calculate the probability of congestion-based voice call failure for every hour. For each of the 30 days measured, the provider must then determine the hour that had the highest probability of congestion-based voice call failure that day. The probability of congestion-based voice call failure each hour should be determined by dividing the number of failed calls during the hour by the total number of call attempts during the hour. For 95 percent of the total days, the failure probability during the hour with the highest failure probability must be less than one percent, *i.e.*, for at least 95 percent of the total days, less than one percent of all calls may be blocked in the worst hour due to unavailability of a radio access channel.³²⁵ These measurements would not be taken on a sample basis, but would be collected at each cell tower over all call attempts to or from customers for a 30-day period. In addition, if there are seasonal differences in traffic load—for example, if the area is a summer resort community—measurements to determine probability of call failure must be taken during the busy season.

³²¹ See generally *id.* at 133-34 (“The traffic engineering problem is to organize the network and to provide the number of trunks necessary to meet various kinds of traffic demands. Sufficient trunks cannot be provided economically so that all calls might be served without delay. . . . Economy is achieved by providing just enough trunks to limit the probability that offered calls may be blocked (*i.e.*, not successfully completed).”)

³²² See Kenneth C. Grover, *Foundations of Business Telecommunications Management* 19 136 (1986) <https://books.google.com/books?id=VS7UBwAAQBAJ&pg=PA136&lpg=PA136&dq=inadequate+capacity+failed+calls&source=bl&ots=yYAWi5f5Em&sig=RoleOWCNy9GEC99ITUUcIRbMF4M&hl=en&sa=X&ved=0ahUKEwjn-6fD0rbNAhXEEdR4KHZr3B-wQ6AEIHDA#v=onepage&q=inadequate%20capacity%20failed%20calls&f=false> (last visited June 20, 2016). A packet-based network could experience voice congestion if routers, call servers, or other network elements delivering the voice service are not adequately provisioned.

³²³ See Public Knowledge, *The Phone Network Transition: Lessons from Fire Island* (Mar. 7, 2014) (Lessons from Fire Island), <https://www.publicknowledge.org/news-blog/blogs/the-phone-network-transition-lessons-from-fire-island>; see also Letter from Joseph A. Post, Deputy Gen. Counsel—New York, Verizon, to Hon. Jeffrey C. Cohen, Acting Secretary, New York Pub. Serv. Comm’n, Case 13-C-0197, Attach. at 5 (dated May 20, 2013), <https://www.publicknowledge.org/files/VZ%20Voice%20Link%20TOS.pdf> (Verizon May 20, 2013 Letter to NYPSC); Patrick McGeehan, *Verizon Backing Off Plans for Wireless Home Phones*, N.Y. Times (Sept. 12, 2013) (Verizon Backing Off Plans for Wireless Home Phones), http://www.nytimes.com/2013/13/nyregion/verizon-abandons-plans-for-wireless-home-phones-in-parts-of-new-york.html?_r=2 (“After Hurricane Sandy, Verizon asked state regulators in New York for permission to substitute Voice Link, a home phone service that carries calls on a cellular network, for what it refers to as ‘plain old telephone service.’ The first place in the state it tried broad use of Voice Link was on the west end of Fire Island, a resort community on the Atlantic Ocean that incurred heavy damage in the late October storm.”).

³²⁴ Verizon May 20, 2013 Letter to NYPSC, Attach. at 5.

³²⁵ A copper loop dedicated to one consumer experiences no blocking because no other traffic is carried on that loop. With wireless technology, the radio access network is shared by multiple subscribers, and it needs to be engineered like a trunk group in the legacy public switched telephone network. “The present service objective is B.01 [one percent blocking] for both metropolitan (local) and long haul (toll) trunk groups to meet grade-of-service objectives. This objective applies during the average busy season busy hour (ABSBH).” AT&T et al. *Networks and Services* at 149.

c. Network Coverage

123. In order to meet this aspect of the network performance prong, and be eligible for automatic grant, the applicant must demonstrate that either: (i) a single replacement service reaches the entire geographic footprint of the service area subject to discontinuance; or (ii) there are multiple providers who collectively cover the entirety of the affected service area.³²⁶ Simply put, in order to meet this prong and thus be eligible for streamlined processing, a replacement service must be available to all affected customers covering the entire geographic scope of the service area subject to the application and actually function as intended for affected customers, or else it cannot be certified as a replacement service for those customers.³²⁷ We thus promote the core values established by the Act, including that of ensuring universal access.³²⁸ Allowing a carrier to discontinue service when there are no other service options available would run contrary to that mission.³²⁹

124. If the applicant is relying on a single replacement service, whether its own or that of a third party, eligibility for automatic grant will depend on whether it demonstrates that the replacement service reaches the entire geographic footprint of the area served by the legacy voice service. However, in service areas where the applicant relies on multiple providers' services, the applicant must demonstrate that other providers cumulatively reach all customers in the affected coverage area.³³⁰ In order to be eligible for automatic grant, the application must: (i) describe with sufficient particularity the geographic scope of the replacement service(s) available from the other provider(s), or (ii) otherwise demonstrate that each of these services satisfies the criteria we adopt today.³³¹ We find that this requirement, as a part of our overarching determination of the public interest implications of a discontinuance application, sufficiently addresses any concerns regarding potential disparate impacts on minority communities, as raised by Greenlining Institute.³³² We also find that this requirement does not implicate Verizon's concern that the Commission not require "identical overlapping footprints for coverage to be acceptable."³³³ Finally, it should obviate AT&T's expressed concern that we might prohibit reliance on one or more third-party services as the replacement(s) for the service being discontinued.³³⁴

³²⁶ See *AT&T High Seas Order*, 14 FCC Rcd at 13231, para. 13.

³²⁷ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491, para. 231; see also Mich. PSC Comments at 10; CWA Comments at 12-13; Edison Comments at 8; AT&T May 31 *Ex Parte* Letter, Attach. 1 at 4-5.

³²⁸ See Pa. PUC Comments at 16.

³²⁹ See AARP Comments at 25; CWA Comments at 12; Edison Comments at 8; Greenlining Comments at 5; Mich. PSC Comments at 10; NASUCA Comments at 10; NRECA Comments at 9; Pa. PUC Comments at 16; Joint States Reply at 13-14. *But see* ACS Comments at 7 ("Even with universal service support for the annual costs of providing service in Bush locations, the viability of traditional wireline service is uncertain." As aging facilities become un-repairable, "it is a matter of time before traditional wireline voice service becomes unsustainable, irrespective of the wishes of carriers, the Commission, or customers.").

³³⁰ See *AT&T High Seas Order*, 14 FCC Rcd at 13231, para. 13 (noting that several different providers together serve the entire service area affected by the planned discontinuance); see also *Section 63.71(c) Application of Puerto Rico Tel. Co., Inc. d/b/a Claro for Authority to Discontinue Interconnected VoIP Services*, Order, 30 FCC Rcd 188, 191, para. 7 (2015).

³³¹ See generally Section III for a discussion regarding the required showings in a technology transitions discontinuance application. CenturyLink expresses concerns regarding a discontinuing carrier's ability to make such a showing regarding a third-party service. See CenturyLink Comments at 17. We address such concerns *supra* at paragraphs 84-86.

³³² See Greenlining Comments at 5-6.

³³³ Verizon Comments at 13.

³³⁴ See AT&T Reply at 8-9.

125. Based on our consideration of the full record, we decline to adopt a *de minimis* threshold for judging whether a replacement service offers the same coverage. We do not see a basis for drawing such a line.³³⁵ As noted by NASUCA, “[t]he Commission has an obligation to ensure that all customers in a service territory where the legacy voice service is offered continue to have the ability to obtain service.”³³⁶

2. Access to Critical Applications and Functionalities

126. The second prong of the adequate replacement test that we adopt today requires applicants to demonstrate that the replacement service offers access to critical applications and functionalities.³³⁷ Under this second prong, to remain eligible for automatic grant for a technology transition discontinuance application, an applicant must certify or show that at least one replacement service complies with regulations regarding availability and functionality of 911 service for consumers and public safety answering points (PSAPs), industry standards regarding communications security, and regulations governing compatibility with assistive technologies. Incorporating these certifications into our Section 214 process benefits consumers, public safety entities, and industry participants alike by providing clear, consistent, and certain guidance regarding the importance of ensuring that critical applications will continue to function following a technology transition.

a. 911 and Emergency Services

127. To satisfy the second prong of the adequate replacement test and remain eligible for automatic grant, applicants must certify or show that a replacement service complies with Commission requirements pertaining to accessible, accurate, and reliable 911 service. In particular, applicants seeking streamlined treatment must certify compliance with: (i) 911 accessibility and location accuracy requirements; (ii) reliability and continuity of 911 service requirements with respect to backup power; and (iii) any other applicable emergency service requirements.³³⁸ Our action today ensures that as our nation transitions to new telecommunications technologies, consumer access to 911 remains strong and PSAP operations are not impacted by changes in service providers’ underlying network technologies.

128. *911 Accessibility and Location Accuracy Requirements.* The applicant must demonstrate that the replacement service complies with applicable regulations regarding the availability and required functionality of 911 service. Those regulations include the rules governing: (i) 911 call delivery, service, and location; (ii) the capabilities and routing necessary for consumers’ continued access to 911 emergency service;³³⁹ and (iii) 911 calls to PSAPs or other appropriate local emergency authorities.³⁴⁰ We

³³⁵ See NRECA Comments at 9 (“From the perspective of rural communities, the IP transition should be systematically implemented by facilities-based carriers throughout their service territories so that another version of the ‘digital divide’ does not arise between rural and urban areas.”); Cal. PUC Comments at 4-5, 9; Joint States Reply at 13-14.

³³⁶ NASUCA Comments at 10; see also Joint States Reply at 13-14.

³³⁷ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9488-90, 9492, paras. 225-28, 234.

³³⁸ See *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18683 para. 10 (1996) (*First E911 Report and Order*). The basic 911 service requirement is the simple requirement of transmission of wireless 911 calls to the PSAP (or designated default answering point or appropriate local emergency authority) without respect to their call validation process, and without reference to location accuracy. 47 CFR § 20.18(b); see also *Implementation of 911 Act*, Fifth Report and Order, Memorandum Opinion and Order on Reconsideration, 16 FCC Rcd 22264, 22275, para. 27 (2001) (recognizing the “overriding public interest for all emergency calls to be completed and not dropped for any reason” and that the 911 rules “ensure that there is a destination to which emergency calls can be delivered”). See *infra* Section III.C.2.a for examples of subsequent Commission actions.

³³⁹ See, e.g., 47 CFR § 9.1 *et seq.* (setting forth 911 and E911 requirements and conditions applicable to interconnected VoIP service); 47 CFR § 20.18(a)-(k), (m)-(q) (concerning the requirements applicable to CMRS

(continued . . .)

agree with public interest groups and state entities who conclude that consumers have an expectation that current levels of 911 service must be maintained when a replacement service is deployed.³⁴¹ Similarly, public safety entities agree that an adequate replacement must comply with regulations regarding the availability, reliability, and required functionality of 911 service.³⁴²

129. We further conclude that, in order to satisfy this prong of the adequate replacement test and thus remain eligible for automatic grant, the replacement service must offer a dispatchable address capability.³⁴³ Traditional landline service generally guarantees the provision of Master Street Address Guide (MSAG)-validated address information to ensure proper call routing, location determination, and dispatch of emergency responders. We agree with commenters who contend that provision of other types of location information, such as wireless 911 ALI coordinates, would not ensure that the service provides an adequate replacement for a legacy voice service.³⁴⁴ If the rules applicable to the replacement service require provision of an MSAG-validated address, the applicant may meet this requirement by certifying that its replacement service meets the 911 registered location requirements applicable to that service.³⁴⁵ However, if the 911 requirements for the replacement service do not require provision of a validated address, the applicant must further certify that it will register a validated dispatchable address for each subscriber and provide the address to the appropriate PSAP for all 911 calls.³⁴⁶ If the applicant is relying on a third party service, it must make an appropriate showing that the third party service provide meets this requirement.³⁴⁷ These requirements will ensure that PSAPs continue to receive accurate location

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providers); 47 CFR § 64.3000 *et seq.* (concerning the obligations on all telecommunications carriers to transmit all 911 calls).

³⁴⁰ See 47 CFR § 20.3 (defining in part that an appropriate local emergency authority is “[a]n emergency answering point that has not been officially designated as a [PSAP], but has the capability of receiving 911 calls” and “dispatching emergency services personnel or . . . relaying the call to another emergency service provider”); see also 47 CFR § 12.4(c) (requiring covered 911 service providers to certify annually as to the reliability of their circuit auditing, backup power, and network monitoring).

³⁴¹ See, e.g., CWA Comments at 10-11; Pa. PUC Comments at 12-13; Mich. PSC Comments at 7-8; NARUC Comments at 6; Joint States Reply at 11-12; NASUCA *et al.* Reply at 9; see also AT&T May 31 *Ex Parte* Letter at 3-4 (expressing support for this criterion).

³⁴² See Mich. PSC Comments at 7-8; Joint States Reply at 11-12.

³⁴³ See also AT&T May 31 *Ex Parte* Letter at 3-4 (asserting that the replacement service “must automatically provide registered street address location information associated with the subscriber placing a 911/E911 call”).

³⁴⁴ See, e.g., AARP Comments at 20-22 (stating that “[t]he use of wireless 911 ALI is not equivalent to the civic addresses associated with wireline ALI. Wireless 911 ALI is decidedly inferior to traditional ALI database information in multitenant buildings.”); Texas 911 Entities Comments at 4-5 (stating that for wireline residential and small business customers, “dispatchable address” is the current standard for routing and location display of a wireline 911 call); Cal. PUC Comments at 15 (urging the Commission not to authorize a substitute that cannot provide a dispatchable address for ALI, in addition to ANI).

³⁴⁵ See *IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, 10246 (2005), *aff’d sub nom. Nuvio Corp. v. FCC*, 473 F.3d 302 (D.C. Cir. 2007) (adopting 47 CFR § 9.5 concerning the provision of registered location by interconnected VoIP service providers); *Wireless E911 Location Accuracy Requirements*, Fourth Report and Order, 30 FCC Rcd 11259 (2015) (adding new indoor location accuracy requirements and updating outdoor-based location accuracy requirements); see also 47 CFR § 20.18(h),(i)-(k).

³⁴⁶ A dispatchable address is an address that includes street name, building number, and any other information critical to dispatching emergency responders to the correct location and one that meets public safety requirements for inclusion in and verification by Automatic Location Information databases and PSAP Master Street Address Guides or their functional equivalents.

information to dispatch emergency first responders directly to the correct location of the 911 call, thereby serving to minimize the response time critical for saving lives and safeguarding the public.³⁴⁸

130. *Backup Power.* To ensure that consumers continue to receive the benefit of continued access to 911, applicants seeking to discontinue a legacy line-powered service in favor of a newer service that lacks line-powering must certify or make a showing that at least one replacement service in the area complies with our residential backup power requirements.³⁴⁹ Alternatively, an applicant may show that another provider in the affected area offers line-powering or complies with Section 12.5.³⁵⁰ We find little disagreement about the importance of backup power in the record, and ample support to conclude that the technology transition discontinuance applicants seeking streamlined treatment must confirm their commitments to public safety. We emphasize that we are not adding to the Rule 12.5 requirements, but ensuring that a service provider's compliance with those requirements is a key consideration in whether that service represents an adequate replacement for a legacy line-powered service.

131. In order to ensure that consumers are aware of technology transitions with sufficient time to take action, we also require applicants to provide to consumers the initial notice containing the information elements of Section 12.5 pursuant to Section 63.71.³⁵¹ Although Section 12.5 requires disclosures be made at the point of sale,³⁵² we anticipate that, in the context of the Section 214 discontinuance process, it will not be the individual sale of a non-line powered service to a consumer that will trigger the need for notification of the backup power requirements of Section 12.5, but rather the transition to a newer technology that may have different backup power capabilities. The underlying

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³⁴⁷ As applicable, alternative service providers must also be compliant with other Commission rules for 911 call delivery, service, and location in order for the applicant to retain eligibility for streamlined processing. *See, e.g.*, 47 CFR §§ 1.7001-02 (to file Form 477); 43.11 (requirements to file local competition data), 54.201 *et seq.* (concerning designation and obligations of Eligible Telecommunications Carriers (ETCs)); 64.3001 (provider obligation to transmit 911 calls). For the applicant to retain eligibility for automatic grant, those alternative service providers must also comply with any new dispatchable address/location requirements, as applicable, that the Commission may adopt in the future.

³⁴⁸ Consistent with the Commission rules regarding discontinuing service to completely exit an industry, the applicant seeking streamlined processing is required to provide the same advance notice to all PSAPs in its service area, and inform the Commission that it has done so. 47 CFR § 63.71. These requirements also include notifying all affected customers, the applicable state agencies, and federally recognized Tribal Nations. *Id.*

³⁴⁹ Section 12.5 applies to providers of Covered Services. 47 CFR § 12.5. The rules define a Covered Service as “any facilities-based, fixed voice service offered as residential service, including fixed applications of wireless service, offered as a residential service that is not line powered. 47 CFR § 12.5(a).

³⁵⁰ Specifically, Section 12.5 requires providers to offer subscribers the option to purchase backup power for the Covered Service, with a minimum of eight hours of standby backup power. 47 CFR § 12.5(b)(1). By February 13, 2019, such providers must also offer at least one option that provides a minimum of twenty-four hours of standby backup power. 47 CFR § 12.5(b)(2). Providers must also notify consumers of the following: (1) availability of backup power sources; (2) service limitations with and without backup power during a power outage; (3) purchase and replacement options; (4) expected backup power duration; (5) proper usage and storage conditions for the backup power source; (6) consumer backup power self-testing and monitoring instructions; and (7) backup power warranty details, if any. 47 CFR § 12.5(d).

³⁵¹ 47 CFR § 63.71. Section 63.71(b) states that a carrier shall file its 214 application “on or after the date on which notice has been given to all affected customers.” *Id.* Section 63.71(d) provides that applications shall be automatically granted on the 31st day after filing an application for non-dominant carriers and the 60th day for dominant carriers, unless the Commission notifies the applicant that the grant will not be automatically effective. 47 CFR § 63.71(d). Consequently, we expect that consumers will receive the initial backup power notice before the earliest possible date for grant of a Section 214 discontinuance application—at least 30 days before the change occurs.

³⁵² 47 CFR § 12.5(d)(1).

principle remains the same: prior to initiation of a new service (whether at the point of sale or at the time of a technology transition), consumers should have the benefit of understanding how to ensure continuity of 911 service through backup power. We continue to require annual disclosures to be made as described in Section 12.5, by any means reasonably calculated to reach the individual consumer.³⁵³

132. We include these residential backup power certification requirements as part of the Section 214 discontinuance process because “it is essential for all consumers to be able to access 911 emergency services during commercial power outages, including outages caused by catastrophic storms or other unpredictable events, and to understand how to do so.”³⁵⁴ Although the *Emerging Wireline Further Notice* tentatively concluded that we should not include operability during emergencies as a criteria as part of the adequate replacement test,³⁵⁵ we are persuaded by commenters that these requirements are an appropriate part of the critical applications certification requirements.³⁵⁶

133. Commenters contend that the Section 214 process is an inappropriate time and place to create new rules regarding residential backup power requirements.³⁵⁷ We emphasize that we are not adding to the existing backup power requirements. Instead, we are making clear that in order for a service to qualify as an adequate replacement, it must abide by our existing backup power rules so that consumers receive information on backup power in advance of being transitioned to a replacement service that lacks line-power. Otherwise, the consumer could become aware of the limitations of the replacement service only when his or her 911 call does not go through during a commercial power outage.³⁵⁸

134. *Protecting PSAP Operations.* To successfully meet this second prong, an applicant also must certify or show that at least one replacement service complies with 911 network reliability requirements.³⁵⁹ Our adoption of this requirement will help ensure that the transition to the replacement service neither impairs the continuity of 911 service to PSAPs, nor disrupts the configurations and connectivity necessary for their 911 operations. As public safety groups observe, 911 services are

³⁵³ *Id.*

³⁵⁴ *Ensuring Continuity of 911 Communications*, Report and Order, 30 FCC Rcd 8677, 8681, para. 13 (2015) (*Ensuring Continuity of 911 Order*). As we noted in the *Ensuring Continuity of 911 Order*, in the past, consumers relied upon service providers for backup power for their residential landline phones. That is, equipment on subscriber premises still served by copper networks continued to work during commercial power outages as long as the handset, or other subscriber premises equipment did not need to be plugged into an electrical outlet to function. As we transition to newer technologies, many subscribers rely on a battery backup or an uninterruptible power supply (UPS) to ensure that service will continue to operate during a commercial power outage, and some consumers remain unaware that they must act if they want dial tone to be available in the event of a commercial power outage. *Id.* at 8678, 8680, paras. 1, 11. The CAC offers additional recommendations regarding notice of backup power changes and community outreach and education on the availability of backup power in commercial power outage events. See CAC June 10, 2016 Technology Transition Recommendation at 3-4; see also Consumer Advisory Committee to the Federal Communications Commission Advisory Recommendation Regarding Battery Backup Community Outreach and Education, GN Docket No. 13-5 et al., at 1 (adopted June 10, 2016).

³⁵⁵ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9492, para. 234.

³⁵⁶ CWA Comments at 10-11; see also Cal. PUC Comments at 15; Pa. PUC Comments at 12-13; Mich. PSC Comments at 7-8.

³⁵⁷ See, e.g., Verizon Comments at 16; AT&T Comments at 9-11; ACS Comments at 4-5.

³⁵⁸ Moreover, we disagree with certain commenting parties that urge us to do more than require providers to certify compliance with Section 12.5. For example, AARP argues that meeting the requirements of the *Ensuring Continuity of 911 Order* is insufficient. It contends that, even with robust CPE backup power requirements, networks will fail during power outages because other power-dependent equipment in the networks lacks backup power. AARP Comments at 3-5; see also Edison Reply at 4-5. We conclude that the adequate replacement analysis is not the appropriate place to impose new backup power requirements.

³⁵⁹ See, e.g., 47 CFR § 12.4.

specialized and require advance notice and coordination prior to discontinuance of service or replacement of service.³⁶⁰ Including this criteria will address those concerns by providing covered 911 service providers additional incentive to provide the advance notice and thorough coordination necessary for PSAPs to maintain their level of 911 service and emergency responsiveness.

135. We find that the concerns of industry commenters that these issues are either already covered by certain Commission rules requiring 911 service providers to certify to measures associated with ensuring adequate service to PSAPs, or are being addressed in other Commission proceedings, are misplaced.³⁶¹ This certification or showing imposes no new requirements and will not affect our policy work in other Commission proceedings. We believe the course we take today protects the American public, while at the same time allowing applicants seeking to provide a replacement or alternative service with sufficient time and information to understand our expectations before seeking discontinuance approval.

b. Communications Security

136. To satisfy the second prong of the adequate replacement test and remain eligible for automatic grant, an applicant must certify or show that the replacement service offers comparably effective protection from network security risks. We stress that satisfaction of this criterion is part of the adequate replacement test required for streamlined processing and is not mandatory to discontinue service generally. We further note that the approach we adopt today allows an applicant relying on a third party service to satisfy the adequate replacement test without requiring direct knowledge of that third party's security posture.

137. We recognize that, unlike the other criteria that form the three prongs of the adequate replacement test, this criterion does not have a direct linkage to specific requirements that apply to a legacy service. We adopt this criterion nonetheless because unique potential network vulnerabilities associated with new technologies requires some assurance that these new technologies will provide comparable network security in order to protect our core public interest values of consumer protection and public safety throughout the transition. Cyber risk management is vital in combatting potential threats faced by services based on new technologies and the potential harms to consumers from these threats.³⁶² Compliance with industry best practices can ensure consumers receive comparably effective protection from security risks as the previous legacy service.³⁶³

138. We adopt different approaches for satisfying this criterion depending on whether the applicant relies on its own or a third party replacement service. Our overarching objective is to preserve the availability, integrity, and confidentiality (AIC) of the network. Availability refers to the accessibility

³⁶⁰ See, e.g., NENA Comments at 5-6 (stating that “carriers or alternative service providers should make available appropriately-dimensioned and highly-reliable 9-1-1 core services,” and “[w]ithout a requirement for the availability of alternative sources for selective routing (or equivalent NG9-1-1 functionality), for example, PSAPs could find themselves unable to procure a key service in the 9-1-1 system operational chain”) (internal formatting removed); Cal. PUC Comments at 14 (stating that “critical to the FCC’s review should be the need to honor the PSAP timeframe for change,” and ensure continuing 911 service that “work[s] in the PSAP’s configuration”); Joint States Reply at 11-12 (agreeing with the California PUC that Section 214 discontinuances and technology transitions should be coordinated since “[p]rovisioning and migrating communications connectivity to PSAPs requires extensive coordination among many agencies and providers to ensure that multiple types of communications are not interrupted”).

³⁶¹ See, e.g., Verizon Comments at 16; AT&T Comments at 13-14; TIA Comments at 9-10.

³⁶² AARP Comments at 23-24; CWA Comments at 11-12; Edison Comments at 8; Mich. PSC Comments at 8; Pa. PUC Comments at 13-14.

³⁶³ See, e.g., AARP Comments at 23, 24; Mich. PSC Comments at 8; Joint State Reply at 12-13.

and usability of a network upon demand.³⁶⁴ Integrity refers to the protection against the unauthorized modification or destruction of information.³⁶⁵ Confidentiality refers to the protection of data from unauthorized access and disclosure, both while at rest and in transit.³⁶⁶ In making the certification or showing necessary to demonstrate comparably effective protection from network security risks, the applicant must evaluate: (i) relevant cybersecurity standards and practices—whether industry-recognized or related to some other identifiable approach—the replacement service employs at the time of certification;³⁶⁷ (ii) what plans (if any) the replacement service has to incorporate cybersecurity threat information sharing as a part of the replacement service’s security operations; and (iii) roles and responsibilities for the replacement service’s cybersecurity, both with respect to the provider but also any third parties (e.g., the applicant’s vendors or contractors), to promote effective accountability for privacy and security.

139. If relying on its own service, the applicant must demonstrate that the replacement service offers comparably effective protection from network security risks to remain eligible for automatic grant.³⁶⁸ That demonstration can be made in one of two ways. If the applicant’s network security management practices are enterprise-wide, i.e., the enterprise safeguards AIC without differentiation between services, geographic areas, or service-providing affiliates, a certification to that effect will be sufficient to demonstrate that the replacement service offers comparably effective protection from network security risks.

140. Alternatively, the applicant must show that: (i) it has evaluated any known risks and vulnerabilities of the replacement service; (ii) it has taken measures to address and mitigate the enumerated risks and vulnerabilities; (iii) it will inform consumers as part of the discontinuance notice required pursuant to Section 63.71 what security measure(s) the consumers should take vis-à-vis the

³⁶⁴ See, e.g., ATIS, ATIS Telecom Glossary, <http://www.atis.org/glossary/definition.aspx?id=5637> (last visited Jun. 16, 2016).

³⁶⁵ See, e.g., ATIS, ATIS Telecom Glossary, <http://www.atis.org/glossary/definition.aspx?id=4584> (last visited Jun. 16, 2016).

³⁶⁶ See, e.g., ATIS, ATIS Telecom Glossary, <http://www.atis.org/glossary/definition.aspx?id=6609> (last visited Jun. 16, 2016).

