

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

In the Matter of)

Petition for Waiver of Rules Requiring Support of) GN Docket No. 15-178
TTY Technology)
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ORDER

Adopted: November 13, 2015

Released: November 13, 2015

By the Chiefs, Consumer and Governmental Affairs Bureau, Public Safety and Homeland Security Bureau, Wireless Telecommunications Bureau, and Wireline Competition Bureau:

I. SUMMARY

1. By this Order, the Consumer and Governmental Affairs Bureau, the Public Safety and Homeland Security Bureau, the Wireless Telecommunications Bureau, and the Wireline Competition Bureau (Bureaus) of the Federal Communications Commission (FCC or Commission) grant Verizon a temporary, limited waiver of the Commission's requirements to support text telephony (TTY) technology on wireless networks to the extent that they use Internet Protocol (IP) technologies. This waiver expires December 31, 2017, or upon the effective date of Commission rules providing for alternative IP-based wireless accessibility solutions, whichever is earlier.

II. BACKGROUND

2. A TTY is a "machine that employs graphic communication in the transmission of coded signals through a wire or radio communication system" that rely on a legacy transmission technology called 5-level Baudot.¹ Individuals who are deaf, hard of hearing, deaf-blind, and speech disabled began relying on TTY technology in the 1970s as the only means by which they could send and receive text communications over the telephone network.² In response, the Commission has since adopted requirements for TTY technology to be supported by telecommunications and advanced communications services and devices.³

3. On October 23, 2015, Verizon filed a petition for waiver of the Commission's TTY-related requirements for its IP-enabled wireless services.⁴ Verizon's request followed the release of an

¹ See 47 C.F.R. § 64.601(a)(33).

² Harry G. Lang, *A Phone of Our Own: The Deaf Insurrection Against Ma Bell* at 1-8, 116-29 (2000).

³ See, e.g., 47 C.F.R. §§ 6.3(b), 6.5, 7.3(b), 7.5, 14.20, 14.21(d), 20.18(c), 64.603. These rules were adopted pursuant to various sections of the Communications Act. See, e.g., 47 U.S.C. §§ 225 (requiring telecommunications relay services), 255 (requiring access to telecommunications products and services), 617 (requiring access to advanced communications products and services).

⁴ Verizon Petition for Waiver, GN Docket No. 15-178 (filed Oct. 23, 2015) (Verizon Petition for Waiver).

order by the Bureaus to grant a similar waiver request filed by AT&T.⁵ Specifically, on June 12, 2015, AT&T filed a petition requesting that the Commission initiate a rulemaking proceeding to authorize the substitution of a newer form of text communication, real-time text (RTT), as an alternative accessibility solution to TTY technology for use in the IP-based environment.⁶ AT&T simultaneously requested that the Commission temporarily waive the Commission's requirements to support TTY technology for wireless devices and services on Voice over Internet Protocol (VoIP) networks "during the pendency of the rulemaking and until RTT is fully deployed to allow [AT&T] to offer VoIP services that do not reliably support TTY."⁷ AT&T's request cited a number of limitations characteristic of TTY technology on an IP platform, including "packet loss, distortion caused by echo cancellation and compression techniques, and bandwidth issues," that can impede or prevent the delivery of TTY messages on IP-based networks.⁸

4. The Commission's rules contain several requirements for compatibility with TTY technology. Section 20.18(c) of the Commission's rules requires covered Commercial Mobile Radio Services (CMRS) providers to be capable of transmitting 911 calls from individuals who are deaf, hard of hearing, or speech disabled, through means other than mobile radio handsets, such as TTY technology.⁹ Section 64.603 requires common carriers, including VoIP providers, to offer 711 abbreviated dialing access to traditional telecommunications relay services (TRS) via a voice telephone or TTY.¹⁰ Additionally, sections 6.3(b), 7.3(b), and 14.21(d) generally require that telecommunications services and equipment and advanced communication services and equipment be capable of TTY connectability and TTY signal compatibility.¹¹

⁵ Verizon's Petition specifies that it seeks a waiver "identical to and subject to the same conditions as the waiver recently granted to AT&T." Verizon Petition for Waiver at 1. *See also* AT&T Services, Inc. Petition for Waiver, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213, at 2 (filed June 12, 2015) (AT&T Petition for Waiver); *Petition for Waiver of Rules Requiring Support of TTY Technology*, GN Docket 15-178, Order, DA 15-1141, __ FCC Rcd __ (CGB PSHSB WTB WCB 2015) (AT&T TTY-RTT Transition Waiver Order).