³⁶⁷ For example, a replacement service could employ the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity (NIST Framework) as a management tool to inform decisions about cyber risk analysis and organize mitigation activity. See NIST, NIST Cybersecurity Framework, <http://www.nist.gov/cyberframework/> (last visited June 20, 2016); see also The Communications Security, Reliability and Interoperability Council IV, Cybersecurity Risk Management and Best Practices Working Group 4: Final Report at 8-9 (2015), https://transition.fcc.gov/pshs/advisory/csric4/CSRIC_IV_WG4_Final_Report_031815.pdf. In this report, CSRIC IV provided guidance to the Commission on communications market sector implementation of the NIST Framework. See *id.* Some commenters support use of the NIST framework. See, e.g., AARP Comments at 23-24 (“AARP believes that the NIST Framework could be utilized by the Commission to establish a standardized network security benchmark that would enable service providers to demonstrate that they have applied best practices and are devoting sufficient resources to network security issues.”); AICC Comments at 10-11 (“Communications providers should have a solid risk management plan in place that ensures the organization has processes to identify, assess, prioritize, and remediate threats associated with the solution”).

³⁶⁸ We note that the certification standard for a replacement service offered by an applicant is different than the certification standard for a replacement service offered by a third party. We conclude the adoption of two distinct standards is appropriate, given practical considerations and in light of the sensitive information that would otherwise need to be disclosed by the third party in the event we were to adopt equivalent standards. We also note that we sought comment on adopting different requirements. *Emerging Wireline Order and Further Notice*, 30 FCC Rcd. at 9490, para. 228 (“Should an applicant provide more detailed information regarding the provider’s cyber risk management practices in general, its implementation of relevant industry best practices, or its engagement with fellow providers to address shared risk?”).

replacement service (e.g., downloading and maintaining up-to-date anti-virus software) and other steps consumers may take to ensure safe use of the replacement service; and (iv) it will undertake best efforts to identify any vulnerable facilities (e.g., fire, EMS, law enforcement and other critical infrastructure facilities) and users, and work to address and mitigate the enumerated risks and vulnerabilities (e.g., the use of diverse IP paths for critical infrastructure). Where an applicant provides written guidance or Public Service Announcements to consumers (whether those consumers are individuals or organizations) in accordance with (iii) and (iv) above, the applicant should provide a generic copy of such guidance to the Commission. This certification is not a directive on how to address network security. Applicants retain flexibility regarding how to address such risks. By this approach, we seek to ensure reasonable diligence and verifiability for certifications made in connection with applications where the applicant is providing the replacement service.³⁶⁹

141. In those situations where the applicant is relying on a third party service, we take a different approach. We recognize the challenges for an applicant to gain access to information about a third party replacement service generally,³⁷⁰ and understand that the challenges of gaining access to the third party service's cyber risk management process would be particularly acute. Therefore, an applicant relying on a third party service instead must exercise reasonable diligence to identify the security profile of the technology of the replacement service, based on the replacement technology's ability to provide availability, integrity, and confidentiality.³⁷¹ Focusing on the established key considerations of confidentiality, integrity, and availability provides a frame of reference for identifying the risks associated with the replacement technology.³⁷² We note that a security profile is not intended to identify any specific cyber risk management process or specific vulnerabilities associated with a particular third party's replacement service, but instead serves to identify the general cyber risks, from a consumer's perspective, associated with the replacement service's technology. This is a particularly effective solution for applicants relying on third party services because a security profile may be gleaned from open source information and does not require specific knowledge of the inherent security of the replacement service. While a security profile can be identified using publicly available information, it should be arrived at after the applicant undertakes an analysis centered on the availability, integrity, and confidentiality model described above under the certification approach. In this regard, the security profile can adjust to new threats and vectors as they emerge.

142. Because we will allow an applicant relying on a third party service to base its showing on publicly available information, we have addressed the concerns of commenters who question the

³⁶⁹ Cf. AT&T June 22, 2016 *Ex Parte* Letter at 3 (“[T]he Commission should adopt an alternative approach that would provide the Commission and the public confidence that the carrier is applying appropriate security practices to its substitute services. Under this alternate proposed test, the applicant would certify in its § 214 Certification #2 application that it has a cybersecurity risk management program in place to ensure the ‘reasonable’ security of its IP network. Carriers would be deemed to satisfy the reasonableness standard if they have adopted one or more commonly accepted industry cybersecurity standards in their cybersecurity risk management program that applies to the network over which the substitute service is provisioned.”).

³⁷⁰ See *supra* Section III.B.

³⁷¹ For example, the security profile for “IPv6 technology” would include identification of any IPSec security extensions associated with the replacement VoIP.

³⁷² See, e.g., WhatIs.com, *confidentiality, availability and integrity* (Nov. 2014), <http://whatis.techtarget.com/definition/Confidentiality-integrity-and-availability-CIA>; see also National Security Telecommunications Advisory Council, *An Assessment of the Risk to the Cybersecurity of the Public Network*, (Aug. 2009) (noting the importance of providing network security to physical communications network components “which if damaged or manipulated, could degrade the confidentiality, integrity, and availability of data transiting the Internet.”).

feasibility of requiring an applicant to know the security posture of a third party.³⁷³ We reiterate that reliance on the security profile of the third party service allows the applicant to remain eligible for streamlined processing without requiring direct knowledge of a third party's security posture, or potentially confidential or sensitive details of the third party entity's cyber risk management plans. We recognize the concerns of commenters that comparing networks may not result in an "apples to apples" equivalency,³⁷⁴ particularly when a third party service is involved, and for that reason we adopt this alternative certification approach when an applicant intends to rely on a third party service. By this approach, we seek to ensure that an applicant has established a sound basis for its representations about the comparable effectiveness of the protections from network security risks employed by a third-party replacement service, by exercising a reasonable degree of diligence in making those representations in light of all the facts and circumstances.

143. We disagree with industry commenters that contend that a communications security criterion is an attempt to impose new requirements on industry.³⁷⁵ As an initial matter, no carrier is required to comply with any specific network security standards.³⁷⁶ We do not dictate what measures a company must take, nor do we require that they submit potentially sensitive information to the Commission as part of their Section 214 application. Rather, meeting this criterion is only necessary to satisfy the adequate replacement test, and that in turn is only required if they wish to remain eligible for automatic grant.³⁷⁷

144. Beyond that, the Commission has always recognized the importance of network security and agrees with commenters that it is a crucial consideration in determining whether an adequate replacement service exists.³⁷⁸ Transitioning from legacy-based services to new technologies presents new network vulnerability issues that did not exist with legacy technologies.³⁷⁹ As we have noted above,

³⁷³ ITTA Comments at 13; Verizon Comments at 17. ITTA also claims that disclosing such information would itself present significant security risks. ITTA Comments at 13.

³⁷⁴ AT&T May 31, 2016 *Ex Parte* Letter Attach. 1 at 7.

³⁷⁵ See, e.g., AT&T Comments at 13-14; USTelecom Comments at 13; Verizon Comments at 17; AT&T May 31, 2016 *Ex Parte* Letter Attach. 1 at 7; AT&T June 22, 2016 *Ex Parte* Letter at 3; NTCA July 5, 2016 *Ex Parte* Letter at 2; NTCA July 8, 2016 *Ex Parte* Letter at 2; USTelecom June 20, 2016 *Ex Parte* Letter at 2.

³⁷⁶ See USTelecom June 20, 2016 *Ex Parte* Letter at 2 ("There is no one-size fits all with cybersecurity. . . ."); USTelecom June 23 *Ex Parte* Letter at 1-2 ("Imposing a new cybersecurity compliance regime on such granular levels runs counter to an enterprise-wide risk management process."); Verizon June 24, 2016 *Ex Parte* Letter at 1-2 (asserting "a one-size-fits-all approach—particularly one involving proscriptive regulations—is not the best way to address cybersecurity concerns").

³⁷⁷ Cf. Verizon June 30, 2016 *Ex Parte* Letter at 1 (encouraging the Commission not to require cybersecurity certifications as a condition for getting an application on the streamlined track).

³⁷⁸ Public Knowledge *Ex Parte* Letter at 1 ("The traditional phone network is the primary 'tent pole' of the numerous communications networks that, together, make up the wireless and wireline communications system for the United States. All these networks, whether IP based or not, depend on the stability and reliability of the PSTN. Without some metric to ensure that the system will remain secure and reliable post-transition, the entire communications network for the United States becomes vulnerable."); cf. AT&T June 22, 2016 *Ex Parte* at 2 ("[I]f AT&T discontinues POTS in a specified geography, it would not affect the network reliability and efficacy of cybersecurity relating to local or interexchange interconnection. If and when an ILEC discontinues a service that is used for interconnection, such as TDM-based interstate access-type services, those services and replacement services will have the opportunity to be scrutinized by the Commission during the applicable discontinuance process.")..

³⁷⁹ *Id.*

comparing legacy services to new technologies is in part an apples-to-oranges comparison.³⁸⁰ Thus, in order to demonstrate that a replacement service is offering comparable security, we find that a security benchmark that measures the unique risks associated with new technologies is necessary. To maintain our core values of consumer protection and public safety throughout the transition, it is appropriate for an applicant seeking to retain eligibility for automatic grant to certify or make a showing that the replacement service provides comparably effective protection from network security risks.

145. We conclude the flexible, individualized approach we take to network security addresses concerns that applying a rigid standard would be counter-productive.³⁸¹ Additionally, while we recognize that there is no universal cybersecurity standard to apply,³⁸² we believe that there are generally accepted guidelines and best practices that carriers should consider when evaluating their own cybersecurity posture or the security profile of the replacement technology.³⁸³ Several commenters note that the Commission is utilizing alternate forums to evaluate cyber risk management best practices, and question whether the Commission's Section 214 discontinuance authority is the appropriate vehicle to address the issue.³⁸⁴ The approach we adopt today allows for all interested parties to continue to develop and refine best practices in dealing with cyber security risks. Finally, while AT&T and USTelecom note that providers have market based incentives to protect their networks from attacks,³⁸⁵ we believe that it would be inconsistent with our values of ensuring consumer protection and public safety to ignore network security as part of the adequate replacement analysis.

³⁸⁰ *Supra* para. 90; *see also* AT&T May 31, 2016 *Ex Parte* Letter Attach. 1 at 7; AT&T June 22, 2016 *Ex Parte* Letter at 2-3 (“[T]he security risks applied to the TDM network are likewise fundamentally different from an all-IP network.”).

³⁸¹ AT&T May 31, 2016 *Ex Parte* Letter Attach. 1 at 7 (“Cyber security doesn’t lend itself to a rigid ‘checklist’ of standards and such a ‘checklist’ would be counter-productive. Complying with ‘fixed’ standards rather than focusing on risk management would limit a provider’s ability to manage its networks effectively in response to changing cyber threats, and it would remove their incentive to innovate.”); AT&T June 22, 2016 *Ex Parte* Letter at 2; USTelecom June 20, 2016 *Ex Parte* Letter at 2 (“Any suggestion that the Commission could develop a list of factors that would be appropriately applied to all providers is contrary to the widely-accepted view of our member companies. . . .”).

³⁸² Verizon Comments at 17 (“The NIST cybersecurity framework referenced by the proposed criteria does not contain rules or standards; the agency has made clear cybersecurity issues should not be addressed by a one-size-fits-all approach.”); Rural Associations Reply at 6 (noting standards are “still being evaluated for tailored adoption and implementation by carriers on a voluntary basis consistent with the NIST Framework and the Executive Order that contemplated such a voluntary framework”); AT&T May 31, 2016 *Ex Parte* Letter at 7; AT&T June 22, 2016 *Ex Parte* Letter at 2-3; USTelecom June 20, 2016 *Ex Parte* Letter at 2.

³⁸³ *See* USTelecom June 20, 2016 *Ex Parte* Letter at 2 (asserting “today’s primary framework for addressing cybersecurity involves the application of industry-developed risk management principles and best practices to improve the security and resilience of critical infrastructure on an individualized basis that companies—regardless of size, degree of cyber risk or cybersecurity sophistication—can apply to fit their needs.”)

³⁸⁴ AT&T Comments at 13 (“The Commission and the industry have traditionally worked through organizations such as the Communications Security Reliability and Interoperability Council (CSRIC) to address cybersecurity concerns.”); Pa. PUC Comments at 15 (“[t]he Pa. PUC urges the Commission to rely on the previous and continuing work of its own Communications Security, Reliability, and Interoperability Council (CSRIC) to address the questions and concerns articulated in the proposed rulemaking.”); TIA Comments at 7 (“...this issue is best left to other existing initiatives in which the issue is already being considered. The Commission’s Section 214 discontinuance authority for TDM services offers very limited utility to address the dynamic nature of this issue.”); Verizon Comments at 17 (“These issues are already being reviewed in other proceedings and venues. For example, pursuant to Executive Order 28, the Department of Homeland Security and the National Institute for Standards and Technology (NIST) are actively exploring cyber protection frameworks.”).

³⁸⁵ AT&T May 31, 2016 *Ex Parte* Letter Attach. 1 at 7; USTelecom June 23, 2016 *Ex Parte* Letter at 2.

c. Services for Individuals with Disabilities

146. Under the critical applications prong, applicants will certify that at least one replacement service complies with the Commission's applicable accessibility, usability, and compatibility requirements governing services benefiting individuals with disabilities as a means to ensure that the replacement service offers accessibility levels at least as effective as those offered by the legacy voice service.³⁸⁶

147. We tentatively concluded in the *Emerging Wireline Further Notice* that we should consider compatibility with assistive technologies as a criterion for whether a new service represents an adequate replacement for a legacy voice service.³⁸⁷ As noted above, both industry and public interest groups generally support ensuring that applications serving individuals with disabilities, notably assistive technologies, are compatible with any replacement service.³⁸⁸ However, there is limited consensus in the record as to the appropriate scope or implementation of such a requirement.

148. The Commission's rules governing three sets of telecommunications-related accessibility requirements function similarly in practice. The rules govern standards for accessibility, usability, and compatibility for: (i) telecommunications services and functionalities;³⁸⁹ (ii) voicemail and interactive menu functionalities³⁹⁰; and (iii) advanced communications services (ACS),³⁹¹ defined by statute to include both interconnected and non-interconnected VoIP service.³⁹² The rules obligate service providers to ensure that a service is accessible to and usable by individuals with disabilities "if readily achievable" for services subject to Part 6 or 7 of the rules, and "unless not achievable" for services subject to Part 14 of the rules.³⁹³ When a standard of accessibility or usability is not achievable, service providers are required to ensure the relevant service, functionality, or application is compatible with existing peripheral devices or specialized customer premises equipment commonly used by individuals with disabilities.³⁹⁴ To remain eligible for automatic grant, providers also must comply with rules regarding: (i) product design, development and evaluation;³⁹⁵ (ii) accessible information pass through;³⁹⁶ and (iii) customer access to information, documentation, and training.³⁹⁷

³⁸⁶ 47 CFR §§ 6.1-6.11, 7.1-7.11, 14.1-14.21, 14.60-14.61.

³⁸⁷ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9486-87, paras. 222-23.

³⁸⁸ See, e.g., AARP Comments at 17; Cal. PUC Comments at 10-11; CenturyLink Comments at 3, 23; CWA Comments at 10; Disability Coalition Comments at 2; Mich. PSC Comments at 6; Joint States Reply at 8-11; NASUCA et al. Reply at 11-12; Utilities Telecom Council Reply at 3; AT&T May 31 *Ex Parte* Letter, Attach. 1 at 4-5.

³⁸⁹ See 47 CFR pt. 6.

³⁹⁰ See 47 CFR pt. 7.

³⁹¹ See 47 CFR pt. 14.

³⁹² 47 CFR § 14.10(c)(1)-(2).

³⁹³ 47 CFR §§ 6.5(b)(1), 7.5(b)(1), 14.20(a)(1)-(2), 14.21(a); see also 47 CFR §§ 6.3(h), 7.3(h), 14.10(b) (defining "readily achievable" and "achievable"). The rules also include performance objectives defining what is meant by "accessible," "usable," and "compatible." 47 CFR §§ 6.3, 7.3, 14.21. To remain eligible for streamlined processing, an applicant must demonstrate that any public mobile service proposed as an adequate replacement complies with Sections 14.60 and 14.61 of the rules. 47 CFR §§ 14.60, 14.61.

³⁹⁴ 47 CFR §§ 6.5(b)(2), 7.5(b)(2), 14.20(a)(3).

³⁹⁵ 47 CFR §§ 6.7, 7.7, 14.20(b).

³⁹⁶ 47 CFR §§ 6.9, 7.9, 14.20(c).

³⁹⁷ 47 CFR §§ 6.11, 7.11, 14.20(d).

149. The existing rules thus establish a standard cabined by its technological achievability. Thus, in order to meet this factor under the critical applications prong, any new service must provide levels of accessibility, usability, and compatibility as effective as the legacy voice service to be deemed an adequate replacement utilizing a new technology.³⁹⁸ For certain new technologies, the rules of the road have already been established through our rules regarding access to advanced communication services, which cover the VoIP technologies that could make up a significant portion of the technology transition discontinuance applications.³⁹⁹

150. We also expect that, due to reduced costs and heightened capabilities of next-generation services,⁴⁰⁰ more accessibility features and functionalities will be achievable within the meaning of our rules. Thus, we encourage carriers to proffer replacement services that have the potential to provide new accessibility features and functionalities and to make newly achievable features and functionalities available to their customers with disabilities.⁴⁰¹

151. We also remind carriers and interconnected VoIP service providers of their obligation under the existing telecommunications relay service rules to provide access to TRS, including 711 dialing access.⁴⁰² The proposed replacement service or the alternative services available from other providers must provide such access, where required under the Commission's rules.⁴⁰³

152. We conclude that the approach described above strikes an appropriate balance between providing clarity and objectivity in the standards developed across the Commission and limiting substantive burdens on applicants which might place them at a competitive disadvantage or hinder the deployment of broadband and new technologies. We acknowledge the perspective of consumer advocacy groups and state and local governments that argue that when the transition to a replacement service requires upgrade of assistive technologies, the applicant should not only inform affected users of the associated costs, but help subsidize them.⁴⁰⁴ We disagree, however, and continue to believe that this

³⁹⁸ 47 CFR §§ 6.3(a)-(b), 7.3(a)-(b), 14.21(b), (d); *see also* AT&T May 31 *Ex Parte* Letter, Attach. 1 at 3, 4.

³⁹⁹ *See* 47 CFR pt. 14; *Implementation of Sections 716 And 717 of the Communications Act of 1934, as Enacted By the Twenty-First Century Communications and Video Accessibility Act of 2010 et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557, 14568-74, paras. 30-41 (delineating the scope of advanced communications services subject to Part 14, including VoIP services), 14647-48, paras. 210-12 (adopting general performance objectives for covered equipment) (2011).

⁴⁰⁰ *See, e.g.*, AT&T Comments at 4 (IP services offer “countless advantages” over legacy TDM services); CenturyLink Comments at 11 (citing “mobility and convenience of wireless services and the lower cost, greater capacity and flexibility of VoIP and other IP-enabled features” over legacy services); TIA Comments at 10 (IP-based messaging services providing improved functionality for persons with disabilities); USTelecom Comments at 5 (asserting that modern networks and services bring new and improved communications services, as conversion to digital from analog did for television).

⁴⁰¹ *See, e.g.*, *Transition from TTY to Real-Time Text Technology, et al.*, CG Docket No. 16-145 et al., Notice of Proposed Rulemaking, FCC 16-53, at para. 43 & n.151 (rel. Apr. 29, 2016) (*RTT Notice*) (“[G]iven the age and limitations of TTY technology, including its slow transmission speed, limited characters, and lack of synchronicity, we do not believe the capabilities of TTYs should serve as a performance benchmark for current, IP-based text technologies Thus, we believe it is preferable for our rules to promote or require implementation of the improved accessibility features made possible by [new] technologies where there is a factual record justifying this approach.”).

⁴⁰² 47 CFR § 64.601 *et seq.*

⁴⁰³ As discussed in the *RTT Notice*, wireless carriers are undertaking to make RTT backward compatible with TTY. *RTT Notice* at para. 61.

⁴⁰⁴ *See, e.g.*, AARP Comments at 17; Cal. PUC Comments at 11; Disability Coalition Comments at 2; Joint States Reply at 8.

proceeding is not the appropriate forum in which to impose any new financial obligations upon providers that are not necessary to ensure service comparable to the legacy voice service.⁴⁰⁵

153. To the extent persons with disabilities need to transition to new equipment in order to maintain the same functionality or make use of improved functionality such as described above, we encourage service providers to make that transition as simple and inexpensive as possible, particularly for those who do not qualify for existing state and federal equipment distribution programs, and for those who are replacing devices not covered by equipment distribution programs. For example, the transitioning provider could offer the eligible subscriber, at no additional cost, new equipment that is compatible with the provider's services, or financial assistance and information to eligible subscribers to alleviate the burden of purchasing new equipment. Interfaces between the network and user equipment and applications should facilitate interconnection of low-cost devices and software applications that provide accessibility.

154. We find misplaced the concerns of industry commenters contending that standards regarding service for individuals with disabilities should only be imposed in proceedings that would be universally applicable.⁴⁰⁶ As noted above, carriers have always faced a unique set of public interest obligations under the Act, and the rules we announce today provide meaning and structure to an existing framework.⁴⁰⁷ Here, we are simply making compliance with existing requirements one factor we consider as part of our Section 214 process. Because we impose no new requirements here, we reject the contention of commenters like Rural Associations that assert that the Commission wants to impose a "superior service" standard.⁴⁰⁸

155. Relatedly, we decline to impose an independent requirement with respect to real-time text (RTT) technology in this proceeding, but note that any requirements adopted in the RTT docket would become part of our analysis under this factor.⁴⁰⁹ The *RTT Notice* proposed rules defining the obligations of wireless service providers and equipment manufacturers to support RTT over IP-based wireless voice services, and establishing technical standards for minimum required functionalities,⁴¹⁰ the support providers must offer for those functionalities,⁴¹¹ and timelines for implementation of this transition.⁴¹² The *RTT NPRM* further sought comment on whether to amend the Commission's rules to place comparable responsibilities to support RTT on providers and manufacturers of wireline IP services and equipment that enable consumers to initiate and receive communications by voice.⁴¹³ Applicants would be required to adhere to whatever applicable RTT implementation obligations and timetables are established by any final rules adopted in the *RTT Notice* proceeding.

156. In the *Emerging Wireline Further Notice*, we also asked whether our rules should include requirements that any adequate replacement service would develop certain specific applications—such as HD Voice and multi-party video calling—that would benefit persons with disabilities.⁴¹⁴ We

⁴⁰⁵ See *supra* Sections III.C.1, C.2.a.

⁴⁰⁶ See, e.g., AT&T Comments at 10; CenturyLink Comments at 26-28; Verizon Comments at 10-11, 14-16.

⁴⁰⁷ See *supra* Section II.B.

⁴⁰⁸ Rural Associations Reply at 5.

⁴⁰⁹ See *RTT Notice* at Appendix A (text of proposed rules).

⁴¹⁰ *RTT Notice* at paras. 43-84.

⁴¹¹ *Id.* at paras. 85-88.

⁴¹² *Id.* at paras. 25-31.

⁴¹³ *Id.* at paras. 2, 95-99.

⁴¹⁴ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9487-88, para. 224. Consumer advocate commenters express concern regarding the need for specific additional applications for individuals with disabilities.

(continued . . .)

acknowledge the importance of implementing improved accessibility features that are made possible by emerging technologies, which can greatly enhance accessibility and are often uniquely feasible on IP services.⁴¹⁵ However, as explained above, we conclude this is not the appropriate forum in which to impose new substantive requirements on these issues. The active proceedings examining such issues will develop appropriate rules, which then would become part of the overarching analysis in a Section 214 discontinuance.⁴¹⁶

3. Interoperability with Key Applications and Functionalities.

157. Using this third prong of the adequate replacement test, we recognize the importance of specified key applications and functionalities that today are associated with legacy voice services, while at the same time recognizing that consumer preferences will evolve as part of technology transitions.⁴¹⁷ Requiring applicants to demonstrate that a replacement service offers compatibility with an enumerated set of applications and functionalities ensures consumers will have continued access to them for a period of time.⁴¹⁸ At the same time, we make clear that carriers are not required to provide access to these capabilities in perpetuity. This approach will provide clarity to service providers, manufacturers and end users alike.

158. We first identify a list of applications and functionalities we have concluded are key and thus must be interoperable with any replacement service to satisfy the test and remain eligible for

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See, e.g., AARP Comments at 17; Cal. PUC Comments at 11; Disability Coalition Comments at 2; Pa. PUC Comments at 11-12; TDI Comments at 5-9. In contrast, incumbent LECs' raise concerns that unique responsibilities imposed on them alone in the context of Section 214 discontinuances would place them at a competitive disadvantage, and contend that any rule expansion should be accomplished through a general rulemaking proceeding or other industry-wide context rather than 214 adjudications. *See* AT&T Comments at 7-8; CenturyLink Comments at 25-28; TIA Comments at 7-10. Certain commenters specifically favor adoption of the IETF RFC 4103 standard for RTT services and the HD Voice requirement identified in the *Emerging Wireline Order and Further Notice*. *See* TDI Comments at 5-9.

⁴¹⁵ *See, e.g., RTT Notice*, at paras. 95-99 (seeking comment on whether to require implementation of RTT in wireline as well as wireless IP-based networks).

⁴¹⁶ The pending *RTT Notice* discussed above will produce a more complete record on RTT-specific matters, including whether RFC 4103 is an appropriate safe harbor technical standard for RTT, and will ultimately address implementation of RTT technology as a replacement for TTY. *See RTT Notice* at paras. 49-59. We decline to prejudge the outcome of that proceeding by adopting RTT requirements here, particularly given the limited record on RTT issues in this docket.

⁴¹⁷ *See* Mich. PSC Comments at 5; CWA Comments at 10; Pa. PUC Comments at 10; NASUCA Comment at 6-7; Joint States Reply at 8; AARP Comments at 15-16 (all arguing that transitions to alternative services should not cause consumers to lose functionality or benefit of services or equipment upon which they rely). *But see* AT&T Reply at 4 (arguing interoperability could place on incumbent LECs "a Hobson's choice – redesign their next generation services to incorporate features and capabilities that the Commission, not consumers, believes are appropriate, or continue to maintain their TDM networks and services in perpetuity."); CenturyLink Reply at 9 ("The Commission also should avoid criteria that would force ILECs to provide dead or dying services and functionalities, simply because they are supported by legacy networks."); USTelecom Comments at 13-14.

⁴¹⁸ Consistent with the *Emerging Wireline Further Notice*, we define applications as offerings that run on TDM-based service, such as home alarm systems and modems, whereas functionalities are offerings included in the service, such as call-waiting and operator services. *See Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9485, para. 219 and n.681 (seeking comment on "interoperability of both voice and non-voice devices, or newer technology-based equivalent devices"); *see also id.* at 9490, para. 229 (stating that consumers "have come to expect that their phone service provides certain functionalities, such as caller ID, transport of touch tones, and the ability to make calling card, dial-around, collect, or third-party number billed calls"). Either the applicant or a third party may provide these offerings.

automatic grant.⁴¹⁹ We adopt AT&T's proposal to require replacement services to be compatible with a defined list of devices, subject to sunset in 2025. We then describe a framework for identifying whether other applications and functionalities not specifically identified in this order should receive a similar status and adopt a Commission process for modifying this list. We also conclude it would be appropriate to assess regularly whether items should be removed from the list as the marketplace evolves. Finally, we explain how applicants will appropriately demonstrate that a replacement service offers interoperability with the identified list of key applications.

a. Identifying Key Applications

159. We adopt AT&T's proposal that widely adopted low-speed modem devices—in particular, fax machines, home security alarms, medical monitoring devices, analog-only caption telephone sets, and point-of-sale terminals—should make up the initial list of key applications for which applicants seeking automatic grant must demonstrate that any replacement service offers interoperability.⁴²⁰ We conclude that it is appropriate to expect that replacement services offer compatibility with these devices until 2025, to provide time for the marketplace to migrate to new services and applications that will provide similar functions.⁴²¹

160. We recognize that there may be other applications and functionalities for which interoperability is critical. We recognize the challenges, as raised in the record, to identify these applications and functionalities and the costs of making them available.⁴²² Because the list we adopt today may not be fully inclusive of all applications and functionalities that are significantly valued by stakeholders, we also adopt a process to supplement this list. We direct the Office of Engineering and Technology, working in consultation with the Wireline Competition Bureau (Bureaus) and subject to the guidelines below, to seek comment and, based on the record developed, propose additions to the list of key applications and functionalities adopted above for Commission review and approval.

161. Within three months of the effective date of the order, the Bureaus will release a public notice inviting consumers and industry stakeholders to indicate whether additional functionalities and applications should be added to the list. The Bureaus will also engage in outreach to solicit input from consumer and industry groups.

⁴¹⁹ We include the operation of these applications and functionalities over lines traditionally used to provide voice service within the definition of legacy voice service for purposes of the adequate replacement test we adopt today.

⁴²⁰ AT&T May 31 *Ex Parte* Letter at 4.

⁴²¹ AT&T proposed that the Commission require that any replacement service for a discontinued data service have a low latency option. AT&T May 31 *Ex Parte* Letter Attach at 5. We agree with AT&T that because the specific streamlining criteria we adopt are limited to ensuring adequate replacements for legacy voice services, it is not appropriate to adopt a low-latency option requirement. AT&T July 7 *Ex Parte* Letter at 1. We reiterate that non-voice services to which Section 214(a) discontinuance obligations apply and voice services subject to Section 214(a) being discontinued in non-technology transitions circumstances will continue to be subject to our pre-existing discontinuance process, which provides the public an opportunity to comment and to which our traditional five-factor balancing test applies.

⁴²² See Mich. PSC Comments at 5 (“Device and Service Interoperability is important to the function of numerous customer devices and includes features such as Caller ID and voicemail, as well as specifications necessary for the function of essential public safety devices such as medical alert services and assistive devices for the hearing impaired.”); Pa. PUC Comments at 10 (stating the Commission should “consider not only the functionality related to voice calls (e.g., ability to use caller ID, access to 911/E911) but also non-call functions, third-party customer premises equipment (CPE), and/or services such as home alarms, fax machines and medical alert monitors.”); CWA Comments at 10. *But see* AT&T Reply at 4 (arguing that the adequate replacement criteria “ignore the overwhelming advantages of IP services, and would require ILECs (and only ILECs) to duplicate all of the features, functions and capabilities of outdated services that have been rejected by all but a small and dwindling minority of consumers.”).

162. We outline here our views on relevant considerations in determining whether an application or functionality retains value to consumers in the marketplace such that it should be made interoperable with any replacement service. These considerations include whether: (i) customers rely on the application or functionality for health or safety reasons; (ii) the application or functionality is used as a wholesale input by other providers; (iii) the application or functionality relies on vendor equipment or inputs that have been discontinued; and (iv) the service provider, as opposed to the end-user customer, is the least-cost avoider.⁴²³

163. These guidelines reflect our goal of ensuring that the technology transitions broadly benefit consumers, including those who still value certain applications and functionalities associated with legacy voice services.⁴²⁴ Applying certain market-based considerations and adopting a sunset for this requirement is intended to address incumbent LECs' concerns about being placed at a potential competitive disadvantage by requiring them indefinitely to retain applications and functionalities that are no longer important to consumers.⁴²⁵

164. The first "health and safety" factor will determine whether consumers are using or ordering an application or functionality based on a TDM service and their relative significance in those consumers' lives. Indeed, we identified medical monitoring devices and home security alarms as the type of "health and safety" applications that remain key in the marketplace.

165. The second factor focuses on the consumers who subscribe to an application or functionality from a provider who relies on the TDM-based service being discontinued. The third factor focuses on whether an application or functionality is outdated or operating on equipment that is obsolete.⁴²⁶ The fourth and final factor will look at whether the applicant or the end-user customer is able to address the interoperability concerns at the least cost. We conclude these factors represent a reasonable framework for identifying key applications and functionalities that should be maintained during the technology transitions.

166. We recognize that interoperability considerations will likely change over time, as new applications and functionalities are developed for new services, and consumers increasingly are no longer relying on applications and functionalities associated with legacy voice services. For that reason, we also conclude it important to review regularly the list of key applications to determine whether elements of that list no longer are key. We direct staff to examine this list as part of each internal biennial review of agency regulations. We also direct the Bureaus to propose changes or updates, in particular to remove any applications or functionalities that may become obsolete, to the Commission. The Bureaus will continue their biennial review of the key applications and functionalities list and certification requirements through the year 2025, at the end of which the Bureaus will advise the Commission whether the list remains necessary given the status of technology transitions.

⁴²³ In this context, either the applicant or certain types of end users face costs to maintain compatibility with certain applications in the event of technological change in the applicant's provision of telecommunications services. The least cost avoider is whichever of these two parties faces the least costs of adapting to the technological change. Thus, the applicant would be the least cost avoider if the cost of making adjustments to its upgraded service would allow existing applications to continue to operate were much lower than the aggregate costs to end users of updating their applications.

⁴²⁴ See *supra* notes 417, 422.

⁴²⁵ See, e.g., AT&T Comments at 8; CenturyLink Comments at 25; Verizon Reply at 8-9.

⁴²⁶ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491, para. 229 (seeking comment on "whether similar functionalities as those provided by legacy services, such as medical alert monitors and credit card processing, are feasible with new technologies and whether new end-user equipment would be required"); see also, e.g., *supra* note 417, 422 (discussing ILEC arguments against maintaining outdated functionalities); TIA Comments at 3 ("Legacy TDM platforms are typically already approaching a 40 year plus lifespan. Essential expertise and equipment spares are becoming scarce.").

b. Satisfying the Interoperability Standard for Key Applications

167. To maintain eligibility for potential automatic grant status, covered applicants must certify or make an appropriate showing that a replacement service offers interoperability and compatibility of the replacement service with the list of key applications and functionalities. Conversely, applicants will not be required to demonstrate interoperability with applications and functionalities that are not on the list adopted today or as modified in the future. We find this approach protects consumers' access to applications and functionalities they deem valuable while also supporting the technology transitions and promoting applications and functionalities designed for newer technologies and platforms.

168. When seeking a Section 214 discontinuance, applicants should only certify compliance with this prong if the replacement service allows the key application to function or perform in a substantially similar manner as it did on the legacy voice service. We note that demonstrating applications' adherence to established technical standards would be influential in demonstrating achievement of the compliance criteria discussed above. Although we decline to adopt any specific standards, such as the as the ITU T.38 standard,⁴²⁷ or the Managed Facilities-Based Voice Network (MFVN) standards proposed by ADT,⁴²⁸ adherence to these standards would be persuasive evidence of compliance with this prong should the underlying certification be challenged.⁴²⁹ We also note that 64-kbps encoding in accordance with ITU G.711 standard would allow a replacement service, such as a wireless replacement, to carry any signal that a customer can use today with a legacy TDM service.⁴³⁰ This would also be persuasive evidence of compliance. The Commission also supports any further industry standard testing efforts.⁴³¹

169. We disagree with incumbent LEC arguments that including interoperability as part of our adequate replacement analysis will "unreasonably shift" the costs of the technology transitions to incumbent LECs, or that interoperability undermines the forward-looking principles underlying tech transitions.⁴³² We consider costs to users and providers, as well as other market-based factors, as part of our key application analysis, and thus we are mindful of such considerations in establishing a framework that balances consumer needs with seamless transitions.

⁴²⁷ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9486, para. 221; *see also* Mich. PSC Comments at 5 (arguing the Commission should consider the ITU T.38 as a starting point for developing criteria); Joint States Reply at 8.

⁴²⁸ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9486, para. 221; *see also* ADT Comments at 3 (the "proposed MFVN rule sets the condition that would ensure that alarm system providers will be able to provide service without interruption during and after technology transitions benefiting millions of consumers.") *But see* Verizon Comments at 13-14 ("[T]he Commission should not adopt ADT's proposal to incorporate the Managed Facilities-Based Voice Network standards into its evaluation of service discontinuances; such network-standards have little relevance to the assessment of a specific service."); AT&T Reply at 5 (arguing that adoption of proposed standards is "wholly unworkable").

⁴²⁹ We disagree with CenturyLink argument that the Commission cannot adopt a standard proposed in the record as part of its list and certification development. *See* CenturyLink Reply at 6-7.

⁴³⁰ Lower bit rate signals cannot carry all the information carried in a 64-kbps signal and therefore 64-kbps encoding in accordance with ITU G.711 would support applications such as fax, credit card transactions, and medical monitoring. Analog signals for these applications are carried over copper loops and then through the digital interior of the PSTN after 64-kbps digital encoding in accordance with ITU G.711. *See* ITU-T Recommendation G.711, Pulse Code Modulation (PCM) of Voice Frequencies, <https://www.itu.int/rec/T-REC-G.711-198811-1/en> (last visited June 7, 2016).

⁴³¹ *See, e.g.*, AARP Comments at 16 (discussing standards testing for continuity of operations).

⁴³² *See* CenturyLink Reply at 2-3; *see also* Verizon Comments at 13; TIA Comments at 7.

170. We acknowledge that incumbents LECs are concerned that we may require interoperability with TDM-based applications and functionalities in perpetuity.⁴³³ We reiterate that the approach we announce today will sunset in 2025, as AT&T recommended, at which point the interoperability requirement will no longer be part of our Section 214 analysis. By that time, consumers will have had ample time to transition to newer functionalities and applications. Until then, of course, parties are always free to request changes by petition or submissions in the biennial review process.

D. Other Issues Regarding the Adequate Replacement Test

171. We also sought comment on whether to include: (i) a partial or full exemption from the adequate replacement test for rural LECs, and (ii) affordability as a separate criteria under the test. For the reasons stated below, we decline to adopt an exemption. Because affordability already plays an important role in our pre-existing evaluation process and for the additional reasons stated below, we also decline to include an exemption or to consider affordability within the adequate replacement test.

1. No Rural LEC Exemption.

172. In the *Emerging Wireline Further Notice*, the Commission sought comment on whether rural LECs should be exempt from any criteria adopted for the adequate replacement test.⁴³⁴ Specifically, the Commission sought comment on whether all or some rural LECs should be exempt from some or all of the proposed criteria, and what the standard should be to qualify for such an exemption.⁴³⁵ Based on the record in this proceeding, we decline to provide any rural LEC exemption. We find that rural LECs have offered no compelling justification as to why these criteria would not be just as beneficial to their customers as they would be to the customers of other 214 discontinuance applicants in demonstrating the adequacy of replacement services. However, as discussed above, we are exempting small businesses, including rural LECs that satisfy the standard for this designation, from the network testing requirements we adopt today to remain eligible for automatic grant.⁴³⁶

173. We recognize that rural LECs such as members of the Alaska Rural Coalition, the Rural Broadband Coalition, and others serve many of the highest cost areas in the country, and we appreciate their concerns about overly burdensome regulatory obligations.⁴³⁷ However, the broad exemption proposed by certain commenters, i.e., that rural LECs should not be subject to Section 214 discontinuance requirements for transitioning their networks from TDM to IP,⁴³⁸ is not appropriate.⁴³⁹ Moreover, these commenters have presented no compelling arguments why they should not be subject to the proposed adequate replacement criteria.⁴⁴⁰ We emphasize that the Commission is committed to supporting quick

⁴³³ See, e.g., AT&T Comments at 13

⁴³⁴ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9492, para. 235.

⁴³⁵ *Id.* at 9492, para. 235.

⁴³⁶ See *supra* Section III.C.1.a.

⁴³⁷ See Alaska Rural Coalition Comments at 2-3; see also Rural Associations Comments at 6; GVNW Reply at 2.

⁴³⁸ See, e.g., Alaska Rural Coalition Comments at 7-8; Rural Associations Reply at 4-5; GVNW Reply at 3.

⁴³⁹ The *Further Notice* did not seek comment on an overall rural LEC exemption of the Section 214 discontinuance requirement, but rather only a possible exemption from one prong of the Section 214 discontinuance test. See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9492, para. 235.

⁴⁴⁰ Commenters offer several arguments in favor of a rural LEC exemption but not with respect to the adequate replacement criteria at issue. See, e.g., Rural Associations Reply at 4 (“At the very least, the Commission should make clear that RLECs would rarely, if ever, need to file applications for approval under Section 214 simply as a consequence of converting legacy TDM voice services to IP technology.”); see also GVNW Reply at 3. We note that, commenter assertions to the contrary, there is no rural LEC exemption from Section 214. Compare 47 U.S.C. § 214 with 47 U.S.C. § 251(f) (providing for a qualified exemption for rural LECs from the provisions of Section

(continued . . .)

and efficient transitions to IP in rural areas, and we do not burden rural LECs uniquely or excessively. Nevertheless, we find that rural consumers, with often limited choice in service providers, should equally benefit from full consideration of the adequacy of any replacement service to ensure continued network performance and service quality, as well as access to critical applications, and interoperability with valued services.⁴⁴¹

2. Affordability

174. The evaluation of how potential price increases for alternative services could impact consumers is a critical part of the traditional five-factor test for evaluating discontinuance applications.⁴⁴² When applying the traditional five-factor test to determine whether a discontinuance would adversely affect the public convenience and necessity, the Commission can fully evaluate issues involving price and assess the needs of consumers who may only have access to a more expensive replacement service as part of a technology transition.⁴⁴³ When called upon to apply this standard in the context of technology transitions, the Commission's focus will be on the price to consumers before and after a discontinuance resulting from transition to a newer technology.⁴⁴⁴ Numerous carriers have touted the reduced costs and improved capabilities of their next-generation services and networks,⁴⁴⁵ and we anticipate that we will see those benefits accrue to consumers.

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251(c) of the Act); *see also* Alaska Rural Coalition Comments at 7 (“The ARC believes that the Section 251 rural exemption already exempts many ILECs from the proposed regulations.”).

⁴⁴¹ *See* Appalachian RC Comments at 2 (“ARC believes that rural areas should have comparable services at comparable prices to urban and suburban counterparts.”); *see also* AT&T Comments at 18 (“If the criteria are important enough for the Commission to impose on any carrier, they should be important enough to apply to rural carriers as well.”).

⁴⁴² *Verizon Tel. Cos. Section 63.71 Application to Discontinue Expanded Interconnection Service Through Physical Collocation*, 18 FCC Rcd 22737, 22742, para. 8 (2003) (*Verizon Expanded Interconnection Order*) (listing the five factors considered in evaluating an application for discontinuance authority, including increased charges for alternative services, although this factor may be outweighed by other considerations).

⁴⁴³ *See Verizon Expanded Interconnection Order*, 18 FCC Rcd at 22751, para. 27 (stating that the Commission “will consider increased charges to consumers in determining whether grant of a service discontinuance adversely affects the public convenience and necessity.”). We appreciate commenters’ suggestions on possible ways to evaluate price increases in the context of the technology transitions. *See, e.g.*, AARP Comments at 7 (“[T]he requesting carrier should be required to present data on existing service prices and representative customer bills associated with existing technologies, and identify service prices and projected customer bills under the alternative technology, including the projected impact of data caps, should data caps be associated with proposed alternative services.”); Cal. PUC Comments at 11 (suggesting that the transitioning provider should offer certain alternatives to disabled subscribers including “financial assistance and information on a source from which the subscriber can purchase . . . new” compatible equipment).

⁴⁴⁴ *Cf.* USTelecom June 20 *Ex Parte* Letter at 2-3 (“[A]ny ‘increased charges for alternative services’ [should] be measured against charges for existing alternative services available in the market, rather than the legacy service being replaced.”)

⁴⁴⁵ *See, e.g.*, AT&T Comments at 2 (noting the IP network infrastructure is “far more capable and efficient”); Verizon Comments at 13 (“Just as customers have become accustomed to and benefitted from technology upgrades in Internet technology, with applications and devices updating frequently as they are improved, similar benefits will accrue from providers’ abilities to upgrade here.”); USTelecom Comments at 4 (“ILECs have systematically been moving away from legacy to modern networks for some time. This shift is both prudent (given the cost of maintaining copper infrastructure, especially where fiber plant exists), and necessary to achieving our short-term and longer-term broadband deployment goals.”).

175. We nonetheless acknowledge the concerns expressed in the record about the potential for increased prices to customers for replacement services due to technology transitions,⁴⁴⁶ and emphasize that the Commission is committed to ensuring that technology transitions do not unduly impact our most vulnerable citizens.⁴⁴⁷ Congress expressed its intent in the Act to make available communications service to “all the people of the United States,”⁴⁴⁸ and more recently, in the Telecommunications Act of 1996, Congress asserted the principle that rates should be “affordable,” and that access should be provided to low-income consumers in all regions of the nation.⁴⁴⁹ More broadly, we are taking actions to promote affordability of next-generation services in a variety of proceedings.⁴⁵⁰ Under the Commission’s rules, recipients of high-cost universal service support are required to offer voice and broadband services at rates that are reasonably comparable to offerings of comparable services in urban areas.⁴⁵¹ Consistent with these statutory objectives, affordability has always been—and will continue to be—a critical component of the Commission’s determination as to whether a particular discontinuance request is consistent the Commission’s obligation to ensure the public interest is protected.

176. Nothing we adopt today limits that obligation. While we do not include affordability as a separate criterion under the adequate replacement test we adopt today, affordability remains a critical part

⁴⁴⁶ See, e.g., Neb. PSC Comments at 3 (stating that affordability “is a critical component in keeping consumers connected”); AARP Comments at 5-7; Cal. PUC Comments at 11; CWA Comments at 4-6; Disability Coalition Comments at 8; Greenlining Comments at 4; Public Knowledge et al. Comments at 4-5; Joint States Reply at 15; see also NASUCA et al. Reply at 11; CAC June 10, 2016 Technology Transition Recommendation at 3; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2. Electric utilities are concerned about increased costs to monitor and support replacement services over new technologies. See Edison Comments at 9; Utilities Telecom Council Comments at 6.

⁴⁴⁷ A coalition of public interest and civil rights groups urges that we require applicants to conduct an impact assessment of the discontinuance on low-income people and people of color. Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2. We decline to mandate such an impact analysis requirement as part of our framework for streamlined processing because we consider it unduly burdensome on applicants.

⁴⁴⁸ Communications Act of 1934, Pub. L. No. 73-416, § 1 (1934) (codified as amended at 47 U.S.C. § 151) (creating the Federal Communications Commission).

⁴⁴⁹ Telecommunications Act of 1996, Pub. L. No. 104-104, § 101(a) (1996) (codified at 47 U.S.C. § 254(b)); see also *Lifeline and Link Up Reform and Modernization et al.*, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962, 3964, para4 (2016) (*Lifeline and Link Up Reform and Modernization Order*); *Federal-State Joint Board on Universal Service*, Report and Order, 12 FCC Rcd 8776, 8955, para. 335 (1997).

⁴⁵⁰ We recently modernized our Lifeline program by taking a variety of actions that work together to encourage more Lifeline providers to deliver supported broadband services as we transition from primarily supporting voice services to targeting support at modern broadband services. *Lifeline and Link Up Reform and Modernization Order*, 31 FCC Rcd at 3963-64, paras. 1-5. In approving Charter’s acquisition of Time Warner Cable and Bright House, the Commission imposed a condition requiring the combined company to make available a discounted broadband service for low-income consumers. *Charter Order* at 203, para. 453. In the Order approving the AT&T/DIRECTV transaction, the Commission required as a condition of this transaction that the combined company make available an affordable, low-price standalone broadband service to low-income consumers in the combined AT&T/DIRECTV wireline footprint. *AT&T and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 30 FCC Rcd 9131, 9279, para. 397 (2015). Altice and Cablevision also committed to providing a low-income broadband package to all eligible customers in Cablevision’s footprint within fifteen months after closing. *Applications Filed by Altice N.V. and Cablevision Systems Corporation to Transfer Control of Authorizations from Cablevision Systems Corporation to Altice N.V.*, WC Docket No. 15-257, Memorandum Opinion and Order, FCC 16-485, para. 47 (May 3, 2016).

⁴⁵¹ 47 CFR § 54.308(a); *Wireline Competition Bureau Announces Results of 2016 Urban Rate Survey for Fixed Voice and Broadband Services, Posting of Survey Data and Explanatory Notes, and Required Minimum Usage Allowance for ETCs Subject to Broadband Public Interest Obligations*, Public Notice, 31 FCC Rcd 3393, 3395 (WCB 2016); see also 47 U.S.C. § 254(b), 47 CFR § 54.313(a)(10), (12).

of the Commission's underlying evaluation of discontinuance requests. Therefore, the cost of replacement services will be considered both before issuing the Public Notice and during the comment period. As noted above, Bureau staff review applications for completeness, accuracy, and fulfillment of all predicate requirements, including providing notice to affected customers, before issuing the Public Notice. In order to be considered for streamlined processing, applicants must include information about the price of replacement services compared to the legacy service in their application. The Bureau will not place an application on streamlined processing if there is a material increase in price for the replacement service compared to the service to be discontinued. Moreover, consumers affected by potential discontinuances and their advocates will continue to have the opportunity to offer comments and objections in the streamlined process. Should we receive evidence of material price increases for comparable services, particularly those with a disproportionate impact on vulnerable populations, we would remove that application from consideration for automatic grant.

177. Certain commenters also contend that the adequate replacement test should include a requirement that the discontinuance will not result in the loss of Lifeline service.⁴⁵² We emphasize that the test we announce today does not change or disturb in any way the eligible telecommunications carrier (ETC) obligations of any incumbent carrier to offer Lifeline service.⁴⁵³ In the recent *Lifeline Reform Order*, the Commission concluded that if an incumbent LEC is the only Lifeline provider in a given census block, it retains the ETC obligation to offer voice service.⁴⁵⁴ That requirement exists independent of the Section 214 discontinuance process. Thus, if there is no other Lifeline provider in the community for which discontinuance is sought, the incumbent LEC cannot terminate voice service to Lifeline subscribers, and it must continue to offer Lifeline voice service to any qualifying Lifeline household.⁴⁵⁵

E. Other Issues Related to the Discontinuance Process

178. In the *Emerging Wireline Further Notice*, we sought comment on several additional issues relating to the Section 214 discontinuance process, including whether to require consumer education materials and issues relating to the timing of notice, the form of notice, and providing notice to Tribal governments. We will establish a requirement that an applicant offer an adequate customer outreach plan accompanied by adequate consumer education materials when discontinuing legacy retail services. We further conclude that we should revise our rules to permit carriers to provide customers notice of discontinuances via email where those customers have previously agreed to receive notice from the carrier that way, or by any other means to which a customer has previously agreed. We additionally will require all carriers to provide notice of discontinuance applications to Tribal governments in the state in which the discontinuance is proposed, in addition to the notice already required to state PUCs, state Governors, and the Department of Defense, thus aligning our discontinuance notice rules with our recently revised copper retirement rules. Finally, we conclude that the record does not indicate that a change to the timing of notice provisions of Section 63.71 is necessary at this time.

1. Consumer Education

179. In this section, we adopt the proposal set forth in the *Emerging Wireline Further Notice* that an applicant must offer an adequate outreach plan and accompanying consumer education materials when discontinuing legacy retail services.⁴⁵⁶ The establishment of clear guidance on education outreach

⁴⁵² Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2; Public Knowledge and CWA July 8, 2016 *Ex Parte* Letter at 3.

⁴⁵³ See 47 U.S.C. § 214(e); see also 47 CFR § 54.205.

⁴⁵⁴ See *Lifeline and Link Up Reform and Modernization et al.*, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962, 4004, para. 121 (2016).

⁴⁵⁵ See *id.*

⁴⁵⁶ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491-92, para. 233.

materials will help promote seamless technology transitions, consumer choice, and the fulfillment of consumer information needs.⁴⁵⁷ We also find that the plan's additional protections for vulnerable consumers, as well as the required hotline, further promote these values.

180. We explained in the *Emerging Wireline Further Notice* that discontinuance of an existing service on which customers rely creates a need for customer education⁴⁵⁸ and thus proposed that discontinuance applications involving a technology transition must include an adequate consumer outreach plan.⁴⁵⁹ The Commission sought comment on what specific requirements should be imposed and how best to work with state commissions and Tribal governments on such education and outreach plans.⁴⁶⁰

181. To help ensure seamless transitions, we conclude that an applicant must offer adequate customer education materials and outreach plans when discontinuing a service as part of a technology transition. We wish to establish guidelines, not impose an unduly rigid mandate that forecloses flexibility. Nonetheless, those guidelines need to be clear enough to allow applicants to understand how to achieve compliance.⁴⁶¹ To be clear, this consumer education requirement applies to the same universe

⁴⁵⁷ See, e.g., AARP Comments at 25; Cal. PUC Comments at 16-17; CWA Comments at 14; Greenlining Comments at 6; Pa. PUC Comments at 18-19; Public Knowledge et al. Comments at 3-4; see also Joint States Reply at 14-15; NASUCA et al. Reply at 15; Public Knowledge et al. Reply at 6-7; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2; Public Knowledge June 6 *Ex Parte* Letter at 1; cf. AT&T Comments at 17 (asserting a consumer education and outreach plan is unnecessary); ITTA Comments at 13-14 (contending the Commission does not need to include adequacy if consumer education and outreach plans in the evaluation because "the [214] application process already entails provision of notice to affected customer and other stakeholder"). The CAC recommends that the Commission "provide consumer information about the Technology Transition on its Consumer Help Center webpage and by issuing additional Wireline Consumer Guides." CAC June 10, 2016 Technology Transition Recommendation at 3. It also recommends that the Commission "conduct significant outreach to organizations that work with consumers, older adults, low-income households, non-English-speaking consumers, and deaf, hard-of-hearing, blind, sight-impaired, and deaf-blind consumers, to have these organizations assist the Commission in educating the public about the Technology Transition." *Id.* at 4. Our Consumer and Governmental Affairs Bureau regularly provides educational materials to the public. See Consumer and Governmental Affairs Bureau, Consumer Guide, Tech Transitions: From Copper Wires to Fiber Optics, <https://www.fcc.gov/consumers/guides/tech-transitions-copper-fiber-optics>.

⁴⁵⁸ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491, para. 233 (noting the Commission's continued concern about customer education around technology transitions); see also *Emerging Wireline Notice*, 29 FCC Rcd at 15001-02, paras. 74-75. The Commission further explained that it was for this reason that, in the *January 2014 Technology Transitions Order*, the Commission set forth an expectation that providers conducting any experiment would "engage in customer outreach and education efforts." *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9491-92, para. 233 (citing *January 2014 Technology Transitions Order*, 29 FCC Rcd at 1436, para. 6).

⁴⁵⁹ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9492, para. 233.

⁴⁶⁰ *Id.* at 9492, para. 233.

⁴⁶¹ For example, AARP, with support from various consumer advocacy groups, asserts that notification materials should clearly address: (i) the changes to the network; (ii) the impact on existing services, applications, and functionalities that are purchased by individual customers, including whether all existing services, applications, and functionalities will be available following the transition; (iii) any impact on the price of services, applications, and functionalities associated with the technology transition; and (iv) additional points of contact for individuals with disabilities, as well as information on the transition of specialized systems that are more likely to be utilized by those with disabilities, such as health and personal monitoring, access to emergency services, and the potential need to replace legacy devices. AARP Comments at 25-27; see also CWA Comments at 14; CWA Reply at 5; Public Knowledge et al. Reply at 6. AARP and Public Knowledge also recommend that additional educational material should be given to customers required to utilize services from a third-party carrier they did not choose as a result of the Section 214 discontinuance. AARP Comments at 26; see also Public Knowledge et al. Reply at 6. Civil rights and public interest groups assert that the Commission "should require any consumer education notice to include a

(continued . . .)

of discontinuance applications as the new adequate replacement test, and the procedures governing all other discontinuance applications are undisturbed. Specifically, an adequate customer outreach plan must, at a minimum, involve: (i) the development and dissemination of educational materials provided to all customers affected containing specific information pertinent to the transition, as specified in detail below; (ii) the creation of a telephone hotline and the option to create an additional interactive and accessible service to answer questions regarding the transition; and (iii) appropriate training of staff to field and answer consumer questions about the transition. All aspects of the consumer outreach plan, including the educational materials, the telephone hotline, and a carrier's contact information must be provided in accessible and usable formats.⁴⁶² Moreover, to ensure that customers understand the notice that they receive, any applicant who in the ordinary course of business regularly uses a language other than English in its communications with customers must provide the education materials to customers in both English and that regularly used language.⁴⁶³ The Commission will consider a carrier's certification of its compliance with these requirements as part of its overall analysis of whether granting the application would be in the public interest.