⁶ Petition of AT&T Services, Inc. for Rulemaking, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213 (filed June 12, 2015) (AT&T Petition for Rulemaking).

⁷ AT&T Petition for Waiver at 2 (filed June 12, 2015).

⁸ *Id.* at 5.

⁹ 47 C.F.R. § 20.18(c).

¹⁰ *See IP-Enabled Services; Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by The Telecommunications Act of 1996: Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, WC Docket No. 04-36, WT Docket No. 96-198, CG Docket No. 03-123 CC Docket No. 92-105, Order and Public Notice Seeking Comment, 22 FCC Rcd 18319, 18320 ¶ 1 (2007). *See generally* 47 C.F.R. §§ 64.601(1), (15), 64.603; *Use of N11 Codes and Other Abbreviated Dialing Arrangements*, CC Docket No. 92-105, Second Report and Order, 15 FCC Rcd 15188, 15191 ¶ 3 (2000) (711 Order). TRS are "telephone transmission services that provide the ability for an individual who is deaf, hard of hearing, deaf-blind, or who has a speech disability to engage in communication by wire or radio with one or more individuals, in a manner that is functionally equivalent to the ability of a hearing individual who does not have a speech disability to communicate using voice communication services by wire or radio." *See* 47 U.S.C. § 225(a)(3). The Commission adopted 711 dialing access so that TRS users could initiate a relay call, anywhere in the United States, without having to remember and dial different 7- and 10-digit toll free numbers when traveling from state to state. 711 Order, 15 FCC Rcd at 15191 ¶ 3.

¹¹ 47 C.F.R. §§ 6.3(b), 7.3(b), 14.21(d). For example, telecommunications, voicemail, and interactive menu services, as well as the equipment used with these services, must be compatible with peripheral devices and specialized customer premises equipment commonly used by individuals with disabilities to achieve accessibility to (continued....)

5. On October 6, 2015, after a public comment period, the Commission issued an order granting AT&T's petition for waiver.¹² The Bureaus based this determination on reports of technical challenges to reliable TTY transmissions over IP networks,¹³ the history of declining TTY use with wireless services,¹⁴ and the long-term benefits of allowing the development and deployment of VoIP services using wireless technologies, together with new IP-based accessibility solutions that can enable the use of these technologies by people with disabilities.¹⁵ However, because individuals with disabilities will be unable to access innovative IP-based wireless technologies during the waiver period, the Commission imposed certain conditions on the grant of the waiver.¹⁶ The conditions described in the *TTY-RTT Transition Waiver Order*, as well as the reasons for imposing them, are similar to those adopted by the Commission in earlier orders waiving the TTY requirements for emergency calling with respect to digital wireless services.¹⁷

6. In the *AT&T TTY-RTT Transition Waiver Order*, the Bureaus also concluded that additional information would be needed in order to determine whether to grant comparable waivers to other parties during their rollout of IP-based wireless technologies.¹⁸ With a goal to receiving commitments from any such carriers that they planned to develop and deploy accessible text alternatives to TTY technology by the conclusion of the waiver period, the Bureaus instructed any carrier or service provider seeking a waiver similar to that granted to AT&T to file a request describing the wireless services it provides, explaining the difficulties it has encountered or expects to encounter in providing connectivity to TTY devices over wireless IP networks, stating the extent to which it expects that it will be able to deploy accessible text alternatives to TTY technology by December 31, 2017,¹⁹ and committing to compliance with the reporting requirements and other conditions stated in the *TTY-RTT Transition Waiver Order*.²⁰ We indicated that we would look most favorably on waiver requests that also specify with sufficient particularity the following: (1) steps the carrier is taking or intends to take to ensure that the accessibility text alternatives that it intends to deploy will be accessible to people with communication disabilities, interoperable with other IP-based wireless text services, and backward compatible with TTYs; and (2) well-documented timetables and milestones regarding the implementation of these capabilities.²¹ The Bureaus cautioned that they anticipated that all conditions imposed by the *AT&T TTY-*

(Continued from previous page)

telecommunications services, if readily achievable. *Id.* §§ 6.3(b), 6.5, 7.3(b), 7.5. Such compatibility is defined to include ensuring TTY connectability and TTY signal compatibility. *Id.* §§ 6.3(b)(3)-(4), 7.3(b)(3)-(4). Similarly, advanced communications services and equipment must ensure TTY connectability and TTY signal compatibility, unless compliance is not achievable. *Id.* §§ 14.20, 14.21(a), (d)(3)-(4).