182. First, similar to the DTV transition outreach requirements, the required educational materials to customers may be provided as a "bill stuffer," an information section on the bill itself, or as a discrete communication sent in the manner most commonly used to communicate with the customer.⁴⁶⁴ The materials must be delivered in accessible and usable formats⁴⁶⁵ and include, at minimum: (i) a general description of the changes to the service, written in a non-technical manner that can be readily

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clear explanation of how a consumer can register his or her concern about the proposed discontinuance of legacy service with the FCC" Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2. The public notice required under Section 63.71(a) already requires applicants to provide consumers with a contact address where consumers can provide comments or objections, which applies to all discontinuances of domestic services. See 47 CFR § 63.71(a)(5).

⁴⁶² See, e.g., 47 CFR §§ 6.11 (accessible information requirements for telecommunications service providers and equipment manufacturers), 14.20(d) (accessible information requirements for advanced communications service providers and equipment manufacturers); see also AARP Comments at 26-27; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2.

⁴⁶³ See Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2 ("The Commission should require consumer education in languages other than English and in a manner that can be used by people with disabilities."); Public Knowledge and CWA July 12, 2016 *Ex Parte* Letter at 6 (stating that as part of the community outreach plan, the Commission should require applicants to "provide information in languages other than English that are spoken in the community of service").

⁴⁶⁴ *DTV Consumer Education Initiative*, Report and Order, 23 FCC Rcd 4134, 4160, para. 53 (2008). We recognize that certain customers do not receive a monthly bill (e.g., those using auto-payment plans), and thus provide a separate option. As billing practices change over time, the way in which customers receive educational materials is subject to change as well.

⁴⁶⁵ CWA Comments at 14; see also AARP Comments at 26-27; Public Knowledge et al. Reply at 6; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2. Greenlining and NASUCA assert the Commission should evaluate whether a carrier's customer education and outreach plan is provided in other languages. Greenlining Comments at 6; see also NASUCA et al. Reply at 15 (recommending that any customer education plan be "at a minimum in any language that the customer's state publishes in voter guides"); Public Knowledge et al. Reply at 6-7 (recommending the Commission utilize FTC guidelines if it "decides to mandate specific language standards for consumer notification"); Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2 (asserting the "Commission should require consumer education in languages other than English."); Public Knowledge and CWA July 12, 2016 *Ex Parte* Letter at 6 (stating that providers who make promotional material available in non-English languages "demonstrate[] (a) that there is a sufficiently large number of primary speakers in that language to warrant the expense of preparing non-English marketing materials; and, (b) the carrier has the capacity to perform the translation").

understood by the average consumer;⁴⁶⁶ (ii) the impact on existing applications and functionalities that are liked to be purchased by individual customers, including whether such applications, and functionalities will be available following the transition;⁴⁶⁷ (iii) any change in the price of the service and impact on applications and functionalities which run on the service to be discontinued;⁴⁶⁸ and (iv) points of contact who will address technology transitions issues,⁴⁶⁹ as much as is practicable.⁴⁷⁰ If the applicant is relying on a third party service, we will further require the applicant to provide: (i) contact information for that third party and (ii) upon inquiry from a consumer, information regarding the interoperability and compatibility of applications benefiting individuals with disabilities that run on the applicant legacy voice service.

183. We also encourage, but do not require, applicants to submit their consumer education materials to the relevant state commission(s) and/or Tribal government.⁴⁷¹ We emphasize that there is an important role for state commissions and Tribal governments in promoting consumer education around the discontinuance of legacy voice services.⁴⁷² As we noted in the *Emerging Wireline Order* in the context of copper retirement, states traditionally have played a critical role in consumer protection, and we strongly encourage carriers seeking to discontinue legacy voice services to partner with state public service commissions, Tribal entities, and other state and local entities to ensure consumers understand and are prepared for the transition.⁴⁷³ We will not, however, impose a mandate regarding outreach to state commissions and Tribal entities because we believe it would unduly burden both industry and state and Tribal entities.⁴⁷⁴

184. Second, the applicant is required to provide an accessible⁴⁷⁵ telephone hotline staffed at least 12 hours per day, including between the hours of 9 a.m. and 5 p.m., to answer questions regarding the discontinuance,⁴⁷⁶ as some individuals with disabilities cannot afford Internet access, or may lack a

⁴⁶⁶ See AARP Comments at 26; see also CWA Reply at 5; Public Knowledge et al. Reply at 6.

⁴⁶⁷ See AARP Comments at 26; see also CWA Reply at 5; Public Knowledge et al. Reply at 6.

⁴⁶⁸ See AARP Comments at 26; see also CWA Reply at 5; Public Knowledge et al. Reply at 6; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2; Public Knowledge et al. July 7, 2016 *Ex Parte Letter* at 2-3.

⁴⁶⁹ See AARP Comments 26-27; see also CWA Comments at 14; Public Knowledge et al. Reply at 6; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2; Public Knowledge and CWA July 8 *Ex Parte Letter* at 2-3.

⁴⁷⁰ We recognize that third parties unrelated to the applicant provide many applications that run on the service. We would encourage third parties to cooperate with these consumer education efforts, but acknowledge that access to third party information may not be possible.

⁴⁷¹ See Pa. PUC Comments at 18-19; Joint States Reply at 14-15; see also Cal. PUC Comments at 16-17; Public Knowledge et al. Reply at 6 (noting “effective consumer education will require coordination among multiple players” and the Commission “must reach out to a broad range of community organizations, including non-profits and state and local governments in order to achieve broad dissemination of critical information.”); NARUC July 7, 2016 *Ex Parte Letter* at 2.

⁴⁷² *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9409, para. 64.

⁴⁷³ *Id.*

⁴⁷⁴ Pa. PUC Comments at 18-19; see also Joint States Reply at 14-15.

⁴⁷⁵ *Supra* note 462.

⁴⁷⁶ See Public Knowledge et al. Comments at 3 (“At a minimum, consumers should have a well-publicized method of contacting human beings who can answer these questions. A single mailed letter or online FAQ is unable to answer the specific and often individualized questions that consumers will have during the transition.”); Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte Letter* at 2.

reliable means of Internet access in their area.⁴⁷⁷ The applicant also has the option additionally to provide other interactive and accessible services (e.g., an online chat with a customer service representative) to answer questions regarding the discontinuance.⁴⁷⁸ We expect applicants already have strong business incentives to answer customers' questions in a competent and timely manner.⁴⁷⁹

185. Third, an applicant must designate staff trained to assist consumers with disabilities with the complex disability access issues related to the transition.⁴⁸⁰ The method for contacting these staff must be posted on an applicant's website.⁴⁸¹ To accommodate consumers who may not be able to access the Internet, such contact information should be also publicized via alternate means that are up to the applicant's discretion, such as in the required education materials included with billing statements, promotional materials, or publications disseminated by national consumer organizations.⁴⁸²

186. The establishment of clear guidance on education outreach materials promotes the smoothest possible technology transitions, consumer choice, and the fulfillment of consumer information needs. Additional protections for vulnerable consumers, as well as the required hotline that will ensure that questions will be answered in a competent and timely manner, further promote these values. Moreover, we do not find these requirements to be overly burdensome as much of the information we are requiring is similar to the information required through copper retirement notices under the rules adopted in the *Emerging Wireline Order*.⁴⁸³

2. Email Notice

187. Based on the record in this proceeding, we conclude that we should revise our rules to explicitly permit carriers to provide customers notice of discontinuances via email where those customers have previously agreed to receive notice from the carrier by that method. The Commission's rules currently require a carrier planning to discontinue, impair, or reduce service as defined under Section 214 of the Act to notify all affected customers, the governor of the state affected, that state's public utility commission, and the Secretary of Defense.⁴⁸⁴ In the *Emerging Wireline Further Notice*, the Commission sought comment on whether to revise these rules to allow email-based or other forms of electronic notice of discontinuance to customers, including whether alternative forms of notice should be permissible only with customer consent and, if so, what methods to obtain consent should be permissible.⁴⁸⁵

188. The record confirms our belief that email is the preferred method of notice for many carriers seeking discontinuance, as well as for consumers.⁴⁸⁶ We also explicitly permit carriers to provide

⁴⁷⁷ See Disability Coalition Comments at 4.

⁴⁷⁸ See Public Knowledge et al. Comments at 3; Public Knowledge et al. Reply at 6.

⁴⁷⁹ Public Knowledge et al. Comments at 3-4; Public Knowledge et al. Reply at 6.

⁴⁸⁰ See, e.g., AARP Comments at 26-27.

⁴⁸¹ *Supra* note 462.

⁴⁸² *Id.*

⁴⁸³ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9400-05, paras. 46-55.

⁴⁸⁴ 47 CFR § 63.71(a). A copy of the relevant Section 214 application also must be submitted to the public utility commission, governor, and secretary of defense. *Id.*

⁴⁸⁵ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9394-95, para. 239.

⁴⁸⁶ See, e.g., AARP Comments at 27; AT&T Comments at 17; Cal. PUC Comments at 17; Joint States Reply at 16; NASUCA et al. Reply at 15; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9394-95, para. 239. The Michigan PSC proposes requiring methods of verifying receipt of the emails. Mich. PSC Comments at 13.

notice by any other alternative method to which the customer has previously agreed.⁴⁸⁷ In both instances, the same provisos adopted in connection with the recently-adopted copper retirement rules shall apply. For example, notice must be made in a clear and conspicuous manner; and may not contradict or be inconsistent with any other information with which it is presented.⁴⁸⁸ In addition, (a) the incumbent LEC must have previously obtained express, verifiable, prior approval from retail customers to send notices via e-mail regarding their service in general, or planned network changes in particular; (b) an incumbent LEC must ensure that the subject line of the message clearly and accurately identifies the subject matter of the e-mail; and (c) any email notice returned to the carrier as undeliverable will not constitute the provision of notice to the customer.⁴⁸⁹ As in the copper retirement context, this requirement should be sufficient to ensure that customers receive notice, without imposing unnecessary additional burdens on incumbent LECs.⁴⁹⁰ This outcome affords carriers greater flexibility in providing notice of discontinuances and establishes a measure of symmetry between the email notice requirements for discontinuances and the copper retirement rules.

3. Notice to Tribal Governments

189. We conclude that we should revise our rules to require all carriers to provide notice of discontinuance applications to any federally-recognized Tribal Nations with authority over the Tribal lands in which the discontinuance, reduction, or impairment of service is proposed, in addition to the notice already required to state PUCs, state Governors, and the Department of Defense. Commenters who addressed this issue support requiring carriers to provide such notice to Tribal governments.⁴⁹¹

190. In the *Emerging Wireline Order*, the Commission extended notice of copper retirements to include notice to the public utility commission and the governor of the state in which the retirement will occur and to the Secretary of Defense, consistent with the current Section 214 discontinuance rules.⁴⁹² It also extended notice of copper retirements to include notice to affected Tribal governments so they may prepare for network changes affecting their communities.⁴⁹³ The *Further Notice* sought comment on requiring notice to Tribal governments in the state in which a Section 214 discontinuance is proposed, regardless of the reason for the discontinuance, as part of the application process.⁴⁹⁴

191. We will adopt the proposed extension of our notice requirements. This outcome aligns the notice requirements for Section 214 discontinuance applications and copper retirement network changes,⁴⁹⁵ imposes the same requirement on all carriers serving Tribal lands, and places Tribal governments in all states in a position to prepare and address any concerns from consumers in their Tribal

⁴⁸⁷ AT&T Comments at 17; *see also* Cal. PUC Comments at 17; NASUCA et al. Reply at 15. *But see* AARP Comments at 27 (“Absent specifics regarding the potential ‘other forms of electronic or other notice,’ AARP does not support the use of alternative methods.”). We decline, however, to afford carriers the blanket ability to give notice to customers in whatever form those carriers believe is most efficient, regardless of whether the customer has agreed to that method. *See, e.g.*, Alaska Rural Coalition Comments at 10-11.

⁴⁸⁸ *See Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9395-9402, paras. 39-51, and 9407, paras. 60-61; *see also* NASUCA et al. Reply at 15.

⁴⁸⁹ *Id.*; *see also* 47 CFR § 51.332(b)(3).

⁴⁹⁰ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9407, para. 60.

⁴⁹¹ *See, e.g.*, Mich. PSC Comments at 13; Neb. PSC Comments at 3; Joint States Reply at 16; Alaska Rural Coalition Reply at 7-8 (supporting a requirement to notify Tribal governments, but urging flexibility in notice requirements); CAC June 10, 2016 Technology Transition Recommendation at 4.

⁴⁹² *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9411, para. 70.

⁴⁹³ *Id.* at 9411-13, para. 70.

⁴⁹⁴ *Id.* at 9495, para. 240.

⁴⁹⁵ *See id.* at 9411-13, paras. 70-71.

communities. We decline to adopt the Alaska Rural Coalition's request for flexibility in Alaska.⁴⁹⁶ The coalition has provided no persuasive reason why such flexibility is in the public interest and offered no alternative to our proposed rule. We therefore reject its request.

4. Timing of Notice

192. In the *Emerging Wireline Further Notice*, the Commission sought further comment on whether it should require advance notice of discontinuance,⁴⁹⁷ whether it should update the earliest date on which the Commission may grant automatic approval, and whether to align timing for notices of discontinuance with that of the newly revised copper retirement notices.⁴⁹⁸ Based on the record in this proceeding, we conclude that there is no evidence of actual harm.⁴⁹⁹ We therefore decline to revise Section 63.71 to require advance notice of a planned discontinuance or to lengthen the discontinuance process by changing the existing timeline for filing objections and/or allowing automatic grant.⁵⁰⁰ Despite two opportunities to do so, parties advocating for a longer notice period have not provided specific examples of harms posed by the present notice timelines.⁵⁰¹ We nonetheless recognize that large-scale technology transition-related discontinuances have not yet occurred. Thus, while we do not take action

⁴⁹⁶ Alaska Rural Coalition Comments at 11-12.

⁴⁹⁷ Section 63.71 sets out two timelines that are relevant to applicants and customers with respect to Section 214(a) discontinuance applications. 47 CFR § 63.71(a)-(b), (c) (stating that a carrier shall file its 214 application "on or after the date on which notice has been given to all affected customers," that customers have until on or before the 15th day after the Commission releases public notice of the proposed discontinuance for non-dominant carriers and on or before the 30th day for dominant carriers to file objections, and that an application can be granted on the 31st day after filing for non-dominant carriers and the 60th day for dominant carriers, unless the Commission removes the application from streamlined processing and notifies the applicant that the grant will not be automatically effective).

⁴⁹⁸ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9494, para. 238. The scope of the timing issues raised in the *Emerging Wireline Order and Further Notice* is limited to discontinuances occurring in the context of a technology transition. See *Emerging Wireline Notice*, 29 FCC Rcd at 15014-15, para. 113; *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9493, paras. 237-38.

⁴⁹⁹ Commenters requesting longer advance notice periods for carrier-customers, utilities, and other retail customers express generalized concerns regarding potential harm that could be caused to competitors and consumers, but have not offered specific evidence of actual harm caused by the notice provisions in Section 63.71. See, e.g., CWA Comments at 14-15; Disability Coalition Comments at 12; INCOMPAS Comments at 3-8; Mich. PSC Comments at 12-13; Neb. PSC Comments at 3; NRECA Comments at 8; Preferred Long Distance Comments at 6; Utilities Telecom Council Comments at 4-5; Edison Reply at 6; Joint States Reply at 16; Windstream Reply at 8-9; XO Reply at 2-7; Civil Rights and Public Interest Organizations July 7, 2016 *Ex Parte* Letter at 2; Public Knowledge and CWA July 8 *Ex Parte* Letter at 1-2. Unlike the *Emerging Wireline Order*, where the record on the copper retirement notice period reflected numerous instances in which competitors and their customers suffered actual harm due to the notice period, commenters in this proceeding have not offered specific evidence of actual harm caused by the discontinuance notice provisions in Section 63.71. See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9389, para. 28.

⁵⁰⁰ Incumbent LEC commenters oppose extending notice requirements. See, e.g., Alaska Rural Coalition Comments at 10; CenturyLink Comments at 35; AT&T Reply at 7-8; CenturyLink Reply at 13; Verizon Reply at 9-10. Incumbent LECs have specifically argued that the Commission should not extend the notice period as there is no indication that the current process is not working—i.e., commenters have not provided evidence of actual harm. See, e.g., ITTA Comments at 4; see also USTelecom Comments at 14-15.

⁵⁰¹ See *Emerging Wireline Notice*, 29 FCC Rcd at 15014, para. 113; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9493-94, paras. 237-38.

today to revise Section 63.71, we emphasize that the Commission may revisit this issue if presented with evidence of such a need in the future.⁵⁰²

F. Non-Substantive Change to Code of Federal Regulations

193. We also make a technical correction to our codified network change notification rules. Our current rules require that public notices of network changes, which include copper retirement notices, be labeled with one of a variety of enumerated titles, “as appropriate.”⁵⁰³ In the *Emerging Wireline Order*, we adopted a unique set of network notification requirements specific to incumbent LEC retirement of copper facilities.⁵⁰⁴ However, none of the titles enumerated in Section 51.329(c) relate specifically to copper retirement notices.⁵⁰⁵ To alleviate this potential confusion and to allow the public to readily differentiate copper retirement notices from all other types of network change disclosures, we adopt two new titles to those already included in Section 51.329(c): “Public Notice of Copper Retirement Under Rule 51.332” and “Certification of Public Notice of Copper Retirement Under Rule 51.332.” This action is consistent with our desire to ensure that everyone potentially affected by a planned copper retirement “has the information they need to adapt to an evolving communications environment.”⁵⁰⁶

G. Clarification of Copper Retirement Notice Rules

194. We also clarify the intersection between the requirements of our general network change disclosure rules and our specific copper retirement rules. Under the recently adopted revised copper retirement rules, copper retirement notices to retail customers must include “[t]he name and telephone number of a contact person who can supply additional information regarding the planned changes.”⁵⁰⁷ Those same notices must also include “a toll-free number for a customer service help line” in the requisite neutral statement of the services available to the incumbent LEC’s retail customers.⁵⁰⁸ To alleviate potential confusion regarding whether an incumbent LEC must include the name and phone number of a specific individual in copper retirement notices in addition to a toll-free number for a customer service center, we clarify that copper retirement notices to enterprise customers must include the name and address of a contact person who can provide additional information regarding the planned change, as required by Section 51.327(a)(2).⁵⁰⁹ For copper retirement notices to mass market customers,⁵¹⁰ however,

⁵⁰² See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9389, para. 28; see also USTelecom Comments at 14 (noting that it does not generally oppose revisions to these rules to the extent that a specific issue needs to be addressed).

⁵⁰³ 47 CFR § 51.329(c).

⁵⁰⁴ See generally *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9383-418, paras. 15-78.

⁵⁰⁵ See 47 CFR § 51.329(c)(1).

⁵⁰⁶ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9381, para. 12.

⁵⁰⁷ 47 CFR §§ 51.327(a)(2), 51.332(c)(2)(i)(A).

⁵⁰⁸ 47 CFR § 51.332(c)(2)(i)(C).

⁵⁰⁹ Enterprise customers are all business customers other than those considered very small. See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers et al.*, CC Docket No. 01-338 et al., Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17063, paras. 128-29 (2003) (*Triennial Review Order*), corrected by *Triennial Review Order Errata*, 18 FCC Rcd 19020, *aff’d in part, remanded in part, vacated in part, United States Telecom Ass’n v. FCC*, 359 F.3d 554, 564-93 (D.C. Cir. 2004) (*USTA II*), cert. denied, 543 U.S. 925 (2004), on remand, *Unbundled Access to Network Elements et al.*, WC Docket No. 04-313 et al., Order on Remand, 20 FCC Rcd 2533, 2541, para. 12 (2004), *aff’d, Covad Commc’ns Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006).

⁵¹⁰ “Mass market customers consist of residential customers and very small business customers.” *Triennial Review Order*, 18 FCC Rcd at 17063, para. 127. “Very small businesses typically purchase the same kinds of services as do residential customers, and are marketed to, and provided service and customer care, in a similar manner. Therefore, we will usually include very small businesses in the mass market for our analysis.” *Id.* at 17063, para. 127 n.432.

inclusion of the toll free number for a customer service help line required by Section 51.332(c)(2)(i)(C) will be sufficient to satisfy the requirements of Section 51.327(a)(2). We find this distinction appropriate because enterprise customers, other than those that are very small, have more specialized telecommunications needs than mass market customers.⁵¹¹

IV. ORDER ON RECONSIDERATION

195. In response to a Petition for Reconsideration filed by TelePacific,⁵¹² we revise the Commission's rules to make a competitive LEC's application for discontinuance deemed granted on the effective date of any copper retirement that made the discontinuance unavoidable, so as long as the discontinuance application is filed at least 40 days prior to the retirement effective date. This will address a gap in our rules that left competitive LECs potentially vulnerable to violating our discontinuance rules for reasons entirely outside of their control. We thus grant in part TelePacific's Petition for Reconsideration, but deny it to the extent it seeks more extensive relief, as discussed below.

A. Background

196. The Commission addresses changes in carriers' facilities and changes to their services through separate rules. Changes to a carriers' facilities are subject to the Commission's network change disclosure rules, which are notice-based.⁵¹³ Changes to a carrier's service, however, are subject to the Commission's service discontinuance rules, which require Commission approval.⁵¹⁴

197. In the *Emerging Wireline Order*, the Commission revised its copper retirement notice rules to require 180 days' advance notice to interconnecting entities and non-residential retail customers and 90 days' advance notice to residential retail customers.⁵¹⁵ The Commission also eliminated the existing objection procedure and instead adopted a requirement that incumbent LECs communicate in good faith with interconnecting entities seeking additional information to assist them in accommodating the planned copper retirement.⁵¹⁶

198. On November 18, 2015, U.S. TelePacific Corp. (TelePacific) filed a Petition for Reconsideration of the *Emerging Wireline Order* to address what it perceives to be a gap between the Commission's copper retirement and discontinuance processes that could require a competitive LEC to seek Commission authorization to discontinue broadband service to its end user customers when a

⁵¹¹ See *id.* at 17063, paras. 128-29. The Commission has previously found that small and medium enterprise customers tend to be "very sensitive to reliability and quality of service issues" because "their ability to do business may depend on their telecommunications networks." *Id.* at 17063, para. 128. It further found that "[l]arge enterprises demand extensive, sophisticated packages of services. Reliability of service is essential to these customers, and they often expect guarantees of service quality." *Id.* at 17063, para. 129.

⁵¹² See Petition for Clarification of U.S. TelePacific Corp., GN Docket No. 13-5 et al. (filed Nov. 18, 2015) (TelePacific Petition or Petition).

⁵¹³ See 47 U.S.C. § 251(c)(5); 47 CFR § 51.325 *et seq.*

⁵¹⁴ See 47 U.S.C. § 214(a); 47 CFR § 63.60 *et seq.* All references to the Section 214 discontinuance process encompass the reduction or impairment of service under Section 214 as well.

⁵¹⁵ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9390, 9407-08, paras. 29, 62. Under the prior rules, a carrier could provide as little as 90 days' notice of a planned copper retirement to interconnecting telephone exchange service providers, and it was not required to provide any notice to retail customers. 47 CFR § 51.333(a), (c) (2015).

⁵¹⁶ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9391-92, paras. 31-32; see also 47 CFR § 51.332(d)(9). We did not eliminate the objection procedure as it applies to short-term notices for non-copper retirement network changes. See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9391, n.116; 47 CFR § 51.333(c) (effective Mar. 24, 2016).

planned retirement would cause the loss of access to copper facilities over which it provides broadband service.⁵¹⁷

199. TelePacific provides high-speed broadband service to small- and medium-sized businesses, schools, health care clinics, and community anchor institutions.⁵¹⁸ It does so using last-mile access purchased from incumbent LECs.⁵¹⁹ According to TelePacific, an incumbent LEC retirement of any portion of the copper loops on which TelePacific relies to provide its Ethernet over Copper (EoC) service will likely render TelePacific unable to continue to provide that service.

200. Among other problems,⁵²⁰ TelePacific could unavoidably find itself out of compliance with the Commission's rules if the copper retirement becomes effective, and the incumbent LEC cuts off access to its copper before the Commission approves TelePacific's discontinuance application.⁵²¹ The Commission's rules require that a carrier file its Section 214 discontinuance application "on or after the date on which notice has been given to all affected customers."⁵²² The rules provide for automatic grant of applications on the 31st day after filing for non-dominant carriers and the 60th day after filing for dominant carriers, unless the Commission removes the application from streamlined processing.⁵²³ The Commission may in its discretion remove the discontinuance application from streamlined processing. Thus, the application could remain pending at the time the copper retirement becomes effective. These potential outcomes, TelePacific contends, arise from an unintended defect in the competitive safety net the Commission created in the *Emerging Wireline Order* by the combination of the 180-day copper

⁵¹⁷ See generally TelePacific Petition. While the Petition is styled a petition for clarification, at least one of the forms of relief it seeks would require a modification to the Commission's rules. As a result, the Commission's Wireline Competition Bureau determined that the Petition is more properly treated as a petition for reconsideration, for the purpose of seeking public input. See 80 Fed. Reg. 76923 (Dec. 11, 2015).

⁵¹⁸ TelePacific Petition at 3.

⁵¹⁹ *Id.* at 3.

⁵²⁰ TelePacific asserts that loss of access to bare copper loops or feeder by means of an incumbent LEC copper retirement creates the potential for numerous other problems. A competitive LEC could be forced to preemptively file a discontinuance application because of its likely inability to meet the broadband service needs of its end user customers. *Id.* at 7; see also XO Comments to Petition for Recon at 3 (noting that after reviewing the potential impact of an incumbent LEC planned copper retirement, XO "may determine that it is infeasible to continue providing services to customers in the area that will be impacted by the copper retirement" and that it thus would need to file a discontinuance application). But see Verizon Opposition to Petition for Recon at 3 (contending that TelePacific's concerns are speculative); ADTRAN Opposition to Petition for Recon at 2 (contending that TelePacific's concerns are speculative); AT&T Reply to Petition for Recon at 23 (agreeing with Verizon's assessment of TelePacific's concerns). Moreover, TelePacific argues that by having no choice but to start the discontinuance process prematurely, the competitive LEC could be forced out of the market because it would likely start losing customers without being given a reasonable opportunity to make alternative arrangements. TelePacific Petition at 8. But see Verizon Opposition to Petition for Recon at 3 (noting that incumbent LECs "may continue to offer services over other facilities that could meet the need of competing carriers"); ADTRAN Opposition to Petition for Recon at 3-4 (noting the availability of alternative technologies). Also, an end user customer could be faced with lack of access to the level of broadband service it needs, because, according to TelePacific, the incumbent likely will not have such service available. See Letter from Tamar E. Finn, Counsel for TelePacific, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5 et al., at 1 (filed Feb. 11, 2016) (TelePacific Feb. 11 *Ex Parte* Letter at 1; Letter from Tamar E. Finn, Counsel for TelePacific, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5 et al., at 1-2 (filed Mar. 7, 2016) (TelePacific March 7 *Ex Parte* Letter).

⁵²¹ TelePacific Petition at 5.

⁵²² 47 CFR § 63.71(b).

⁵²³ 47 CFR § 63.71(e). Today's declaratory ruling will eliminate this timeline distinction as to interstate switched access services. See *supra* Section II.D.2.c.

retirement notice period and the interim reasonably comparable wholesale access rule,⁵²⁴ “work[ing] to the benefit of ILECs and to the detriment of customer choice and competition.”⁵²⁵

201. To address potential harm to its competitors and consumers, TelePacific asserts that the Commission should clarify and harmonize the copper retirement and discontinuance processes.⁵²⁶ It recommends either: (i) automatically granting a Section 214 application on the date of a copper retirement as long as the application is submitted at least 60 days before implementation of a copper retirement; or (ii) “requir[ing] a delay in the copper retirement until the competitive LEC’s discontinuance no longer creates ‘an unreasonable degree of customer hardship.’”⁵²⁷ Competitive LEC commenters support the Petition, in whole or in part.⁵²⁸ Incumbent LEC commenters oppose TelePacific’s request to delay a copper retirement.⁵²⁹

B. Discussion

202. For the reasons discussed below, we conclude that we should revise the Commission’s rules to harmonize the discontinuance and newly-revised copper retirement processes. Accordingly, if a competitive LEC files a Section 214(a) discontinuance application based on an incumbent LEC’s copper retirement notice in situations where the incumbent is not discontinuing TDM-based service, the competitive LEC’s application will be automatically granted on the effective date of the copper retirement as long as it satisfies two conditions. First, the competitive LEC’s discontinuance application must be submitted to the Commission⁵³⁰ at least 40 days before the incumbent LEC’s copper retirement effective date.⁵³¹ Second, the competitive LEC’s discontinuance application must contain a certification that the basis for the application is the incumbent LEC’s planned copper retirement. Under this new requirement, competitive LECs will have more than four months to consider the implications of the planned copper retirement and weigh their alternatives.⁵³²

203. As discussed above, the copper retirement and discontinuance processes are distinct, the former based on notice and the latter on approval. We conclude this approach strikes the right balance

⁵²⁴ TelePacific Petition at 4.

⁵²⁵ *Id.* at 8.

⁵²⁶ *Id.* at 9.

⁵²⁷ *Id.* at 9. As TelePacific notes, there is currently no mechanism for delaying a copper retirement, assuming the incumbent LEC’s notice complies with the Commission’s rules. *Id.*

⁵²⁸ See generally XO Comments to Petition for Recon (supporting both proposed forms of relief); Sonic Comments to Petition for Recon (supporting both proposed forms of relief); TEXALTEL Comments to Petition for Recon (supporting only the option of delaying copper retirement).

⁵²⁹ See Verizon Opposition to Petition for Recon at 2-4; AT&T Reply to Petition for Recon at 2; ADTRAN Opposition to Petition for Recon at 2.

⁵³⁰ Section 63.71(e) of the Commission’s rules provides that “an application will be deemed filed on the date the Commission releases public notice of the filing.” 47 CFR § 63.71(e). For purposes of the requirement we adopt today, the 40 days will be measured from the date of submission for filing rather than on the date the application is deemed filed under Section 63.71(e). See INCOMPAS Reply to Petition for Recon at 2; TelePacific Reply to Petition for Recon at 2 n.2.

⁵³¹ While TelePacific proposed a 60-day advance filing period, XO asserts that 40 days is more appropriate “because it maximizes the opportunity for the competitor to find alternative wholesale inputs, or provision its own, and potentially reduces the need to file for a discontinuance and maximizes the potential for preserving the level of competition.” XO Comments to Petition for Recon at 4-5. TelePacific does not oppose this revision to its proposed “shot clock” relief. See TelePacific Feb. 11 *Ex Parte* Letter at 1.

⁵³² See Verizon Opposition to Petition for Recon at 3; see also ADTRAN Opposition to Petition for Recon at 2; AT&T Reply to Petition for Recon at 2.

and harmonizes the two processes. A competitive LEC will not be faced with a pending discontinuance application after it loses access to copper following a copper retirement,⁵³³ and, as discussed more below, incumbent LECs maintain certainty in the timing of their copper retirements. We therefore grant in part TelePacific's petition, an outcome supported by Verizon.⁵³⁴

204. However, we deny the portion of the Petition that seeks broader relief. Indefinitely delaying a planned copper retirement is an untenable option.⁵³⁵ In the *Emerging Wireline Order*, we noted that “retaining a time-limited notice-based process ensures that our rules strike a sensible and fair balance between meeting the needs of interconnecting carriers and allowing incumbent LECs to manage their networks.”⁵³⁶ Thus, in extending the copper retirement notice period, we rejected the opportunity to provide for a notice period longer than six months.⁵³⁷ We agree with Verizon, AT&T, and ADTRAN that creating the potential for an indeterminate period of time before an incumbent LEC can proceed with a planned copper retirement would insert delay and uncertainty into the process and might deter deployment of next-generation technologies,⁵³⁸ thus undermining the balance we sought to attain when adopting the 180-day copper retirement notice period.⁵³⁹ Indeed, delaying copper retirements until any unreasonable degree of hardship to a competitive LEC's customers is eliminated would transform the copper retirement process from notice-based to approval-based.⁵⁴⁰ Because the Act requires only that

⁵³³ Competitive LEC commenters support this course of action, *see* XO Comments to Petition for Recon at 3-4; Sonic Comments to Petition for Recon at 5, while incumbent LEC commenters merely do not oppose this result. *See* Verizon Opposition to Petition for Recon at 4-5; Letter from Katherine Saunders, Assoc. Gen. Counsel, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5 et al., at 1 (filed Feb. 29, 2016) (Verizon Feb. 29 *Ex Parte* Letter). AT&T and ADTRAN express no opinion one way or the other about this option. Rather, AT&T's opposition focuses on the imposition of additional burdens on incumbent LECs, including delays in the copper retirement process, *see* AT&T Reply to Petition for Recon at 2, while ADTRAN's opposition focuses on the perceived lack of need for the relief sought by TelePacific. *See generally* ADTRAN Opposition to Petition for Recon. These positions would not be implicated by the automatic grant option.

⁵³⁴ *See* Verizon Opposition to Petition for Recon at 4-5; Verizon Feb. 29 *Ex Parte* Letter at 1 (calling the automatic grant option a “straightforward, unopposed solution”). Neither AT&T nor ADTRAN expressed an opinion about this option. *See generally* ADTRAN Opposition to Petition for Recon; AT&T Reply to Petition for Recon.

⁵³⁵ While TelePacific does not urge such an undefined period, *see* TelePacific March 7 *Ex Parte* Letter at 2, TEXALTEL does. *See* TEXALTEL Comments to Petition for Recon at 2.

⁵³⁶ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9384, para. 17.

⁵³⁷ Commenters proposed notice periods ranging from ninety days to an unspecified amount of time. *See id.* at 9389, para. 28 n.99; *see also* Verizon Opposition to Petition for Recon at 2; ADTRAN Opposition to Petition for Recon at 2; AT&T Reply to Petition for Recon at 2.

⁵³⁸ Verizon, AT&T, and ADTRAN argue in their oppositions to the Petition that the relief sought is unnecessary and would unduly burden and delay fiber deployment. *See* Verizon Opposition to Petition for Recon at 4; AT&T Reply to Petition for Recon at 2; ADTRAN Opposition to Petition for Recon at 1. Verizon and ADTRAN also assert that other technologies may well be available from the incumbent LEC or other providers in the area, or the competitive LEC could decide to invest in its own facilities. *See* Verizon Opposition to Petition for Recon at 3; ADTRAN Opposition to Petition for Recon at 3-5.

⁵³⁹ *See* Verizon Opposition to Petition for Recon at 2.

⁵⁴⁰ At least one commenter supports such a transformation of the copper retirement process. *See* TEXALTEL Comments to Petition for Recon at 2 (“At a minimum, the Commission should ensure that copper cannot be abandoned until the Commission has approved customer abandonment.”). *But see* Verizon Opposition to Petition for Recon at 4 (noting the Commission's reliance on Section 251(c)(5)'s requirement that incumbent LECs provide reasonable public notice of network changes in concluding that the copper retirement process should remain notice-based); AT&T Reply to Petition for Recon at 1.

incumbent LECs “provide reasonable public notice” of network changes such as copper retirements,⁵⁴¹ we rejected such a result in the *Emerging Wireline Order*.⁵⁴² We reaffirm that conclusion here.

205. Although delaying a copper retirement would provide carrier-customers and end user customers with the additional time they need to consider their options and take steps to minimize disruption of service and might even prevent the need for a competitive LEC to file a preemptive Section 214 application, this also would create a subjective standard with resulting uncertainty in timing for the incumbent LEC such that it would not be able to plan the specific timeframe of its network changes with confidence. This in itself might discourage or delay certain technology transitions, contrary to the Commission’s commitment to support and encourage the deployment of innovative and improved communications networks.⁵⁴³

V. PROCEDURAL MATTERS

A. Paperwork Reduction Act Analysis

206. The Report and Order contains new and modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4), we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.⁵⁴⁴ In this present document, we: (1) require carriers to demonstrate that a service is an adequate replacement for a legacy voice service by certifying or showing that one or more replacement service(s) offers each of the following: (i) substantially similar levels of network infrastructure and service quality as the applicant service; (ii) compliance with existing federal and/or industry standards required to ensure that critical applications such as 911, network security, and applications for individuals with disabilities remain effective; and (iii) interoperability and compatibility with an enumerated list of applications and functionalities determined to be key to consumers and competitors; (2) explicitly permit carriers to provide customers notice of discontinuances via email where those customers have previously agreed to receive notice from the carrier by that method; (3) require carriers to provide notice of planned discontinuances to Tribal governments in the state in which the discontinuance is proposed; (4) require carriers to provide pricing information about the applicant service subject to discontinuance and the proposed replacement service; and (5) require carriers to offer an adequate outreach plan and accompanying consumer education materials when discontinuing legacy retail services. . We also revise Section 51.329(c) of the Commission’s rules to include two new titles that may be used to label public notices of network changes. And in the Order on Reconsideration, we revise the Commission’s rules to provide that if a competitive LEC files a Section 214(a) discontinuance application based on an incumbent LEC’s copper retirement notice without an accompanying discontinuance of TDM-based service, the competitive LEC’s application will be automatically granted on the effective date of the copper retirement as long as (1) the competitive LEC submits its discontinuance application to the Commission at least 40 days before the incumbent LEC’s copper retirement effective date, and (2) the competitive LEC’s discontinuance application contains a certification that the basis for the application is the incumbent LEC’s planned copper retirement. We

⁵⁴¹ 47 U.S.C. § 251(c)(5).

⁵⁴² *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9382, para. 14; *see also* Verizon Opposition to Petition for Recon at 4; AT&T Reply to Petition for Recon at 2.

⁵⁴³ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9373, para. 1; *see also* *Emerging Wireline Notice*, 29 FCC Rcd at 14969, paras. 1-2.

⁵⁴⁴ *See* *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9499, para. 249.

have assessed the effects of these requirements and find that any burden on small businesses will be minimal because: (1) we do not require carriers to conduct testing or otherwise meet the criteria we adopt today; (2) carriers already conduct testing when developing their networks; (3) once a carrier completes testing of a next-generation service and successfully obtains automatic grant, it need not provide testing results again if it files an application involving a substantially similar replacement service; (4) we include a small business exemption from the testing requirements; (5) we are not imposing new standards of service on carriers seeking to discontinue existing services; (6) we are permitting carriers to provide notice to customers by means through which the customer has already agreed to receive communications from the carrier; (7) the notice that carriers must provide to Tribal governments is the very same notice they must already provide to the public utility commission and to the governor of the state in which the discontinuance, reduction, or impairment of service is proposed, and to the Secretary of Defense; (8) carriers must already appropriately label their network change disclosures; and (9) we address a gap in our rules such that now a competitive LEC will not be faced with a pending discontinuance application after it loses access to copper following a copper retirement and incumbent LECs maintain certainty in the timing of their copper retirements.

207. The Declaratory Ruling does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. Therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

B. Congressional Review Act

208. The Commission will send a copy of this Report and Order and Order on Reconsideration to Congress and the Government Accountability Office pursuant to the Congressional Review Act.⁵⁴⁵

C. Final Regulatory Flexibility Analysis

209. As required by the Regulatory Flexibility Act of 1980 (RFA),⁵⁴⁶ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated into the *Emerging Wireline Further Notice*.⁵⁴⁷ The Commission sought written public comment on the possible significant economic impact on small entities regarding the proposals addressed in the *Emerging Wireline Further Notice*, including comments on the IRFA. Pursuant to the RFA, a Final Regulatory Flexibility Analysis is set forth in Appendix D.

VI. ORDERING CLAUSES

210. Accordingly, IT IS ORDERED that, pursuant to Sections 1-4, 201, 214, 251, and 303(r), of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 201, 214, 251, 303(r), this Declaratory Ruling, Second Report and Order, and Order on Reconsideration ARE ADOPTED.

211. IT IS FURTHER ORDERED that the Petition for Declaratory Ruling filed by the United States Telecom Association on December 19, 2012, WC Docket No. 13-3, is GRANTED. IT IS FURTHER ORDERED that this Declaratory Ruling is ADOPTED and SHALL BE EFFECTIVE upon release.

212. IT IS FURTHER ORDERED that parts 51 and 63 of the Commission's rules ARE AMENDED as set forth in Appendix A, and that any such rule amendments that contain new or modified information collection requirements that require approval by the Office of Management and Budget under the Paperwork Reduction Act SHALL BE EFFECTIVE after announcement in the Federal Register of Office of Management and Budget approval of the rules, and on the effective date announced therein.

⁵⁴⁵ *See* 5 U.S.C. § 801(a)(1)(A).

⁵⁴⁶ *See* 5 U.S.C. § 603.

⁵⁴⁷ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9530, Appx. F.

213. IT IS FURTHER ORDERED that this Report and Order, and Order on Reconsideration SHALL BE effective 30 days after publication in the Federal Register, except for 47 CFR §§ 51.329(c), 63.19(a), 63.60, 63.71, 63.602, and the outreach plan and consumer education requirements set forth in this Second Report and Order, which contain information collection requirements that have not been approved by OMB. The Federal Communications Commission will publish a document in the Federal Register announcing the effective date.

214. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by TelePacific IS GRANTED IN PART AND DENIED IN PART.

215. IT IS FURTHER ORDERED that the Commission's Consumer & Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order and Order on Reconsideration to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

216. IT IS FURTHER ORDERED that the Commission's Consumer & Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order and Order on Reconsideration, including the Final Regulatory Flexibility Analysis, and this Declaratory Ruling to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

For the reasons set forth above, Parts 51 and 63 of Title 47 of the Code of Federal Regulations are amended as follows:

PART 51 – INTERCONNECTION

1. The authority citation for part 51 continues to read as follows:

Authority: 47 U.S.C. 151-55, 201-05, 207-09, 218, 220, 225-27, 251-54, 256, 271, 303(r), 332, 1302.

2. Section 51.329 is amended by revising paragraph (c)(1) to read as follows:

§ 51.329 Notice of network changes: Methods for providing notice.

* * * * *

- (c) *Specific filing requirements.* Commission filings under this section must be made as follows:

(1) The public notice or certification must be labeled with one of the following titles, as appropriate: “Public Notice of Network Change Under Rule 51.329(a),” “Certification of Public Notice of Network Change Under Rule 51.329(a),” “Short Term Public Notice Under Rule 51.333(a),” “Certification of Short Term Public Notice Under Rule 51.333(a),” “Public Notice of Copper Retirement Under Rule 51.332,” or “Certification of Public Notice of Copper Retirement Under Rule 51.332.”

* * * * *

PART 63 – EXTENSION OF LINES, NEW LINES, AND DISCONTINUANCE, REDUCTION, OUTAGE AND IMPAIRMENT OF SERVICE BY COMMON CARRIERS; AND GRANTS OF RECOGNIZED PRIVATE OPERATING AGENCY STATUS

3. Section 63.19 is amended by revising paragraph (a) introductory text to read as follows:

§ 63.19 Special procedures for discontinuances of international services.

- (a) With the exception of those international carriers described in paragraphs (b) and (c) of this section, any international carrier that seeks to discontinue, reduce, or impair service, including the retiring of international facilities, dismantling or removing of international trunk lines, shall be subject to the following procedures in lieu of those specified in §§ 63.61 through **63.602**:

* * * * *

4. Section 63.60 is amended by adding paragraph (h) to read as follows:

§ 63.60 Definitions.

* * * * *

- (h) The term “technology transition” means any change in service that would result in the replacement of a wireline TDM-based voice service with a service using a different technology or medium for transmission to the end user, whether Internet Protocol (IP), wireless, or another type; **except that** retirement of copper, as defined in § 51.332(a) of this chapter, that does not result in a discontinuance, reduction, or impairment of service requiring Commission authorization pursuant to this part shall not constitute a “technology transition” for purposes of this part.

5. Section 63.71 is amended by revising paragraph (a) introductory text, adding paragraphs (a)(6) and (7), redesignating paragraphs (b) through (e) as (c) through (f), adding new paragraph (b), adding a sentence to the end of newly-designated paragraph (f), adding paragraphs (g), (h), and (i), and redesignating paragraph (f) as (j), to read as follows::

§ 63.71 Procedures for discontinuance, reduction or impairment of service by domestic carriers.

Any domestic carrier that seeks to discontinue, reduce, or impair service shall be subject to the following procedures:

- (a) The carrier shall notify all affected customers of the planned discontinuance, reduction, or impairment of service and shall notify and submit a copy of its application to the public utility commission and to the Governor of the State in which the discontinuance, reduction, or impairment of service is proposed; **to any federally-recognized Tribal Nations with authority over the Tribal lands in which the discontinuance, reduction, or impairment of service is proposed;** and also to the Secretary of Defense, Attn. Special Assistant for Telecommunications, Pentagon, Washington, DC 20301. Notice shall be in writing to each affected customer unless the Commission authorizes in advance, for good cause shown, another form of notice. **For purposes of this section, notice by e-mail constitutes notice in writing.** Notice shall include the following:

* * * * *

- (6) For applications to discontinue, reduce, or impair an existing retail service as part of a technology transition, as defined in § 63.60(h) of this part, in order to be eligible for automatic grant under § 63.71(f) of this part, (i) a statement that any service offered in place of the service being discontinued, reduced, or impaired may not provide line power and (ii) the information required by § 12.5(d)(1) of this chapter.
- (7) For applications to discontinue, reduce, or impair an existing retail service as part of a technology transition, as defined in § 63.60(h) of this part, in order to be eligible for automatic grant under § 63.71(f) of this part, (i) a description of any security responsibilities the customer will have regarding the replacement service, and (ii) a list of the steps the customer may take to ensure safe use of the replacement service.
- (b) If a carrier uses e-mail to provide notice to affected customers, it must comply with the following requirements in addition to the requirements generally applicable to the notice:
- (1) The carrier must have previously obtained express, verifiable, prior approval from retail customers to send notices via e-mail regarding their service in general, or planned discontinuance, reduction, or impairment in particular;
- (2) A carrier must ensure that the subject line of the message clearly and accurately identifies the subject matter of the e-mail; and
- (3) Any email notice returned to the carrier as undeliverable will not constitute the provision of notice to the customer.

* * * * *

- (f) * * * An application to discontinue, reduce, or impair an existing retail service as part of a technology transition, as defined in § 63.60(h) of this part, may be automatically granted only if the applicant provides affected customers with the notice required under § 63.71(a)(6) and (a)(7) of this part, and the application contains the showing or certification described in § 63.602(b) of this part.

- (g) An application to discontinue, reduce, or impair a service for which the requesting carrier has had no customers or reasonable requests for service during the 180-day period immediately preceding submission of the application shall be automatically granted on the 31st day after its filing with the Commission without any Commission notification to the applicant, unless the Commission has notified the applicant that the grant will not be automatically effective
- (h) An application to discontinue, reduce, or impair an existing retail service as part of a technology transition, as defined in § 63.60(h) of this part, shall contain the information required by § 63.602 of this part. The certification or showing described in § 63.602(b) of this part is only required if the applicant seeks eligibility for automatic grant under § 63.71(f) of this part.
- (i) An application to discontinue, reduce, or impair a service filed by a competitive local exchange carrier in response to a copper retirement notice filed pursuant to § 51.332 of this chapter shall be automatically granted on the effective date of the copper retirement; provided that (1) the competitive local exchange carrier submits the application to the Commission for filing at least 40 days prior to the copper retirement effective date, and (2) the application includes a certification, executed by an officer or other authorized representative of the applicant and meeting the requirements of § 1.16 of this chapter, that the copper retirement is the basis for the application.

6. Section 63.602 is added to read as follows:

§ 63.602 Additional contents of applications to discontinue, reduce, or impair an existing retail service as part of a technology transition.

- (a) The application shall include:
 - (1) The contents specified in § 63.505 of this part;
 - (2) A statement identifying the application as involving a technology transition, as defined in § 63.60(h) of this part;
 - (3) Information regarding the price of the service for which discontinuance authority is sought and the price of the proposed replacement service; and
 - (4) A certification, executed by an officer or other authorized representative of the applicant and meeting the requirements of § 1.16 of this chapter, that the information required by this section is true and accurate.
- (b) In order to be eligible for automatic grant under § 63.71(f) of this part, an applicant must demonstrate that a service(s) identified pursuant to § 63.505(k)(2) of this part is an adequate replacement for the voice service identified pursuant to § 63.505(k)(1) of this part by either certifying or showing, based on the totality of the circumstances, that one or more replacement service(s) satisfies all of the following criteria:
 - (1) Offers substantially similar levels of network infrastructure and service quality as the service being discontinued;
 - (2) (i) complies with regulations regarding the availability and functionality of 911 service for consumers and public safety answering points (PSAPs), specifically §§ 1.7001-7002, 9.5, 12.4, 12.5, 20.18, 20.3, 64.3001 of this chapter; (ii) offers comparably effective protection from network security risks as the service being discontinued; and (iii) complies with regulations governing accessibility, usability, and compatibility requirements for:
 - (A) telecommunications services and functionalities; (B) voicemail and interactive menu functionalities; and (C) advanced communications services, specifically 47 CFR §§ 6.1-6.11, 7.1-7.11, 14.1-14.21, 14.60-14.61; and
 - (3) Offers interoperability with key applications and functionalities.

NOTE TO PARAGRAPH (b)(1): For purposes of this section, “substantially similar” means

that the network operates at a sufficient level such that it will allow the network platform to ensure adequate service quality for interactive and highly-interactive applications or services, in particular voice service quality, and support applications and functionalities that run on those services.

APPENDIX B**Technical Appendix**

1. This Appendix provides additional discussion regarding how applicants seeking automatic grant of a discontinuance application can satisfy the first prong of the adequate replacement test by meeting benchmarks showing that a replacement service provides substantially similar performance to a legacy TDM-based service.¹ It also sets forth the parameters that will govern testing to measure the network performance and service quality of any service identified in a Section 214 discontinuance application as a potential adequate replacement for a legacy voice service as part of a technology transition.² We note that these requirements would not apply to Applicants subject to the small business exemption described in the Second Report and Order (Order).

2. As discussed in the Order above, one aspect of determining whether a service is an adequate replacement for a legacy voice service is network performance. The Order thus adopts benchmarks for measuring network performance, specifically, latency and data loss. And, as noted in the Order, the Office of Engineering and Technology (OET), working in consultation with the Wireline Competition Bureau (WCB) and the Wireless Telecommunications Bureau (WTB), will issue more specific testing requirements as necessary.³

3. The Applicant must submit the test plan to OET 30 days prior to the start of performance testing, describing: (1) the network architecture⁴; (2) the testing infrastructure; (3) the technical details of the individual tests; (4) the geographic dispersion of the test locations; (5) the period, frequency, and temporary delay criteria; and (6) all other technical and process information the Applicant determines is applicable.

4. The network performance measurements must adhere to all the conditions provided in this Appendix and Section III.C.1.a of the Order. In addition, measurement techniques and instrumentation must conform to best engineering practices.

5. The Applicant must also make its performance test plan available to all applicable state and Tribal authorities to remain eligible for automatic grant.

6. The test plan and other supporting documents also are to be submitted to the Commission through its Electronic Comment Filing System (ECFS), and the test plan and other supporting documents should be made publicly available to retain eligibility for streamlined processing. As discussed in the Order, the testing necessarily takes place prior to submission of a given discontinuance application related to a technology transition, as the testing results must accompany the application.⁵ OET, WCB, and WTB may provide additional guidance on the proper filing methods.

7. This Appendix specifically examines: (1) testing duration and sample size; (2) testing conditions; and (3) result reporting requirements. To remain eligible for automatic grant, the testing employed in applications must meet all specifications set forth in this Appendix.

¹ As noted in the Order, failure to satisfy any one metric will not disqualify the application from consideration. Rather, it will result in the application being subject to a more thorough review. *See supra* Order, paras. 90, 94.

² *See supra* Order, Section III.C.1.a.

³ *See supra* Order, para. 106.

⁴ A detailed description of all relevant network components and all network-to-network interfaces must be included as part of a successful showing under this prong.

⁵ *See supra* Order, Section III.C.1.a.

1. Testing Duration and Sample Size⁶

8. For Applicants subject to and seeking to rely on the network performance testing benchmark for streamlined processing, tests must be conducted continuously—i.e., 24 hours per day, seven days per week, for a consecutive 30-day period—as established by the Appendix and Order.

9. Tests must be completed using randomly selected sample sizes for a minimum of a total of 50 residential and 50 enterprise locations per potential replacement service, if there are 10,000 or more existing customers for the replacement service. If the proposed replacement service has fewer than 10,000 customers, including both residential and enterprise customers, then a randomly-selected sample size of not fewer than 30 customers may be used for that service. To the extent an Applicant subject to this requirement has fewer than 30 customers for a replacement service, it must undertake efforts in good faith to provide testing results for all customers using the service.

10. Generally, the testing must strive for a geographic dispersion of the customer locations throughout the areas where the replacement service is offered over the new network. A description of the methodology and/or formula used to determine the split between residential and enterprise customer premises to be tested must be made publicly available to remain eligible for automatic grant.

2. Testing Conditions

11. The Applicant may conduct the performance testing with a software, hardware, or hybrid-based system and follow best engineering practices. The Applicant must also determine the implementation method, which could be a custom Applicant-designed system, existing Applicant systems, systems from other vendors, or a hybrid approach including elements of any or all of these systems or other systems.

12. All tests must be measured from customer premises to nodes (servers) in Internet Exchange Point (IXP) cities,⁷ at or generally near a major IXP.

13. *Off-Net Test Servers.* To ensure that the testing reflects actual customer experience with the Internet, consistent with the MBA program, the test node (servers) must be located outside of the Applicant's network and at the edge of the Internet backbone.⁸ This placement is referred to as off-net because the servers are not within the Applicant's network.⁹

⁶ As noted in the Order, *supra* Section III.C.1.a, carriers with 100,000 or fewer subscriber lines, aggregated across all affiliates, are exempt from these testing parameters.