¹² *AT&T TTY-RTT Transition Waiver Order*. Commenters to the AT&T petition uniformly supported the grant of AT&T's waiver. *Id.* ¶ 6.

¹³ *Id.* ¶ 9.

¹⁴ *Id.* ¶ 10.

¹⁵ *Id.* ¶ 14. See also *id.* ¶¶ 9-16 (discussing the public benefits of granting a waiver).

¹⁶ *Id.* ¶ 17. Consumers who currently rely on TTYs will not have the ability to access next-generation wireless networks for the duration of the waiver. *Id.*

¹⁷ *Id.* See also, e.g., *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8143, Memorandum Opinion and Order, 12 FCC Rcd 22665 (1997) (1997 Commission Waiver Order); Order, 12 FCC Rcd 20224 (WTB 1997) (1997 WTB Waiver Order); Order, 14 FCC Rcd 694 (WTB 1998) (1998 WTB Waiver Order).

¹⁸ *AT&T TTY-RTT Transition Waiver Order* ¶ 22.

¹⁹ *Id.* The Commission stated that, to the extent that an applicant believes it will require a longer waiver period, it should provide a detailed justification for such additional period. *Id.* n.88.

²⁰ *Id.* ¶ 22.

²¹ *Id.*

RTT Transition Waiver Order with respect to AT&T will be applied to waivers granted to other parties.²²

7. As noted above, on October 23, 2015, Verizon filed a petition to request a waiver of any applicable TTY-related requirements for its IP-enabled wireless services pursuant to sections 6.5, 7.5, 14.20, 20.18(c) and 64.603 of the Commission's rules and any other rules that require support of TTY technology as an accessible solution for VoIP networks, subject to the same customer notification, progress reporting, and duration conditions applied to AT&T.²³

III. DISCUSSION

8. A Commission rule may be waived for "good cause shown."²⁴ In particular, a waiver is appropriate where the particular facts make strict compliance inconsistent with the public interest.²⁵ In addition, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.²⁶ Such a waiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation will serve the public interest.²⁷

9. Verizon's Petition for Waiver contends that "TTY support is not achievable for IP-enabled wireless services" and states that Verizon "plans to deploy RTT as a successor technology to TTY since, unlike TTY, RTT will work reliably in an IP environment."²⁸ Verizon states it is "committed to develop and deploy during the waiver period RTT technology that will be accessible, interoperable with other RTT services and applications, and compatible with other providers' networks and users that may continue to rely on TTY technology in the future."²⁹ Verizon also states that it "plans to meet the same conditions enumerated in the *AT&T TTY-RTT Transition Waiver Order*. Specifically:

Verizon agrees to inform its customers through multiple channels that TTY is not supported on these services for calls to 911 and inform customers of alternative means to reach 911 services. Verizon will also inform the Commission and customers of its progress toward the deployment of RTT as described in the *AT&T Waiver Order*.³⁰

10. We find that good cause has been demonstrated to grant Verizon's request for a temporary waiver of the rules requiring that TTY technology be supported for IP-based wireless services, subject to the conditions set forth in this Order.³¹ Specifically, we are persuaded that Verizon is similarly situated to AT&T with respect to its need for a waiver. Additionally, for the reasons set forth in the *AT&T TTY-RTT Transition Waiver Order*, we are persuaded that the Commission's goals of ensuring access to telecommunications specifically for individuals with disabilities and more broadly for the general public, will be best served by granting a temporary limited waiver of the Commission's TTY

²² *Id.* ¶ 22.

²³ Verizon Petition for Waiver. We note that an additional relevant rule for the waiver would also include 47 C.F.R. § 14.21. *See supra*, n. 11.

²⁴ 47 C.F.R. § 1.3.

²⁵ *See Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

²⁶ *See WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969) (*WAIT Radio*), cert. denied, 409 U.S. 1027 (1972); *Northeast Cellular*, 897 F.2d at 1166.

²⁷ *See Northeast Cellular*, 897 F.2d at 1166.

²⁸ Verizon Petition for Waiver at 2-3.

²⁹ *Id.* at 3.

³⁰ *Id.* (citations omitted.)