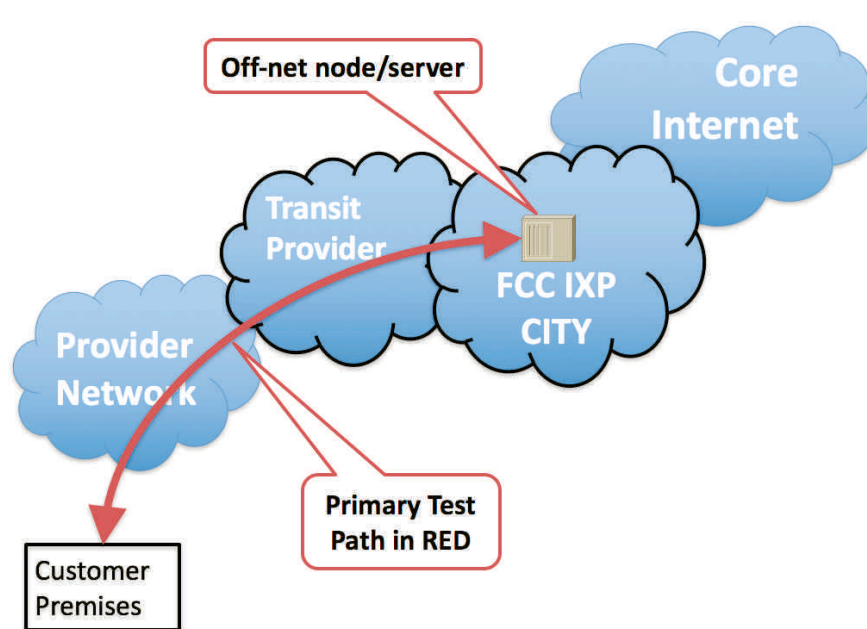
⁷ For the purposes of this Order, we define IXP cities as occurring in the following locations: New York City, NY; Washington, DC; Atlanta, GA; Miami, FL; Chicago, IL; Dallas-Fort Worth, TX; Los Angeles, CA; San Francisco, CA; Seattle, WA; and Denver, CO. For testing purposes, Applicants may use publicly available servers or other resources at these locations. All of the IXP cities identified above, except Denver, are the current locations used by the MBA program, which selected these locations because they are geographically distributed major U.S. Internet peering locations. *See, e.g., 2011 Measuring Broadband America Fixed Broadband Report*, Technical Appx. at 19-20, http://transition.fcc.gov/cgb/measuringbroadbandreport/technical_appendix/Technical_Appendix_Full.pdf. Denver was added to ensure all contiguous areas in the USA are within 700 miles of a Commission-designated IXP city. Applicants located in non-contiguous areas of the United States can use a point at which traffic is consolidated for transport to an IXP in the continental United States.

⁸ “Backbone networks are interconnected, long-haul fiber-optic links and high-speed routers capable of transmitting vast amounts of data.” *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) (citing *Verizon Commc'ns Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, 20 FCC Rcd 18433, 18493 (2005)).

⁹ *See 2015 Measuring Broadband America Technical Appendix* at 23-26, <http://data.fcc.gov/download/measuring-broadband-america/2015/Technical-Appendix-fixed-2015.pdf>. Note that ITU-T Recommendations Y.1541 and Y.1545 define a UNI-UNI performance objective, which may differ from the result obtained by this Appendix. *See* ITU-T Recommendation Y.1541, at 12, table 2; International Telecommunications Union, Series Y: Global Information Infrastructure, Internet Protocol Aspects and Next-Generation Networks, Roadmap for the quality of

(continued . . .)

14. The Applicant is responsible for delivering suitable quality of service for its residential and enterprise customers. To accomplish this in the case of an IP-based replacement service, the Applicant must ensure an IP infrastructure is capable of meeting performance requirements from the customer premises to the Internet cloud.¹⁰ In some cases, the Applicant's network may not extend to the edge of the Internet cloud, as diagrammed in the figure below. In these cases, the Applicant typically obtains backhaul services from a transit provider to connect to major IXPs and the core of the Internet. Although the Applicant may not have ownership or direct control of this backhaul infrastructure to a Commission-designated IXP city, the Applicant is presumed to have contractual arrangements in place regarding the level of service that it receives from its transit provider. The Applicant thus can influence the quality of the service it receives from the transit provider through the terms of the contract and a Service Level Agreement it negotiates with the transit provider.



15. The Applicant must measure latency and data loss to satisfy this prong and remain eligible for automatic grant.

16. *Latency.* The Order adopts a benchmark for latency of 100 milliseconds or less for 95 percent of all peak period round trip measurements.¹¹ This benchmark is consistent with previous Commission decisions in the universal service context, informed by ITU-T standards, and comparable to demonstrated performance under the Commission's Measuring Broadband America program.¹² Latency

(Continued from previous page) _____
 service of interconnected networks that use the Internet protocol, ITU-T Recommendation Y.1545 at 3-5 (May 2013), <https://www.itu.int/rec/T-REC-Y.1545-201305-I/en>.

¹⁰ See *id.*

¹¹ See *supra* Order, para. 98.

¹² See *supra* Section III.C.1.a. For VoIP calls, IT standards state that consumers are "very satisfied" with the quality of VoIP calls up to a mouth-to-ear latency of approximately 200 milliseconds. International Telecommunications Union, Series G: Transmission Systems and Media, Digital Systems and Networks, *International telephone connections and circuits—General Recommendations on the transmission quality for an entire international telephone connection—One-way transmission time*, ITU-T Recommendation G.114, at 3, Fig. 1 (May 2003), <https://www.itu.int/rec/T-REC-G.114-200305-I/en>.

test measurements must be based upon Round Trip Time from client premises to node/servers in the designated IXP cities.¹³ This test can also be used as the data loss test when the number of successes and failures is tracked and reported.¹⁴ The Applicant can substitute alternative tests such as ICMP-based PING tests, keeping in mind it must be a very short interval, i.e. very frequent tests per hour. Measurements are to be run regardless of customer load.

17. *Data Loss.* The Order adopts a benchmark for data loss of less than 1 percent over all peak period round trip measurements for packet-based networks, which is informed by ITU-T standards.¹⁵ This metric measures the ratio of total lost IP packet outcomes to total transmitted IP packets in the environment under review.¹⁶ Regardless of the technology used, controlling data loss is essential to any successful data transmission network for telecommunications. Measurements are to be run regardless of customer load.

18. Peak period is defined as weekdays 7 p.m. to 11 p.m. local time.

19. Applicants must not trim data observations—i.e., they must not drop test observations if they exceed a certain limit if they intend to retain eligibility for automatic grant. For example, in some latency testing systems, a latency test that takes longer than three seconds is dropped. Applicants are not to do that with the data to be collected for this testing. All test data must be provided. If the test never completes, then that fact shall be reported as part of that test observation as a failure.

20. Additional detailed technical specifications may be made available by OET, WCB, and WTB at a later date as needed.

3. Reporting

21. The Applicant must meet the reporting requirements set forth in this Appendix to remain eligible for automatic grant. The requirements for the Applicant performance testing reporting are as follows:

- Results of all peak period testing for latency and data loss will be reported through an overall summary of the network testing results and the percentage of customer locations satisfying each performance requirement.
- The Applicant will submit official copies of the results of its performance testing to the Commission. Additionally, the raw test data will be made available upon request, subject to the requirements set forth below regarding protection of Consumer Personally Identifiable Information.¹⁷
- The Applicant must host a website or websites where the publicly available performance test results and test plan are available.

¹³ See *2015 Measuring Broadband America Fixed Broadband Report*, Technical Appx. at 24 (defining FCC-designated IXP cities).

¹⁴ We recommend that tests for latency and data loss be done similarly to the Measuring Broadband America test methodology.

¹⁵ See *supra* Order, para. 100.

¹⁶ See IEEE VoIP Data Loss Article at 36. The following resources note metrics for describing one-way loss patterns. See Internet Engineering Task Force, Network Working Group, Request for Comment 3357, One-way Loss Pattern Sample Metrics (Aug. 2002), <https://tools.ietf.org/html/rfc3357>; Internet Engineering Task Force, Network Working Group, Request for Comment 2680, A One-way Packet Loss Metric for IPPM (Sept. 1999) (noting metrics for describing one-way loss patterns), <https://tools.ietf.org/html/rfc2680>.

¹⁷ See *infra* paras. 22-24.

- The Applicant will include a sufficiently detailed description, and any documentation, analysis, data, or other supporting information of their testing methodology for measuring latency and data loss. The description should include a statement regarding how this methodology meets the requirements set forth in the Order and this Appendix. Raw data measurements should be time-stamped and should uniquely identify the test device(s) or software clients that generated the test results. Identification of devices/clients should be done in a manner compliant with requirements regarding protection of Consumer Personally Identifiable Information (PII).¹⁸

22. *Consumer Personally Identifiable Information Protection.* To retain access to streamlined processing by satisfying this benchmark, the Applicant must use processes similar to the MBA program to protect PII,¹⁹ and ensure compliance with Section 222 of the Communications Act of 1934, as amended, and the Commission's implementing rules.²⁰ For purposes of these testing and reporting requirements, that information includes but is not limited to detailed location, name, and IP address information. Specifically, all customers must be volunteers who knowingly and explicitly opt into the Applicant's testing program. The Applicant must prepare materials to be used both to inform the participants regarding the details of the program and to gain the explicit consent of each participant for the provider to share the information with the Commission. The Applicant, to retain the opportunity for automatic grant, must submit drafts of these documents to the Commission's Office of General Counsel for review prior to their use. All documentation confirming that participation is voluntary and that all necessary disclosures were made and consent was received will be maintained by the Applicant for a period of five years.

23. Detailed location information, such as street address and longitude/latitude, will be protected by the Applicant and not released to anyone unless required by a federal or state department or agency.²¹ However, census block group location will be included in the test data information sent to the Commission and published publicly. In cases where the census block group does not provide sufficient anonymity, then the census tract will be reported for the individual customer(s).

24. All personal data will be processed by the Applicant in conformity with relevant U.S. law(s), including but not limited to Section 222 of the Act,²² and in accordance with policies developed to govern the conduct of the parties handling the data. Any performance measurement data reported as required above will be with all PII removed.

¹⁸ See *infra* paras. 22-24.

¹⁹ See *2014 Measuring Broadband America Fixed Broadband Report*, Technical Appx. at 13, 44.

²⁰ 47 U.S.C. § 222; 47 CFR pt. 64, subpt. U.

²¹ If a court, or a federal or state department or agency issues a subpoena or orders production of such, the Applicant shall promptly notify each affected customer of the pendency of such subpoena or order. Consistent with the independent authority of any court, department or agency, such notification must be accomplished such that the affected customers have a full opportunity to oppose such production prior to the production or disclosure of any PII.

²² 47 U.S.C. § 222.

APPENDIX C

Comments, Oppositions, & Replies

List of Comments on USTelecom Petition for Declaratory Ruling
(WC Docket No. 13-3)**Comments (2013 Public Notice)**

Ad Hoc Telecommunications Users Committee
 AT&T
 Cbeyond, EarthLink, Integra, Level 3 and tw telecom
 Competitive Carriers Association
 COMPTTEL
 Cox Communications, Inc.
 Digital Policy Institute and Kleinhenz and Associates
 Free State Foundation
 Granite Telecommunications, LLC
 Internet Innovation Alliance
 ITTA – The Voice of Mid-Size Communications Companies
 Massachusetts Department of Telecom and Cable
 National Cable & Telecommunications Association
 Sprint Nextel Corporation
 Verizon and Verizon Wireless
 ViaSat, Inc.

Abbreviation

Ad Hoc
 AT&T
 Cbeyond et al.
 CCA
 COMPTTEL
 Cox
 DPI
 Free State Foundation
 Granite
 IIA
 ITTA
 Mass. DTC
 NCTA
 Sprint
 Verizon and Verizon Wireless
 ViaSat

Replies (2013 Public Notice)

COMPTTEL
 Cox Communications, Inc.
 Pennsylvania Public Utility Commission
 United States Telecom Association
 XO Communications, LLC

Abbreviation

COMPTTEL
 Cox
 Pa. PUC
 USTelecom
 XO

Comments (2016 Public Notice)

CenturyLink
 General Communication, Inc.
 Michigan Public Service Commission
 Sprint Corp.
 United States Telecom Association
 Verizon

Abbreviation

CenturyLink
 GCI
 Mich. PSC
 Sprint
 USTelecom
 Verizon

Replies (2016 Public Notice)

Alaska Communications
 AT&T
 INCOMPAS
 New Networks Institute
 Massachusetts Department of Telecom and Cable
 Pennsylvania Public Utility Commission
 South Dakota Telecommunications Association
 United States Telecom Association

Abbreviation

Alaska Communications
 AT&T
 INCOMPAS
 New Networks Institute
 Mass. DTC
 Pa. PUC
 SD Telecom Ass'n.
 USTelecom

**List of Comments and Replies to *Emerging Wireline Networks and Services Further Notice*
(GN Docket No. 13-5 et al.)**

Comments

AARP
 Access Point, Inc., Birch Communications Inc.,
 Matrix Telecom, Inc., Manhattan Telecommunications
 Corporation d/b/a Metropolitan Communications, New
 Horizon Communications Corp., and Xchange Telecom LLC –
 The Wholesale Voice Line Coalition
 ADT
 Alarm Industry Communications Committee
 Alaska Communications Systems
 Alaska Rural Coalition
 Appalachian Regional Commission
 AT&T Services Inc.
 California Public Utilities Commission
 CenturyLink
 Communications Workers of America
 Disability Coalition for Technology Transition
 Edison Electric Institute
 Granite Telecommunications
 INCOMPAS
 ITTA - The Voice of Mid-Size Communications Companies
 Michigan Public Service Commission
 National Association of State Utility Consumer Advocates
 and the Maryland Office of People’s Counsel
 National Association of Regulatory Utility Commissioners
 Nebraska Public Service Commission
 NENA: The 9-1-1 Association
 National Rural Electric Cooperative Association
 NTCA – The Rural Broadband Association, WTA – Advocates
 for Rural Broadband, Eastern Rural Telecom Association, and
 the National Exchange Carrier Association, Inc.
 Pennsylvania Public Utility Commission
 Preferred Long Distance, Inc.
 Public Knowledge, Virginia Rural Health Association,
 National Consumer Law Center, Center for Rural
 Strategies, TURN, and the Benton Foundation
 Telecommunications for the Deaf and Hard of Hearing, Inc.,
 Association of Late Deafened Adults, Cerebral Palsy and Deaf
 Organization, Deaf Seniors of America, Hearing Loss Association
 Of America, National Association of the Deaf, and the
 Rehabilitation Engineering Research Center on
 Telecommunications Access
 Telecommunications Industry Association
 The Greenlining Institute
 The Texas 9-1-1 Alliance, Texas Commission on State
 Emergency Communications, and the Municipal Emergency
 Communication Districts Association
 United States Telecom Association

Abbreviation

AARP
 Wholesale Voice Line Coalition

 ADT
 AICC
 ACS
 Alaska Rural Coalition
 Appalachian RC
 AT&T
 Cal. PUC
 CenturyLink
 CWA
 Disability Coalition
 Edison
 Granite
 INCOMPAS
 ITTA
 Mich. PSC

 NASUCA et al.
 NARUC
 Neb. PSC
 NENA
 NRECA
 Rural Associations

 Pa. PUC
 Preferred Long Distance
 Public Knowledge

 TDI et al.

 TIA
 Greenlining
 Texas 9-1-1 Alliance et al.

 USTelecom

Utilities Telecommunications Council
Verizon
WorldNet Telecommunications, Inc.
XO Communications, LLC

Replies

AARP
Access Point, Inc., Birch Communications Inc.,
Matrix Telecom, Inc., Manhattan Telecommunications
Corporation d/b/a Metropolitan Communications, New
Horizon Communications Corp., and Xchange Telecom LLC –
The Wholesale Voice Line Coalition
Alarm Industry Communications Committee
Alaska Rural Coalition
AT&T Services Inc.
BlueGreen Alliance
CenturyLink
Communications Workers of America
Edison Electric Institute
Frontier Communications
Granite Telecommunications
GVNW Consulting, Inc.
Industry Council for Emergency Response Technologies (iCERT)
Michigan Public Service Commission, Idaho Public Utilities
Commission, Michigan Public Service Commission,
Minnesota Department of Commerce, Minnesota Public
Utilities Commission, Nebraska Public Service Commission,
Pennsylvania Public Utility Commission, and the Washington
Utilities and Transportation Commission
National Association of State Utility Consumer Advocates
National Cable & Telecommunications Association
NTCA – The Rural Broadband Association, WTA – Advocates
for Rural Broadband, Eastern Rural Telecom Association, and
the National Exchange Carrier Association, Inc.
Public Knowledge, Access Humboldt, Appalshop,
The Benton Foundation, The Broadband Alliance of
Mendocino County, Center for Rural Strategies, Common
Cause, Rural Broadband Policy Group, Institute for Local
Self-Reliance, National Consumer Law Center, on behalf of
Its Low-Income Clients, and the Virginia Rural Health
Association
Utilities Telecommunications Council
Verizon
Windstream
XO Communications, LLC

Utilities Telecom Council
Verizon
WorldNet
XO

Abbreviation

AARP
Wholesale Voice Line Coalition

AICC
Alaska Rural Coalition
AT&T
BlueGreen Alliance
CenturyLink
CWA
Edison Electric Inst.
Frontier
Granite
GVNW Consulting
iCERT
Joint States

NASUCA
NCTA
Rural Associations

Public Knowledge

Utilities Telecom Council
Verizon
Windstream
XO

**List of Oppositions and Replies to U.S. TelePacific Corporation Petition for Reconsideration
(GN Docket No. 13-5 et al.)**

Comments/Oppositions

ADTRAN, Inc.
Sonic Telecom, LLC
TEXALTEL
Verizon
XO Communications, LLC

Abbreviation

ADTRAN
Sonic
TEXALTEL
Verizon
XO

Replies

AT&T Services Inc.
Association of Competitive Telecommunications Companies
INCOMPAS
U.S. TelePacific Corp.
XO Communications, LLC

Abbreviation

AT&T
CALTEL
INCOMPAS
TelePacific
XO

APPENDIX D

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Federal Communications Commission (Commission) included an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities of the policies and rules proposed in the *Emerging Wireline Order and Further Notice* in GN Docket No. 13-5.² The Commission sought written public comment on the proposals in the *Emerging Wireline Further Notice*, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

A. Need for, and Objectives of, the Final Rules

2. In the *Emerging Wireline Order and Further Notice*, the Commission emphasized the importance of speeding market-driven technological transitions and innovations while preserving the core statutory values as codified by Congress: competition, consumer protection, universal service, and public safety.⁴ In this Second Report and Order (Order), we further those values by updating our review and notice procedures governing the filing and review of technology transition discontinuance applications filed pursuant to Section 214 of the Act.⁵ Furthering these core values will accelerate customer adoption of technology transitions. The Order adopts rules that will appropriately manage the technology transitions, and develop the right framework for new technologies. To fulfill the Commission's goal of stripping away the outdated and unnecessary, we have provided common sense solutions in the interim until this as yet not fully formed new technology regime emerges.

3. In this Order, we define our expectations for what the public interest will require before a carrier can take a legacy voice service off the market and refine our Section 214 discontinuance notice requirements to ensure that the public is aware of and prepared for such transitions. The action we take is in the public interest as we are providing certainty to carriers, thereby advancing technology transitions.

4. *Technology Transitions Discontinuance Applications.* In the context of discontinuance applications related to technology transitions, the public interest requires that applicants filing to discontinue a legacy TDM-based voice service as part of a transition to a new technology, whether IP, wireless, or another type (technology transition discontinuance applicants) must identify in the application that a technology transition is implicated. Unlike traditional discontinuance applications, in order to retain eligibility for streamlined processing and potential automatic grant, the Order requires that technology transition discontinuance applicants submit with their application either a certification or a showing as to whether an adequate replacement exists in the service area. Applicants also must submit price information about the service subject to discontinuance and the proposed replacement service.

5. Specifically, the Order requires that an applicant for a 214 discontinuance demonstrates that a service is an adequate replacement for a legacy voice service by certifying or showing that one or more replacement service(s) offers each of the following: (i) substantially similar levels of network infrastructure and service quality as the applicant service; (ii) compliance with existing federal and/or

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996).

² *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9530-38, Appx. F, Initial Regulatory Flexibility Analysis.

³ 5 U.S.C. § 604.

⁴ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9373, para. 1.

⁵ 47 U.S.C. § 214(a). *Supra* Section III.

industry standards required to ensure that critical applications such as 911, network security, and applications for individuals with disabilities remain available; and (iii) interoperability and compatibility with an enumerated list of applications and functionalities determined to be key to consumers and competitors.⁶

6. Technology transition applicants can either demonstrate compliance with these objective criteria or make a demonstration that, despite not being able to meet the criteria, the totality of the circumstances demonstrates that an adequate replacement nonetheless exists.⁷ Applicants either (i) certifying or (ii) demonstrating successfully through their showing that an adequate replacement exists remain eligible for automatic grant pursuant to Section 63.71(d) of the Commission's rules as long as the existing requirements for automatic grant are satisfied.⁸ To ensure that consumers receive the integrated service experience they need and deserve, the Order requires that a single service (whether first- or third-party) satisfy all three prongs of the adequate replacement test in order to be eligible for automatic grant.⁹

7. The Order explains that if an applicant cannot certify or make that showing, or declines to pursue the voluntary path of streamlined treatment, it must include in its application an explanation of how their proposed discontinuance will not harm the public interest with specific reference to the five factors the Commission traditionally considers.¹⁰ The Wireline Competition Bureau, acting on delegated authority, will then weigh that information as part of the traditional multi-factor evaluation, but with the adequate replacement factor subject to increased scrutiny under the newly enhanced test.

8. The Order rejects calls from incumbent LECs to presume that particular technologies, by their nature, represent an adequate replacement for legacy voice services in all instances. Our public interest analysis demands that applicants provide objective evidence showing a replacement service will provide quality service and access to needed applications and functionalities. At the same time, we recognize the importance of promoting speedy transitions.¹¹ Therefore, the Order allows a for a more streamlined approach for discontinuances involving services that are substantially similar to those for which Section 214 discontinuance has previously been approved.¹² Commenters will have the opportunity to rebut an applicant's planned reliance on a previous application if they can offer substantial evidence that the technology or network infrastructure are not in fact substantially similar to the service subject to the certifications in the previous application or the certifications have been proven unreliable, based on significant consumer complaints or new independent data. The practical effect of this rule is to allow the applicant to bypass the performance testing requirements.¹³ This streamlined approach benefits applicants, while protecting the interests of all stakeholders, industry and consumers.

9. The Order further streamlines the Section 214 process in instances where consumers no longer subscribe to legacy voice services. Although this rulemaking is focused primarily on technology transitions, the Commission emphasizes the market is constantly evolving, even outside the context of these crucial transitions. For that reason, the Commission adopts AT&T's commonsense proposal that a Section 214 discontinuance application be eligible for automatic grant without any further showing if the

⁶ *Supra* Section III.C.

⁷ *Supra* Section III.B.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

applicant can demonstrate that the service has zero customers in the relevant service area and no requests for service in the last six months.¹⁴

10. The Order also rejects incumbent LECs' contention that we should establish timelines for reviewing applications that are not eligible for automatic grant.¹⁵ The Order rejects this request because the public interest demands that we provide appropriate scrutiny and careful review to discontinuance applications related to technology transitions given their novelty and complexity, and we cannot guarantee at this time how long that process will take. Such timelines could force the Commission to shortchange its responsibility to ensure that technology transitions result in high service quality and successful customer experiences.

11. The Order finds that both first and third party services should be eligible as potential adequate replacement services.¹⁶ The Order concludes that applicants relying on a third party service should be allowed to make a *prima facie* showing based on publicly available information as to whether the third party service meets our test as an adequate replacement. The Order emphasizes that the adequate replacement test is only part of the public interest analysis, and the Commission will take into account an applicant's faultless inability to access necessary data and information from a third party when reviewing any application that relies on the existence of third party services to meet the adequate replacement test. An objector to a Section 214 application relying on a third party service must rebut the *prima facie* showing made by the applicant. Should the objector raise legitimate concerns, the Commission will remove the application from consideration for automatic grant. In attempting to rebut such a showing, members of the public who use the third party service can agree to participate in tests necessary to measure network performance, as required under the criteria.

12. The Order declines to provide any rural LEC exemption.¹⁷ The order concludes that rural consumers, with often limited choice in service providers, should equally benefit from full consideration of the adequacy of any replacement service to ensure continued network performance and service quality, as well as access to critical applications, and interoperability with valued services. Moreover, the Order concludes that rural LECs have offered no compelling justification as to why the adequate replacement criteria would not be just as beneficial to their customers as they would be to the customers of other 214 discontinuance applicants in demonstrating the adequacy of replacement services. However, as discussed below, we are exempting small businesses, including rural LECs that satisfy the standard for this designation from the network testing requirements we adopt today to remain eligible for automatic grant.

13. The Order does not include affordability as a separate criterion under the adequate replacement test but states that the cost of replacement services will be considered during the application review process.¹⁸ The Order concludes that if there is a material increase in the price for the replacement service compared to the service to be discontinued, the Bureau will not place the application on streamlined processing.¹⁹

1. Adequate Replacement Test

14. After adopting the general framework, the Order details a three-prong adequate replacement test that enables potential automatic grant of a discontinuance application. We emphasize that no carrier *must* meet these criteria or conduct testing. Also, the adequate replacement factor is

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Supra* Section III.D.1.

¹⁸ *Supra* Section III.D.2.

¹⁹ *Id.*

merely one part of a multifactor balancing test,²⁰ and the benchmarks associated with the criteria provide guidance to carriers and a path toward automatic grant of their technology transitions discontinuance applications. We also emphasize that once a carrier completes testing of a next-generation service and successfully obtains automatic grant, it need not conduct testing again if it files an application involving a substantially similar replacement service.²¹

15. *Prong One: Network Infrastructure and Service Quality.* First, consumers expect and deserve a replacement for an applicant service that will provide comparable network quality and service performance.²² Therefore, the Order requires that to satisfy the first prong of the adequate replacement test and thus remain eligible for automatic grant, an applicant must demonstrate that a service or combination of services provides: (a) substantially similar network performance as the service being discontinued, which involves satisfying benchmarks for latency and data-loss; (b) substantially similar service availability as the service being discontinued, which involves satisfying a benchmark of 99.99 percent availability calculated by using data regarding customer trouble reports, the average repair interval in responding to those reports, the number of lines in the service area, and the duration of the observation period; and (c) coverage to the entire affected geographic service area, which involves demonstrating that either: (i) a single replacement service reaches the entire geographic footprint of the service area subject to discontinuance, or (ii) there are multiple providers who collectively cover the entirety of the affected service area.²³ The Order interprets “substantially similar” in this context to mean that the network operates at a sufficient level with respect to the metrics identified in the Order, such that the network platform will ensure adequate service quality for time-sensitive applications, and support applications and functionalities that are associated with these services.²⁴

16. *Network Performance.* The Order finds that 30 days of network performance testing is necessary, at least initially, to ensure that applicants actually meet the benchmarks we have established to be eligible for automatic grant and to ensure that the network is in a stable state and to allow for long-term projection of network infrastructure performance.²⁵ The Order emphasizes that network performance has long been a hallmark of this country’s communications networks and that must continue during the technology transitions. The Order specifies the testing methodology to be used in measuring network performance in order to avoid confusion and argument over the merits of particular results reported by carriers in their discontinuance applications.²⁶ Moreover, established testing parameters will ensure that the Commission analyzes similar data sets from applicants in the technology transitions. While the Order provides some flexibility in the testing parameters an applicant will use, the Commission will include in its evaluation of the discontinuance application whether the testing conditions used were appropriate to measure performance. Thus, in addition to testing results, the Commission will consider the testing parameters as a factor in determining whether it needs to remove the application from streamlined processing. If the testing parameters raise sufficient concerns such that the Commission removes the application from streamlined processing, the Commission will then consider those testing parameters in any totality of the circumstances analysis of the adequacy of the replacement network.

17. The Order provides smaller carriers more flexibility in how they demonstrate network performance under this prong of the three-prong test.²⁷ We recognize that network testing under the

²⁰ *Supra* Section III.B.

²¹ *Id.*

²² *Supra* Section III.C.1.

²³ *Id.*

²⁴ *Id.*

²⁵ *Supra* Section III.C.1.a.

²⁶ *Id.*; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9483-84, para. 217.

²⁷ *Supra* Section III.C.1.a.

parameters established in Appendix B could be more difficult for smaller carriers and relatively speaking burdensome, given the more limited number of customers. Thus, the Order concludes that carriers with 100,000 or fewer subscriber lines, aggregated across all affiliates, may remain eligible for automatic grant without compliance with the specific testing requirements of the network performance criterion we articulate today.²⁸ The Order does not extend this exemption to any other components of the adequate replacement test we adopt today, including both of the other aspects of the network infrastructure prong (service quality and network coverage) or the other two prongs of the test.

18. Service Availability. The Order concludes that a 99.99 percent service availability standard, calculated according to the formula and parameters established in the Order, is a reasonable approach to ensure that a replacement service presumptively provides substantially similar service as the service being discontinued.²⁹ The Order adopts a test that consists of a standard formula traditionally used by industry to measure telephone service availability for which the Order defined the variables to ensure accuracy and that all discontinuing carriers are measuring the same information.³⁰ The replacement service's availability will be calculated using data regarding customer trouble reports, the average repair interval in responding to those reports, the number of lines in the service area, and the duration of the observation period to reach a representative measurement of a "four 9s" benchmark used to measure service availability. The Order concludes these variables will provide the best measure of customers' ability to access their provider's network.³¹ And, as with the network performance testing, the Order requires a 30-day observation period to ensure network stability and allow for long-term projection of network reliability.

19. Certain non-packet wireless access technologies providing fixed services can experience the failure of voice calls because of network congestion. To address this potential issue, we establish a metric that applies solely to these technologies for determining the frequency of congestion-based voice call failure, meaning the probability that a customer trying to make a call will be unable to do due to network congestion. We conclude that, to satisfy this benchmark and remain eligible for automatic grant, the probability must be less than one percent during the daily peak busy hour for at least 95 percent of the 30 days in the measurement period, for this type of network to serve as an adequate replacement for a legacy voice service. Non-packet wireless access technologies used to provide fixed services are of particular concern here because, unlike service over copper loops which is dedicated to one subscriber, the radio access network is shared by multiple subscribers.³² The network could thus conceivably lack adequate capacity and result in an unacceptable level of failed calls due to congestion.³³

20. Establishing a benchmark for service availability protects consumers, schools, libraries, healthcare facilities, utilities, and small- and medium-sized businesses, all of which depend on a service to be available when needed for everyday or emergency use. Past experiences, including what occurred on Fire Island after Superstorm Sandy, demonstrate the importance of reliability as we undergo technology transitions. We now find that a service availability benchmark will help provide interested stakeholders with clear, objective "criteria that will eliminate uncertainty that could potentially impede the industry

²⁸ See *id.*; see also *Rural Call Completion*, WC Docket No. 13-39, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154 (2013). We further note that this exemption from complying with the specific testing parameters announced herein does not apply to any rate-of-return carrier that is affiliated with a price cap carrier.

²⁹ *Supra* Section III.C.1.

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ *Id.*

from actuating a rapid and prompt transition to IP and wireless technology.”³⁴

21. Network Coverage. The Order requires that to meet this prong and thus be eligible for streamlined processing, a replacement service must be available to all affected customers covering the entire geographic scope of the service area subject to the application and actually function as intended for affected customers, or else it cannot be certified as a replacement service for those customers.³⁵ Specifically, in order to be eligible for automatic grant, the application must describe with sufficient particularity the geographic scope of the replacement service(s) available from the other provider(s) and must otherwise demonstrate that each of these services satisfies the criteria we adopt today.³⁶ This requirement promotes the core values established by the Act, including that of ensuring universal access. Allowing a carrier to discontinue service when there are no other service options available would run contrary to that mission.³⁷ Additionally, this requirement, as a part of our overarching determination of the public interest implications of a discontinuance application, sufficiently addresses any concerns regarding potential disparate impacts on minority communities. The Order declined to adopt a *de minimis* threshold for judging whether a replacement service offers the same coverage as to ensure that all customers in a service territory where the legacy voice service is offered continue to have the ability to obtain service.³⁸

22. *Prong Two: Critical Applications.* Second, the public relies on assurances that critical applications related to public safety and protecting those most vulnerable remain accessible and operational through any transition. Therefore, to satisfy the second prong of the adequate replacement test and remain eligible for automatic grant, applicants must demonstrate that access to critical applications and functionalities as required under our rules remains available.³⁹ Under this second prong, an applicant for discontinuance of service must certify that at least one replacement service complies with Commission regulations regarding availability and functionality of 911 service for consumers and public safety answering points (PSAPs), provides comparably effective network security, and complies with Commission regulations regarding compatibility with assistive technologies.⁴⁰ Incorporating these certifications into our Section 214 process benefits consumers, public safety entities, and industry participants alike by providing clear, consistent, and certain guidance regarding the importance of ensuring that critical applications will continue to function following a technology transition and are free from network vulnerabilities.

23. The Order specifically concludes that, in order to satisfy the consumer access to 911 requirement and remain eligible for automatic grant, the replacement service must offer a dispatchable address capability. If the rules applicable to the replacement service require provision of an MSAG-validated address, the applicant may meet this requirement by certifying that its replacement service meets the 911 registered location requirements applicable to that service in the Commission’s rules.⁴¹ However, if the 911 requirements for the replacement service do not require provision of a validated address, the applicant must further certify that it will register a validated dispatchable address for each subscriber and provide the address to the appropriate PSAP for all 911 calls. If relying on a third party

³⁴ *Id.*; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9478, para. 203.

³⁵ *Supra* Section III.C.1.

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Supra* Section III.C.2; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9488-90, 9492, paras. 225-28, 234.

⁴⁰ *Supra* Section III.C.2.

⁴¹ *Id.*

service, the applicant must show that the third party service provide meets this requirement to allow the applicant to remain eligible for streamlined processing.⁴² These requirements will ensure that PSAPs continue to receive accurate location information to dispatch emergency first responders directly to the correct location of the 911 call, thereby serving to minimize the response time critical for saving lives and safeguarding the public.⁴³

24. The Commission declined to impose any new financial obligations on carriers under this prong. For example, while we acknowledge the perspective of consumer advocacy groups and state and local governments that argue that when the transition to a replacement service requires upgrade of assistive technologies, the applicant should not only inform affected users of the associated costs but help subsidize them, we emphasize that that this is not the appropriate forum in which to impose any new financial obligations upon providers.⁴⁴

25. *Prong Three: Interoperability.* Third, we also emphasize in the Order that consumers should have access to the applications and functionalities they have come to associate as—and which currently remain—key components of the applicant service. Therefore, to satisfy the third prong of the adequate replacement test and retain eligibility for streamlined processing, the Order requires that an applicant must demonstrate that a replacement service offers compatibility with an enumerated set of applications and functionalities.⁴⁵ The Order adopts AT&T's proposal that widely adopted low-speed modem devices such as fax machines, home security alarms, medical monitoring devices, analog-only caption telephone sets, and point-of-sale terminals should make up the initial list of key applications for which interoperability is required.⁴⁶

26. The Order directs the Office of Engineering and Technology, working in consultation with the Wireline Competition Bureau and the Wireless Telecommunications Bureau (Bureaus) and subject to the guidelines below, to seek comment and, based on the record developed, propose additions to the list of key applications and functionalities adopted above for Commission review and approval.⁴⁷ These guidelines are: (i) whether customers rely on the application or functionality for health or safety reasons; (ii) whether the application or functionality is used as a wholesale input by other providers; (iii) whether the application or functionality relies on vendor equipment or inputs that have been discontinued; and (iv) whether the service provider, as opposed to the end-user customer, is the least-cost avoider. The Order concludes that it is appropriate to expect that replacement services offer compatibility with these devices until 2025.⁴⁸ These guidelines reflect our goal of ensuring that the technology transitions broadly benefit consumers, including those who still value certain applications and functionalities associated with legacy voice services.⁴⁹ Applying certain market-based considerations and adopting a sunset for this requirement is intended to address incumbent LECs' concerns about being placed at a potential competitive disadvantage by requiring them indefinitely to retain applications and functionalities that are no longer important to consumers.⁵⁰

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Supra* Section III.C.3.

⁴⁶ *Id.*

⁴⁷ *Supra* Section III.C.3.a.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Supra* Section III.C.3.b.

27. Again, whether by certification or appropriate showing, applicants meeting this adequate replacement test will still have the opportunity for automatic grant, allowing for speedy review where an applicant complies with all relevant standards. Our mission here is to ensure a customer experience with the replacement service that is substantially similar to the customer experience with the service being discontinued,⁵¹ not to create new obligations.

2. Other Issues

28. *Customer Education & Outreach Plan.* The Order requires that an applicant offer an adequate customer education and outreach plan in accessible and usable formats. An adequate customer outreach plan includes: (i) the development and dissemination of educational materials, provided to all customers affected, containing specific information pertinent to the transition; (ii) the creation of a telephone hotline and the option to create an additional interactive and accessible service to answer questions regarding the transition; and (iii) appropriate training of staff to field and answer consumer questions about the transition.⁵² The educational materials must include, at minimum: (i) a general description of the changes to the service, written in a non-technical manner that can be readily understood by the average consumer; (ii) the impact on existing applications and functionalities that are likely to be purchased by individual customers, including whether such applications and functionalities will be available following the transition; (iii) any change in the price of the service and impact on applications and functionalities which run on the service to be discontinued; and (iv) points of contact who will address technology transitions issues, as much as is practicable.⁵³ If the applicant is relying on a third party service, we require the applicant to provide: (i) contact information for that third party; and (ii) upon inquiry from a consumer, information regarding the interoperability and compatibility of applications and functionalities benefiting individuals with disabilities that run on the applicant's legacy voice service.⁵⁴ Moreover, to ensure that customers understand the notice that they receive, any applicant who in the ordinary course of business regularly uses a language other than English in its communications with customers must provide the education materials to customers in both English and that regularly used language.⁵⁵ We find that the establishment of clear guidance on education outreach materials will help promote the smoothest possible technology transition, consumer choice, and the fulfillment of consumer information needs. We also find that the plan's additional protections for vulnerable consumers, as well as the required hotline, further promote these values. Moreover, we do not find these requirements to be overly burdensome, as much of the information we are requiring is similar to the information required through copper retirement notices under the rules adopted in the *Emerging Wireline Order*.⁵⁶ The Commission will consider a carrier's certification to these requirements as part of its overall analysis of whether granting the application would be in the public interest.

29. *Email Notice.* The rules adopted in the Order allow carriers to provide email notice to customers of a planned discontinuance where those customers have previously agreed to receive notice from the carrier by that method.⁵⁷ The Order allows carriers to provide notice by any other alternative method to which the customer has previously agreed.⁵⁸ In both instances, the same provisos adopted in connection with the recently-adopted copper retirement rules shall apply (e.g., notice must be made in a

⁵¹ *Supra* Section III.B.

⁵² *Supra* Section III.E.1.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9400-05, paras. 46-55.

⁵⁷ *Supra* Section III.E.2.

⁵⁸ *Id.*

clear and conspicuous manner; and may not contradict or be inconsistent with any other information with which it is presented).⁵⁹ In addition, (a) the incumbent LEC must have previously obtained express, verifiable, prior approval from retail customers to send notices via e-mail regarding their service in general, or planned network changes in particular; (b) an incumbent LEC must ensure that the subject line of the message clearly and accurately identifies the subject matter of the e-mail; and (c) any email notice returned to the carrier as undeliverable will not constitute the provision of notice to the customer.⁶⁰ As in the copper retirement context, this requirement should be sufficient to ensure that customers receive notice, without imposing unnecessary additional burdens on incumbent LECs.⁶¹ This outcome affords carriers greater flexibility in providing notice of discontinuances and establishes a measure of symmetry between the email notice requirements for discontinuances and the copper retirement rules.

30. *Notice to Tribal Governments.* Further, the rules adopted in the Order require all carriers to provide notice of discontinuance applications to Tribal governments in the state in which the discontinuance is proposed, in addition to the notice already required to state PUCs, state governors, and the Department of Defense.⁶² This outcome aligns the notice requirements for Section 214 discontinuance applications and copper retirement network changes,⁶³ imposes the same requirement on all carriers serving Tribal lands, and places Tribal governments in all states in a position to prepare and address any concerns from consumers in their Tribal communities. The Order also rejected proposals to revise the discontinuance timing of notice rules in Section 63.71.

31. *Timing of Notice.* The Order rejects revising Section 63.71 to require advance notice of a planned discontinuance or to lengthen the discontinuance process by changing the existing timeline for filing objections and/or allowing automatic grant.⁶⁴ Based on the record, we conclude that there is no evidence of actual harm; however, we recognize that large-scale technology transition-related discontinuances have not yet occurred.⁶⁵ Thus, while we do not revise Section 63.71 in this Order, we emphasize that the Commission may revisit this issue if presented with evidence of such a need in the future.

32. *Order On Reconsideration.* The Order on Reconsideration revises the Commission's rules to make a competitive LEC's application for discontinuance deemed granted on the effective date of any copper retirement that made the discontinuance unavoidable as long as the discontinuance application is filed at least 40 days prior to the retirement effective date and the competitive LEC certifies that the copper retirement was the basis for the discontinuance.⁶⁶ This is intended to address a gap in the Commission's rules that left competitive LECs potentially without recourse to avoid violating the discontinuance rules. Under this new requirement, competitive LECs will have more than four months to consider the implications of the planned copper retirement and weigh their alternative

⁵⁹ *Id.*; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9395-9402, paras. 39-51, and 9407, paras. 60-61.

⁶⁰ *Id.*; see also 47 CFR § 51.332(b)(3)(ii).

⁶¹ *Id.*; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9407, para. 60.

⁶² *Supra* Section III.E.3.

⁶³ *Id.*; see also *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9411-13, paras. 70-71.

⁶⁴ *Supra* Section III.E.4.

⁶⁵ *Id.*

⁶⁶ *Supra* Section IV.

B. Summary of Significant Issues Raised by Public Comments to the IRFA

33. There were no comments raised that specifically addressed the proposed rules and policies presented in the *Emerging Wireline Further Notice IRFA*.⁶⁷ Nonetheless, the Commission considered the potential impact of the rules proposed in the IRFA on small entities and reduced the compliance burden for all small entities in order to reduce the economic impact of the rules enacted herein on such entities.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

34. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rule(s) as a result of those comments.⁶⁸

35. The Chief Counsel did not file any comments in response to the proposed rule(s) in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which Rules May Apply

36. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁶⁹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁷⁰ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁷¹ A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷² A small business is an independent business having less than 500 employees. Nationwide, there are a total of approximately 28.2 million small businesses, according to the SBA.⁷³

37. The majority of the rules and policies adopted in the Order will affect obligations on incumbent LECs and, in some cases, competitive LECs. Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, the comprehensive small entity size standards that could be directly affected herein.⁷⁴

⁶⁷ See *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9530-38, paras. 1-28.

⁶⁸ 5 U.S.C. § 604(a)(3).

⁶⁹ 5 U.S.C. § 603(b)(3).

⁷⁰ 5 U.S.C. § 601(3)-(6).

⁷¹ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” 5 U.S.C. § 601(3).

⁷² See 15 U.S.C. § 632.

⁷³ See SBA, Office of Advocacy, *Frequently Asked Questions* (March 2014), http://www.sba.gov/sites/default/files/FAQ_March_2014_0.pdf.

⁷⁴ See 5 U.S.C. § 601(3)-(6); see also U.S. Census Bureau, 2012 NAICS Definitions, 517919 All Other Telecommunications at 339, http://www.census.gov/eos/www/naics/2012NAICS/2012_Definition_File.pdf (last visited June 17, 2016).

1. Wireline Providers

38. *Wired Telecommunications Carriers.* The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.⁷⁵ According to Census Bureau data for 2007, there were 3,188 firms in this category, total, that operated for the entire year.⁷⁶ Of this total, 3,144 firms had employment of 999 or fewer employees, and 44 firms had employment of 1000 employees or more.⁷⁷ Thus, under this size standard, the majority of firms can be considered small.

39. *Local Exchange Carriers (LECs).* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁷⁸ According to Commission data, 1,307 carriers reported that they were incumbent local exchange service providers.⁷⁹ Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.⁸⁰ Consequently, the Commission estimates that most providers of local exchange service are small entities that may be affected by rules adopted pursuant to the Further Notice.

40. *Incumbent Local Exchange Carriers (Incumbent LECs).* Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The closest applicable size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁸¹ According to Commission data,⁸² 1,307 carriers reported that they were incumbent local exchange service providers.⁸³ Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.⁸⁴ Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by rules adopted pursuant to the Further Notice.

41. We have included small incumbent LECs in this present RFA analysis. As noted above, a “small business” under the RFA is one that, *inter alia*, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and “is not dominant in its field of operation.”⁸⁵ The SBA’s Office of Advocacy contends that, for RFA purposes, small incumbent

⁷⁵ 13 C.F.R. § 121.201; *see also* U.S. Census Bureau, 2012 NAICS Definitions, 517110 Wired Telecommunications Carriers at 337, http://www.census.gov/eos/www/naics/2012NAICS/2012_Definition_File.pdf (last visited June 17, 2016).

⁷⁶ U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Establishment and Firm Size: Employment Size of Firms for the United States, 2007 NAICS Code 517110, Wired Telecommunications Carriers, http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ5&prodType=table (last visited June 17, 2016).

⁷⁷ *See id.*

⁷⁸ 13 C.F.R. § 121.201, NAICS Code 517110.

⁷⁹ Wireline Competition Bureau, Industry Analysis and Technology Division, FCC, *Trends in Telephone Service*, tbl. 5.3 (Sept. 2010), https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf (*Trends in Telephone Service*).

⁸⁰ *See id.*

⁸¹ 13 C.F.R. § 121.201, NAICS Code 517110.

⁸² *See Trends in Telephone Service* at tbl. 5.3.

⁸³ *See id.*

⁸⁴ *See id.*

⁸⁵ 5 U.S.C. § 601(3).

LECs are not dominant in their field of operation because any such dominance is not “national” in scope.⁸⁶ We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

42. *Competitive Local Exchange Carriers (Competitive LECs), Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers.* Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁸⁷ According to Commission data, 1,442 carriers reported that they were engaged in the provision of either competitive local exchange services or competitive access provider services.⁸⁸ Of these 1,442 carriers, an estimated 1,256 have 1,500 or fewer employees and 186 have more than 1,500 employees.⁸⁹ In addition, 17 carriers have reported that they are Shared-Tenant Service Providers, and all 17 are estimated to have 1,500 or fewer employees.⁹⁰ In addition, 72 carriers have reported that they are Other Local Service Providers.⁹¹ Of the 72, seventy have 1,500 or fewer employees and two have more than 1,500 employees.⁹² Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, Shared-Tenant Service Providers, and other local service providers are small entities that may be affected by rules adopted pursuant to the Further Notice.

43. *Interexchange Carriers.* Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁹³ According to Commission data,⁹⁴ 359 carriers have reported that they are engaged in the provision of interexchange service. Of these, an estimated 317 have 1,500 or fewer employees and 42 have more than 1,500 employees. Consequently, the Commission estimates that the majority of IXCs are small entities that may be affected by rules adopted pursuant to the Further Notice.

44. *Other Toll Carriers.* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁹⁵ According to Commission data, 284 companies reported that their

⁸⁶ Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (filed May 27, 1999). The Small Business Act contains a definition of “small business concern,” which the RFA incorporates into its own definition of “small business.” 15 U.S.C. § 632(a); 5 U.S.C. § 601(3). SBA regulations interpret “small business concern” to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b).

⁸⁷ 13 C.F.R. § 121.201, NAICS Code 517110.

⁸⁸ See *Trends in Telephone Service* at tbl.5.3.

⁸⁹ See *id.*

⁹⁰ See *id.*

⁹¹ See *id.*

⁹² See *id.*

⁹³ 13 C.F.R. § 121.201, NAICS Code 517110.

⁹⁴ *Trends in Telephone Service* at tbl. 5.3.

⁹⁵ See 13 C.F.R. § 121.201, NAICS Code 517110.

primary telecommunications service activity was the provision of other toll carriage.⁹⁶ Of these, an estimated 279 have 1,500 or fewer employees and five have more than 1,500 employees.⁹⁷ Consequently, the Commission estimates that most Other Toll Carriers are small entities that may be affected by rules adopted pursuant to the Further Notice.

2. Wireless Providers

45. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.⁹⁸ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.⁹⁹ For the category of Wireless Telecommunications Carriers (except Satellite), census data for 2007 show that there were 1,383 firms that operated for the entire year.¹⁰⁰ Of this total, 1,368 firms had employment of 999 or fewer employees and 15 had employment of 1000 employees or more.¹⁰¹ Since all firms with fewer than 1,500 employees are considered small, given the total employment in the sector, we estimate that the vast majority of wireless firms are small.

46. *Wireless Telephony*. Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. The SBA has developed a small business size standard for Wireless Telecommunications Carriers (except Satellite).¹⁰² Under the SBA small business size standard, a business is small if it has 1,500 or fewer employees.¹⁰³ According to Commission data, 413 carriers reported that they were engaged in wireless telephony.¹⁰⁴ Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.¹⁰⁵ Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

3. Cable Service Providers

47. *Cable and Other Program Distributors*. Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: “This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks.

⁹⁶ See *Trends in Telephone Service* at tbl. 5.3.

⁹⁷ See *id.*

⁹⁸ U.S. Census Bureau, 2012 NAICS Definitions, 517210 Wireless Telecommunications Categories (Except Satellite) at 338, http://www.census.gov/eos/www/naics/2012NAICS/2012_Definition_File.pdf (last visited June 17, 2016).

⁹⁹ 13 C.F.R. § 121.201, NAICS Code 517210. The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS Codes 517211 and 517212 (referring to the 2002 NAICS).

¹⁰⁰ U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Establishment and Firm Size: Employment Size of Firms for the United States, 2007 NAICS Code 517210, Wireless Telecommunications Carriers (Except Satellite), http://factfinder2.census.gov/bkmk/table/1.0/en/ECN/2007_US/51SSSZ5/naics~517210 (last visited June 17, 2016).

¹⁰¹ See *id.*

¹⁰² 13 C.F.R. § 121.201, NAICS Code 517210.

¹⁰³ *Id.*

¹⁰⁴ *Trends in Telephone Service* at tbl. 5.3.

¹⁰⁵ *Id.*

Transmission facilities may be based on a single technology or a combination of technologies.”¹⁰⁶ The SBA has developed a small business size standard for this category, which is: all such firms having 1,500 or fewer employees. To gauge small business prevalence for these cable services we must, however, use current census data that are based on the previous category of Cable and Other Program Distribution and its associated size standard; that size standard was all such firms having \$13.5 million or less in annual receipts.¹⁰⁷ According to Census Bureau data for 2007, there were a total of 3,188 firms in this category that operated for the entire year.¹⁰⁸ Of this total, 2,684 firms had annual receipts of under \$10 million, and 504 firms had receipts of \$10 million or more.¹⁰⁹ Thus, the majority of these firms can be considered small and may be affected by rules adopted pursuant to the Order.

48. *Cable Companies and Systems.* The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission’s rules, a “small cable company” is one serving 400,000 or fewer subscribers, nationwide.¹¹⁰ Industry data shows that there are 660 cable operators in the country.¹¹¹ Of this total, all but eleven cable operators nationwide are small under this size standard.¹¹² In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.¹¹³ Current Commission records show 4,945 cable systems nationwide.¹¹⁴ Of this total, 4,380 cable systems have less than 20,000 subscribers, and 565 systems have 20,000 or more subscribers, based on the same records.¹¹⁵ Thus, under this standard, we estimate that most cable systems are small entities.

¹⁰⁶ U.S. Census Bureau, 2012 NAICS Definitions, 517110 Wired Telecommunications Carriers at 337 (partial definition), http://www.census.gov/eos/www/naics/2012NAICS/2012_Definition_File.pdf (last visited June 17, 2016).

¹⁰⁷ 13 C.F.R. § 121.201, NAICS Code 517110.

¹⁰⁸ U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Establishment and Firm Size, Employment Size of Firms for the United States, 2007 NAICS Code 517110, Wired Telecommunication Carriers, http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ5&prodType=table (last visited June 17, 2016).

¹⁰⁹ *Id.*

¹¹⁰ 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of \$100 million or less in annual revenues. *Implementation of Sections of the 1992 Cable Act: Rate Regulation*, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408, para. 28 (1995). The Commission also applied this size standard to MVPD operators in its implementation of the CALM Act. *See Implementation of the Commercial Advertisement Loudness Mitigation (CALM) Act*, Report and Order, 26 FCC Rcd 17222, 17245-46, para. 37 (2011) (*CALM Act Report and Order*).

¹¹¹ NCTA, Industry Data, Number of Cable Operators and Systems in the U.S., <https://www.ncta.com/industry-data> (last visited June X, 2016). Depending upon the number of homes and the size of the geographic area served, cable operators use one or more cable systems to provide video service. *See Annual Assessment of the Status of Competition in the Market for Delivery of Video Programming*, Fifteenth Report, 28 FCC Rcd 10496, 10505-06, para. 24 (2013).

¹¹² These data are derived from R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, “Top 25 Cable/Satellite Operators,” pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, “Ownership of Cable Systems in the United States,” pages D-1805 to D-1857. *CALM Act Report and Order*, 26 FCC Rcd 17222, 17245-46, para. 37.

¹¹³ 47 C.F.R. § 76.901(c).

¹¹⁴ The number of active, registered cable systems comes from the Commission’s Cable Operations and Licensing System (COALS) database on Aug. 28, 2013. A cable system is a physical system integrated to a principal headend.

¹¹⁵ *See id.*

4. All Other Telecommunications

49. The Census Bureau defines this industry as including “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or Voice over Internet Protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.”¹¹⁶ The SBA has developed a small business size standard for this category; that size standard is \$32.5 million or less in average annual receipts.¹¹⁷ According to Census Bureau data for 2007, there were 2,383 firms in this category that operated for the entire year.¹¹⁸ Of these, 2,346 firms had annual receipts of under \$25 million and 37 firms had annual receipts of \$25 million or more.¹¹⁹ Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

50. A number of our rule changes will result in additional reporting, recordkeeping, or compliance requirements for small entities. All of the rules we implement impose some compliance burdens on small entities by requiring them to become familiar with the new rules to comply with them. In certain cases, the burden of becoming familiar with the new rule in order to comply with it is the only additional burden the rule imposes. For all of the rule changes, we have determined that the benefit the rule change will bring for consumers, competition, and innovation outweighs the burden of the increased requirement/s. Other rule changes decrease reporting, recordkeeping, or compliance requirements for small entities. We have noted the applicable rule changes below impacting small entities.

51. *Adequate Replacement Test.* Any carrier that wants the potential for automatic grant of a technology transition discontinuance application must comply with the new adequate replacement test explained above. Although this will increase reporting, recordkeeping, and compliance requirements for small businesses these certification and compliance requirements are minimally necessary to enable us to evaluate these types of discontinuance applications more briskly to the benefit of applicants, consumers, and public safety entities. We specifically balance these burdens against the need to ensure that next-generation services meet the needs of consumers. These standards will create certainty regarding technology transitions discontinuances, and will benefit consumers, public safety entities, and industry participants by clarifying the importance of ensuring that network performance will be sufficient, that critical applications will continue to function, and that consumers will have access to the applications they associate as key components of the applicant service following a technology transition.¹²⁰

52. Allowing transition applicants to either demonstrate compliance with objective criteria *or* make a demonstration that, despite not being able to meet the criteria, the totality of the circumstances demonstrates that an adequate replacement nonetheless exists, while remaining eligible for automatic grant gives applicants flexibility and decreases the burdens associated with strict compliance rules.¹²¹

¹¹⁶ U.S. Census Bureau, 2012 NAICS Definitions, 517919 All Other Telecommunications at 339, http://www.census.gov/eos/www/naics/2012NAICS/2012_Definition_File.pdf (last visited June 17, 2016).

¹¹⁷ See 13 C.F.R. § 121.201, NAICS Code 517919.

¹¹⁸ U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Establishment and Firm Size: Employment Size of Firms for the United States, 2007 NAICS Code 517919, All Other Telecommunications, http://factfinder2.census.gov/bkmk/table/1.0/en/ECN/2007_US/51SSSZ4/naics~517919 (last visited June 17, 2016).

¹¹⁹ See *id.*

¹²⁰ *Supra* Section III.B.

¹²¹ *Id.*

Additionally, the Commission evaluating first and third party services equally and allowing applicants relying on a third party service to make a *prima facie* showing based on publicly available information as to whether the third party service meets our test as an adequate replacement gives applicants flexibility and decreases compliance burdens. The Order further promotes speedy transitions and decreases compliance burdens by allowing for a more streamlined approach for discontinuances involving services that are substantially similar to those for which Section 214 discontinuance has previously been approved and streamlining the Section 214 process in instances where consumers no longer subscribe to legacy voice service.¹²² These rules allow the applicant to bypass the performance testing requirements.¹²³ Thus, the streamlined approach benefits applicants by reducing the reporting, recordkeeping and compliance burdens resulting from performance testing requirements, while protecting the interests of all stakeholders, industry and consumers. It also ensures a customer experience with the replacement service that is substantially similar to the customer experience with the service being discontinued, without creating new overly burdensome obligations.¹²⁴

53. Moreover, as described above, established network performance testing parameters will avoid confusion over the merits of particular results and ensure that the Commission analyzes similar data sets from applicants in the technology transitions. Although network testing increases compliance burdens, the Order provides some flexibility in the testing parameters an applicant will use. If the testing parameters raise sufficient concerns such that the Commission removes the application from streamlined processing, the Commission will still consider those testing parameters in any totality of the circumstances analysis of the adequacy of the replacement network. We conclude these metrics are appropriate for replacement networks in order to provide substantially similar performance as a legacy TDM service.

54. Another rule that will decrease recording, recordkeeping and compliance burdens on small businesses is the performance test exemption for small carriers. We recognize that in other contexts smaller carriers may require more tailored solutions and network testing under the parameters established in Appendix B could be more difficult for smaller carriers and relatively speaking burdensome, given the more limited number of customers. Therefore, the Order provides smaller carriers more flexibility in how they demonstrate network performance under this prong of the three-prong test.¹²⁵ The Order concludes that carriers with 100,000 or fewer subscriber lines, aggregated across all affiliates, may remain eligible for automatic grant without compliance with the specific testing requirements of the network performance criterion we articulate today.¹²⁶

55. The Order's established benchmarks for network performance, service availability, and network coverage protect consumers that depend on a network performing properly and service to be available when needed for everyday or emergency use.¹²⁷ Similarly, consumer access to 911 and the dispatchable address requirement are critical to ensuring public safety. The Order also notes that transitioning from legacy-based services to new technologies presents new network vulnerability issues that did not exist with legacy technologies and comparing legacy voice services to new technologies is in part an apples-to-oranges comparison. Thus, in order to demonstrate that a replacement service is offering comparable security, the Order finds that a security benchmark that measures the unique risks associated with new technologies is necessary. The Order notes that satisfaction of this criterion is part of the adequate replacement test required for streamlined processing and is not mandatory to discontinue

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Supra* Section III.C.1.a.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Supra* Section III.C.2.

service generally. Moreover, the Order's interoperability guidelines reflect our goal of ensuring that technology transitions broadly benefit consumers of all types, including those who still value certain applications and functionalities associated with legacy voice services.¹²⁸

56. Therefore, the benefits of the adequate replacement test outweigh any additional reporting, recordkeeping, or compliance obligations upon small businesses.

57. *Application Requirements.* Applicants filing technology transition discontinuance applications and seeking streamlined treatment are also required to provide pricing information about the applicant service subject to discontinuance and the proposed replacement service. Although they are required to provide this information, it allows the Commission to evaluate the application in a streamlined manner without further information collections. This also ensures that consumer interests are protected throughout technology transitions.

58. *Consumer Education & Outreach Plan.* While the Order's establishment of consumer education and outreach materials requires a modest increase in a carrier's compliance burden, an overwhelming majority of commenters support its inclusion as it will help promote the smoothest possible technology transition, consumer choice, and the fulfillment of consumer information needs. The outreach plan's additional protections for vulnerable consumers, as well as the required hotline, further promotes these values. The Commission does not find these requirements to be overly burdensome as much of the information we are requiring is similar to the information required through copper retirement notices under the rules adopted in the *Emerging Wireline Order*.¹²⁹ It also enables providers to respond to any customers who need assistance during the technology transitions process. The Commission will consider a carrier's certification to these requirements as part of its overall analysis of whether granting the application would be in the public interest to minimize the burdens of strict compliance.

59. *Email Notice and Notice to Tribal Governments.* Allowing providers to send email and alternative forms of notifications previously accepted by consumers decreases the burden of the discontinuance notification requirement for small businesses. Thus, making the discontinuance process more manageable for small businesses. Requiring carriers to provide notice of discontinuance applications to Tribal governments in the state in which the discontinuance is proposed may increase the burden on small entities, but it aligns the notice requirements for Section 214 discontinuance applications and copper retirement network changes, imposes the same requirement on all carriers serving Tribal lands, and places Tribal governments in all states in a position to prepare and address any concerns from consumers in their Tribal communities.

60. *Order On Reconsideration.* The Order on Reconsideration's revisions to the Commission's rules address a gap in the former rules that clarifies and harmonizes the copper retirement and discontinuance processes. Allowing a competitive LEC's application for discontinuance to be deemed granted on the effective date of any copper retirement that made the discontinuance unavoidable (if they meet certain requirements described above) reduces the compliance burdens on competitive LECs.¹³⁰ Additionally, permitting competitive LECs to have more than four months to consider the implications of the planned copper retirement and weigh their alternative further reduces their compliance burdens.¹³¹

¹²⁸ *Supra* Section III.C.3.

¹²⁹ *Emerging Wireline Order and Further Notice*, 30 FCC Rcd at 9400-05, paras. 46-55.

¹³⁰ *Supra* Section IV.

¹³¹ *Id.*

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

61. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”¹³²

62. The Commission is aware that this rulemaking could impact small entities by imposing costs and administrative burdens. For this reason, in reaching its final conclusions and taking action in this proceeding, the Commission has taken a number of measures to minimize or eliminate the costs and burdens generated by compliance with the adopted regulations. As described in Section A of this FRFA, for example, we considered alternatives to the rulemaking changes that could have increased the burden of compliance for small businesses.¹³³ We conclude that the new and updated requirements are minimally necessary to ensure we meet our statutory responsibilities with respect to technology transitions while preserving the core values of consumer protection, competition, universal service, and public safety. We believe that it is unlikely that small business will be impacted significantly by the final rules so as to outweigh the benefits of the rules.

63. In fact, we anticipate that in many instances, small businesses will find their burden decreased by the new rules. For example, permitting email-based notice of planned technology transitions discontinuances to customers or notice by any other alternative method to which the customer has previously agreed affords carriers greater flexibility in providing notice and establishes a measure of symmetry between the email notice requirements for discontinuances and the copper retirement rules.¹³⁴ The requirement is sufficient to provide customers notice of discontinuance without imposing additional burdens on carriers. Requiring carriers to provide notice of discontinuance applications to Tribal governments in the state in which the discontinuance is proposed aligns the notice requirements for Section 214 discontinuance applications and copper retirement network changes, imposes the same requirement on all carriers serving Tribal lands, and places Tribal governments in all states in a position to prepare and address any concerns from consumers in their Tribal communities.¹³⁵

64. Specifically, allowing technology transition applicants to either demonstrate compliance with objective criteria *or* make a demonstration that, despite not being able to meet the criteria, the totality of the circumstances demonstrates that an adequate replacement nonetheless exists, while remaining eligible for automatic grant, gives applicants flexibility and decreases the economic burdens on small businesses associated with strict compliance rules.¹³⁶ Additionally, the criteria established in the three-prong test provides clarity that should enable us to evaluate these types of discontinuance applications more briskly, to the benefit of applicants and consumers, including small businesses. Incorporating these certifications into our Section 214 process benefits consumers, public safety entities, and industry participants alike by providing clear, consistent, and certain guidance regarding the importance of ensuring that network performance will be sufficient, critical applications will continue to

¹³² 5 U.S.C. § 603(c)(1)-(c)(4).

¹³³ *Supra* FRFA Section A, paras. [8, 10, 12-13, 22, 26, 31].

¹³⁴ *Supra* Section III.E.2.

¹³⁵ *Supra* Section III.E.4.

¹³⁶ *Supra* Section III.B.

function, and that consumers will have access to the applications they associate as key components of the applicant service following a technology transition.¹³⁷

65. Similarly, the Commission evaluating first and third party services equally and allowing applicants relying on a third party service to make a *prima facie* showing based on publicly available information as to whether the third party service meets our test as an adequate replacement gives small business applicants flexibility and decreases the economic burdens associated with strict compliance rules. Furthermore, requiring that a single service (whether first- or third-party) satisfy all three prongs of the adequate replacement test in order to be eligible for automatic grant ensures consumers receive the integrated service experience they need and deserve and also reduces the potential the economic impact of consumers having to find and employ multiple service providers to satisfy their needs.

66. The Order recognizes the importance of promoting speedy transitions by allowing for a more streamlined approach for discontinuances involving services that are substantially similar to those for which Section 214 discontinuance has previously been approved and streamlining the Section 214 process in instances where consumers no longer subscribe to legacy voice service.¹³⁸ The practical effect of these rules is to allow the applicant to bypass the performance testing requirements.¹³⁹ The streamlined approach benefits applicants by reducing the economic burdens resulting from performance testing requirements, while protecting the interests of all stakeholders, industry and consumers. As discussed above, this also ensures a customer experience with the replacement service that is substantially similar to the customer experience with the service being discontinued, without creating new overly burdensome obligations.¹⁴⁰

67. Furthermore, the established benchmarks for network performance, service availability, and network coverage protect small businesses that depend on a network performing properly and service to be available when needed for everyday or emergency use.¹⁴¹ Another rule that will decrease the economic burden on small businesses is the performance test exemption for small businesses or carriers. Network testing under the parameters established in Appendix B could be more difficult for smaller carriers and relatively speaking economically burdensome, given the more limited number of customers. Therefore, the Order provides smaller carriers more flexibility in how they demonstrate network performance under this prong of the three-prong test.¹⁴² The Order's interoperability guidelines also reflect our goal of ensuring that the technology transitions broadly benefit consumers of all types, including those who still value certain applications and functionalities associated with legacy voice services.¹⁴³

68. The Order's communications security criterion will ensure that consumers receive comparably effective protection from network security risks as they do with legacy networks. Limiting this criterion to the context of streamlined processing and noting that compliance will be examined flexibly will reduce the impact on small businesses.

69. The Order's establishment of clear guidance on education outreach materials will help promote the smoothest possible technology transition, consumer choice, and the fulfillment of consumer information needs which effectively protects small businesses that depend on an applicant's services by minimizing any negative economic impact due to lack of understanding about a technology transition.

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Supra* Sections III.C.1 and C.2.

¹⁴³ *Supra* Section III.C.1.a.

The outreach plan's additional protections for vulnerable consumers, as well as the required hotline, further promotes these values.

70. By declining to provide any rural LEC exemption, the Order also protects small businesses that depend on a network performing properly and service to be available when needed for everyday or emergency use.¹⁴⁴ The Order concludes that rural consumers or small businesses, with often limited choice in service providers, should equally benefit from full consideration of the adequacy of any replacement service to ensure continued network performance and service quality, as well as access to critical applications, and interoperability with valued services.

71. The Order on Reconsideration's revisions to the Commission's rules to make a competitive LEC's application for discontinuance deemed granted on the effective date of any copper retirement that made the discontinuance unavoidable as long as the discontinuance application is filed at least 40 days prior to the retirement effective date and the competitive LEC certification that the copper retirement was the basis for the discontinuance are intended to address a gap in the Commission's rules that left competitive LECs potentially without recourse to avoid violating the discontinuance rules.¹⁴⁵ Permitting competitive LECs to have more than four months to consider the implications of the planned copper retirement and weigh their alternative reduces burdens the former rules did not properly address. These revisions reduce the economic impact on competitive LECs and therefore burdens on consumers by clarifying and harmonizing the copper retirement and discontinuance processes.

G. Federal Rules that Might Duplicate, Overlap, or Conflict with the Rules

72. None.

H. Report to Congress

73. The Commission will send a copy of this Second Report and Order, Order on Reconsideration, and Declaratory Ruling, including the FRFA, in a report to be sent to Congress pursuant to the SBREFA.¹⁴⁶ In addition, the Commission will send a copy of this Second Report and Order, Order on Reconsideration, and Declaratory Ruling, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Second Report and Order, Order on Reconsideration, and Declaratory Ruling, and the FRFA (or summaries thereof) will also be published in the Federal Register.¹⁴⁷

¹⁴⁴ *Supra* Section III.C.

¹⁴⁵ *Supra* Section IV.B.

¹⁴⁶ *See* 5 U.S.C. § 801(a)(1)(A).

¹⁴⁷ *See* 5 U.S.C. § 604(b).

**STATEMENT OF
CHAIRMAN TOM WHEELER**

Re: *Technology Transitions*, GN Docket No. 13-5; *USTelecom Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, WC Docket No. 13-3; *Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358.

For the past several years, there has been much discussion at the Commission about the so-called “tech transitions.” The move from traditional circuit-switched voice services running on copper loops to all-Internet Protocol (IP) multi-media networks offers the possibility of better performing and lower priced phone service for consumers. In embracing such advances we must not, however, erase the historic responsibilities of network operators to the users of their services.

The Commission has acted on numerous occasions to facilitate these analog-to-IP transitions. Each time re-affirming enduring values that have long defined our networks: competition, consumer protection, universal service, and public safety. Building on this progress, the Commission acts today to eliminate outdated legacy requirements that are no longer necessary, to develop the proper framework for the transition to new technologies, and to preserve basic network operator responsibilities.

First, we are removing the anachronistic designation of incumbent carriers as dominant in the legacy switched access marketplace. In particular, we grant a petition from the United States Telecom Association seeking a declaratory ruling that incumbent local exchange carriers (LECs) are non-dominant in their provision of interstate switched access services. Dominant carrier regulation was developed in the 1980s and has played a critical role in promoting competitive balance. But, over the past 40 years, the role of legacy switched access service in the marketplace has changed dramatically. Today’s ruling brings our requirements in line with those realities.

Second, we are establishing a framework for evaluating requests to discontinue a legacy voice service as part of technology transitions. Congress charged the Commission with ensuring the public interest would not be harmed through a service discontinuance. We have determined that discontinuances that involve the promotion of technology transitions will benefit from a straightforward, streamlined review process that focuses on clarity, certainty, and efficiency.

To that end, we announce a three-pronged test for determining whether an application to discontinue legacy voice service on which consumers have long-relied merits streamlined treatment. The test will ensure that consumers can continue to expect strong service quality, access to critical applications such as 911, and that the applications that consumers value – such as security alarms – continue to function properly with the new service.

This adequate replacement test is a gateway to streamlined treatment. It is entirely voluntary for applicants, and small businesses are exempted from the network testing requirements associated with it.

This is a win for everyone. Industry and the public alike benefit from these clear, technology neutral guideposts to next-generation services that preserve the core values of the longstanding Network Compact.

Third, we are requiring Section 214 discontinuance applicants seeking streamlined treatment to implement customer outreach plans and provide consumer education materials. We will allow applicants to offer notice via email to increase industry and customer convenience, and require notice to Tribal governments in the state where a discontinuance is proposed.

We are mindful of the critical importance of ensuring that services remain affordable for consumers, and we will rely on our public interest authority where appropriate to provide a careful review of any transition that could burden our most vulnerable citizens.

The broadband network revolution continues, and FCC policies must keep pace. With today's actions, the Commission renews its commitment to adapting to the changed communications landscape.

**STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN**

Re: *Technology Transitions*, GN Docket No. 13-5; *USTelecom Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, WC Docket No. 13-3; *Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358.

During my travels across the country over the past four months, as part of my #ConnectingCommunities tour, I have seen powerful examples of how modern communications technology can make a positive impact in rural and urban communities.

In May, I saw how Charleston County's Consolidated 9-1-1 Center in North Charleston, South Carolina, is using the power of IP communications to improve service reliability for its community. And last month, as I witnessed how the administrators at Palo Alto's Lucile Packard Children's Hospital have embraced the use of telehealth and electronic medical records to improve patient care outcomes, I marveled at just how far we have come from when we adopted the Emerging Wireline Order. Now, I am thinking about how far we still need to go.

For decades, consumers have come to expect, that when they pick up their telephone, whether it is to contact emergency personnel during a natural or man-made disaster, or simply reconnect with a loved one, that their call will be completed. However, the basic infrastructure delivering those telephone calls is changing. Copper lines are being replaced by optical fiber and sometimes wires are being replaced by wireless technology. Today's *Order* is our means of ensuring that consumers will receive in the future what they expect now: reliable and secure, voice service.

While a few providers have already undergone these technology transitions, much change is still ahead: change we need to evaluate carefully. I am pleased to say we will have a chance to do just that, thanks to the authority granted to the Commission under Section 214 of the Communications Act.

The statute requires the Commission to determine whether it is in the public interest for a carrier to discontinue service, and it is our duty to ensure that consumers continue to receive critical service functionality, like calling 9-1-1, and having that operator know where they are located.

That is why we need to carefully evaluate any proposed discontinuances, in the context of technology transitions, to ensure that there is an adequate substitute for services poised to be discontinued. This is particularly critical when it comes to the most vulnerable in our society, for we cannot have, nor can we afford to have, a disconnected community of low-income, elderly or disabled citizens, as a result of any technology transition.

How do we best realize this? I have said this before, and will repeat it again: robust consumer education. It is unfortunate that this transition does not have the type of funding that enabled FCC staff to travel the country to ensure that consumers were notified, like during the DTV transition. Nonetheless, I am pleased that the item contains a requirement that carriers develop and disburse educational materials to all customers who will be affected by any transition. It also makes available trained staff to answer consumer questions about technology transitions.

I am also grateful that the item contains my suggestion to expand the availability of the consumer hotline beyond normal business hours, and make consumer education materials available in other languages. Consumers who cannot get to a phone during what is referred to as "regular" business hours, which is not so regular if you work shift hours, or are not so proficient in "telecom English," can get their

transition questions answered in a way in which they can understand just what is going on with their vital communications service.

We also must look out for those who are price sensitive – like the currently unemployed, or those on fixed incomes. A new fiber line that results in an unaffordable service is a technology that does not hold out much promise for those most in need. So we must make sure that the next great thing in voice is not actually a foreclosed opportunity for some, masquerading as progress for all.

And while I am pleased that the item contains my suggestion that material changes in cost of a replacement service can be the basis for an application to not receive streamlined treatment, I believe a broader opportunity has been missed.

We could have ensured that affordability was truly a lynchpin, of the discontinuance analysis, and that the particularly-price-sensitive receive special consideration, when service providers, are discontinuing service. However, I am comforted that this item has changed to improve consideration for a discontinuance's impact on these vulnerable populations for whom voice service is particularly vital.

I would like to thank the staff of the Wireline Competition Bureau for their hard work on this item, which seeks to ensure that consumers remain protected during these important technology transitions.

**STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL**

Re: *Technology Transitions*, GN Docket No. 13-5; *USTelecom Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, WC Docket No. 13-3; *Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358.

Today we are focused on the future because our networks are changing. To understand how, take a look at the not-so-distant past. A year ago, when we last visited the issues in this proceeding, there were 85 million traditional phone lines across the country—down from nearly 200 million at the turn of the millennium. But now our most recent data show that the number of traditional phone lines has fallen again—to 73 million lines. That’s a decrease of 14% in one year alone. Meanwhile, Americans are increasingly choosing other ways to communicate—including a growing number of VoIP and wireless connections.

This is what network change looks like—and our decision today recognizes this reality and embraces this change. It has my full support.

We acknowledge that our traditional distinction between certain dominant and non-dominant services is out of date and out of touch. As a result, we change our policy framework for incumbent providers offering interstate switched access. This means less red tape and a more competitive playing field.

We also provide a clear path for providers to retire legacy service and move to next generation voice technologies, while ensuring key functions like access to 911 are available over what is new and next.

Finally, our decision takes steps to make sure that consumers are informed about network change. This is critical. We require providers to develop outreach plans and keep users informed about how network updates can affect their service.

There are four values that have always informed our communications policy—public safety, universal access, competition, and consumer protection. They have capably guided us in the past, they are supported in our decision today, and I believe they can continue to guide us as we navigate the network change in our future.

**STATEMENT OF
COMMISSIONER AJIT PAI
APPROVING IN PART AND CONCURRING IN PART**

Re: *Technology Transitions*, GN Docket No. 13-5; *USTelecom Petition for Declaratory Ruling that Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, WC Docket No. 13-5; *Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358.

There are some franchises that you just love. James Bond thrills. *Terminator* explodes with action. And *Rocky* inspires. But not every iteration of a franchise has the same magic. Recall *The Living Daylights*, *Terminator: Salvation*, or *Rocky Balboa*—if you can. It’s not that these are terrible films; there’s just not much going for them.

This *Order*—the latest in our IP Transition franchise—carries forward the tradition. The *Order* claims to advance that transition, something I certainly support. Indeed, for four years, I’ve been calling on the FCC to expedite the IP Transition, to end the burdensome regulations that tie up carrier resources and slow the deployment of next-generation networks.¹ And the headlines accompanying today’s release are catchy: It will “strip away the outdated and unnecessary,” “modernize our rules,” and “maximize opportunities for creative disruption.”²

But like many summer blockbusters, this film doesn’t live up to the trailer. In a world where consumers are embracing the IP Transition in growing numbers each and every day, this agency shouldn’t be timid—and yet we are. The highlights of this *Order* include letting incumbents file certain tariffs a few days later,³ correcting a technicality regarding copper retirement,⁴ and automatically granting petitions to discontinue services with no customers.⁵ Not much action there. And the bulk of the *Order* is devoted to laying out the various tests, numerous conditions, and multiple obligations of carriers that volunteer to undergo a “streamlined” discontinuance process for voice services—a framework sure to scare away most, if not all, volunteers and thus unlikely to have much practical impact.⁶

And so, much like the final season of *Lost*, that recent James Patterson novel, and every Super Bowl halftime show since Janet Jackson, there’s just not that much new being revealed. That said, I do approve of the limited relief granted, and I concur on the remainder of the *Order*.

¹ Remarks of FCC Commissioner Ajit Pai, “Unlocking Investment and Innovation in the Digital Age: The Path to a 21st-Century FCC,” Carnegie Mellon University, Pittsburgh, PA (July 18, 2012), <http://go.usa.gov/xxZnJ>; Remarks of FCC Commissioner Ajit Pai: “Two Paths to the Internet Protocol Transition,” Hudson Institute, Washington, DC (Mar. 7, 2013), <http://go.usa.gov/xxZQY>; Remarks of FCC Commissioner Ajit Pai, “The IP Transition: Great Expectations or Bleak House?,” Internet Innovation Alliance, Washington, DC (July 24, 2014), <http://go.usa.gov/xxZnA>; Remarks of FCC Commissioner Ajit Pai on Receiving the 2015 Jerry B. Duvall Public Service Award at the Phoenix Center 2015 Annual U.S. Telecoms Symposium (Dec. 1, 2015), <http://go.usa.gov/xxZQB>.

² *Order* at para. 3 (internal punctuation omitted).

³ *Order* at para. 44.

⁴ *Order* at para. 195.

⁵ *Order* at para. 77.

⁶ *See Order* at paras. 88–192.

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY
APPROVING IN PART AND DISSENTING IN PART**

Re: *Technology Transitions*, GN Docket No. 13-5; *USTelecom Petition for Declaratory Ruling That Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services*, WC Docket No. 13-3; *Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358.

I agree wholeheartedly with the Commission's assessment that "[t]here has been an indisputable 'societal and technological shift' away from switched telephone service as a fixture of American life." While switched access service "once dominated the landscape", demand for the service has "plummet[ed]" as consumers have switched to wireless and VoIP platforms—to the extent they make calls at all. Instead, consumers have voluntarily switched to a degree for some and to a considerable amount for others to text, email, video chat, and social networking applications to meet their communications needs.

I am pleased that the Commission recognizes this and has finally issued a Declaratory Ruling granting USTelecom's long-pending petition for relief from dominant carrier regulations with respect to switched access voice. While I would have decided the petition on broader grounds, and provided even greater relief, any step to remove unnecessary regulation is a step in the right direction.

However, I find it hard to reconcile the Commission's findings in the Declaratory Ruling that consumers are "increasingly able and willing to abandon their landlines in favor of communications technologies that do not rely on local telephone switches" with the statement in the Second Report and Order that "the special and long-standing importance of voice service to consumers warrants developing ... additional criteria for streamlined treatment during technology transitions." This particular technology transition is nearly over. The item states that almost 75 percent of U.S. residential customers (approximately 88 million households) no longer receive telephone service over traditional copper facilities.

If it were so important to adopt criteria to ensure consumers receive an adequate replacement, that train left the station years ago. The millions of consumers that have already abandoned legacy voice service seem to have their own criteria in mind, and there are a plethora of options that apparently meet those criteria. To the extent legacy voice service remains "special" to some consumers, the Commission could continue to ensure that consumers receive adequate notice of discontinuances so that they can plan accordingly. But in general, the proper role for the Commission, at this stage, is to remove obstacles to innovation and consumer choice, not create new ones.

When I think of a streamlined process for discontinuing legacy services, I envision fast tracking applications for services that are no longer widely used by consumers. It would not entail things like three more prongs, network testing, cybersecurity certifications, promises to support fax machines for another nine years, or a "totality of the circumstances" review, whatever that means. Only the FCC could create a process that imports all of the existing rules, adds some new ones, makes no assurances about timing, and call it "streamlined" with a straight face. And let's face facts that despite how it is portrayed, this new process is going to become the sole standard for getting Commission approval on such matters.

I am not surprised that the Commission goes to great length to stress how voluntary this process is because it does not actually comport with section 214 of the Act. I do not begrudge any carrier that decides to take advantage of the new process. However, I do not support the expansion of section 214 to implicitly regulate new services. By effectively subjecting replacement offerings to rules originally

adopted for legacy voice service, the Commission is further extending its regulatory overreach, and that is terrible precedent.

Even worse, the Commission uses this optional process as an excuse to create cybersecurity requirements for replacement offerings that never applied to legacy voice services. As I have said many times, the Commission has no authority to adopt cybersecurity requirements. While I certainly appreciate being lectured at our last meeting that somehow raising objections to illogical network protections was highly irresponsible, nothing changes the fact that cybersecurity is an important issue and Congress has assigned authority to oversee it to other agencies. Therefore, I do not support its inclusion in this item, voluntary or not.

Moreover, the cybersecurity section stands in stark contrast to other parts of the item, where the Commission concludes “this is not the appropriate forum in which to impose new substantive requirements”. Of course, the Commission falls back on the familiar refrain that the new cybersecurity requirements are limited to the voluntary process. But the Commission has consistently dispelled the notion that its foray into cybersecurity is either limited or voluntary.

Regarding the Order on Reconsideration, I support the common sense fix to ensure that competitive LECs are not potentially liable for violating our discontinuance rules for reasons entirely outside of their control.

In sum, I thank the Chairman and staff for working with me to come to resolution on the Declaratory Ruling, but I had hoped to see more progress made to remove legacy rules and barriers to discontinue services that most consumers no longer use. Two and a half years ago, when the Commission set up a voluntary process for technology transition trials, it was so laden with conditions that there were almost no participants. I am skeptical that this latest voluntary process will be any different.