³¹ The rules subject to this waiver include sections 6.5, 7.5, 14.20, 20.18(c) and 64.603 of the Commission's rules. 47 C.F.R. §§ 6.5, 7.5, 14.20, 20.18(c), 64.603. *See also id.* § 14.21. *See supra*, n.11.

requirements for Verizon's wireless IP offerings, subject to the conditions set forth in this Order.³²

11. However, we note that in finding that a waiver for AT&T would serve the public interest, we relied significantly on the consideration that the waiver will be necessary for only a limited duration in light of AT&T's stated plans to deploy RTT in the relatively near future and because of the "high expectation" that RTT "will achieve greater accessibility, functionality, and reliability than legacy TTY devices" and "will facilitate the transition to next generation 911 for people with disabilities."³³ Indeed, AT&T's petition for waiver was premised on its development of RTT as a viable and much improved accessibility solution.³⁴

12. In considering how to proceed with respect to other potential waiver applicants, we concluded that "it would not be appropriate to grant a waiver to such entities without receiving further explanation from such entities about their current and future plans for meeting the accessibility needs of people with communications disabilities in an IP wireless environment."³⁵ Accordingly, we indicated that we would look most favorably on petitions that specify with sufficient particularity the "steps the carrier is taking or intends to take to ensure that the accessibility text alternatives that it intends to deploy will be accessible to people with communication disabilities, interoperable with other IP-based wireless text services, and backward compatible with TTYs," along with well-documented timetables and milestones regarding their implementation.³⁶

13. While Verizon's petition asserts its commitment to develop and deploy an interoperable accessibility solution for the IP environment during the waiver period, to date we have not seen specific evidence of Verizon's plans for developing and deploying such an accessibility solution. Therefore, in addition to the conditions included in AT&T's waiver, we require that Verizon file, within 90 days of the date of this Order,³⁷ a preliminary report with the Commission describing, with greater specificity than is provided in its petition, its initial plans for meeting its commitment to develop and deploy RTT or an alternative text-based solution that is accessible, interoperable with other carriers' accessibility solutions, and backward compatible with TTY technology.

³² See *AT&T TTY-RTT Transition Waiver Order* ¶¶ 8-16. As we clarified in the *AT&T RTT-TTY Transition Waiver Order* (¶ 13 n.47), we remind Verizon that nothing in this Order waives or otherwise limits Verizon's obligations under section 214(a) of the Act, pursuant to which "[n]o carrier shall discontinue, reduce, or impair service to a community, or part of a community, unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby." 47 U.S.C. § 214(a).

³³ *AT&T RTT-TTY Transition Waiver Order* ¶¶ 14-15 (footnotes omitted). AT&T stated its expectation that interoperable RTT will be widely available by December 31, 2017. *AT&T RTT-TTY Transition Waiver Order* ¶ 21, citing AT&T, Reply Comments, GN Docket No. 15-178, at 3 and 9 (filed Sep. 9, 2015) (AT&T Reply Comments). Further, before filing its petition, AT&T "conducted 4 days of RTT demonstration and discussion sessions in May 2015 in Washington, D.C. with representatives of the telecommunications industry, consumer groups, Commission staff, the United States ('US') Access Board, and the media," making a strong case for both the viability of RTT and for AT&T's commitment to developing and deploying the technology. AT&T Reply Comments at 11 n.26. As also noted by AT&T, "[d]uring those sessions, AT&T provided a basic RTT demonstration, discussed the short-term and long-term implications for RTT and TTY, and answered any and all questions posed." *Id.*

³⁴ AT&T has stated that it consciously chose, "as the only appropriate path," not to introduce Wi-Fi calling on the AT&T network until it could "approach the Commission with a technology solution that would provide an alternative to TTY technology for IP-based Wi-Fi calls and a request for a temporary waiver of the Commission's TTY requirements until that technology could be implemented." Letter from James W. Cicconi, Senior Executive Vice President, AT&T, to Tom Wheeler, Chairman, FCC (Oct. 1, 2015).

³⁵ *AT&T RTT-TTY Transition Waiver Order* ¶ 22 n.87.

³⁶ *Id.* ¶ 22.

³⁷ 90 days from the date of this Order is February 11, 2016.

14. In addition to the above reporting requirement, we impose the same two conditions that were applied to AT&T in the *AT&T TTY-RTT Transition Waiver Order*.³⁸ First, within thirty days of the effective date of the waiver³⁹ and throughout the waiver period, Verizon must apprise its customers, through effective and accessible channels of communication, including via Verizon's website, billing statements, promotional materials, communications with national consumer organizations, and other effective means of communications, that (1) TTY technology will not be supported for calls to 911 services over IP-based wireless services,⁴⁰ and (2) there are alternative public switched telecommunications network (PSTN)-based and IP-based accessibility solutions for people with communication disabilities for such calls. As part of meeting clause (2) of this condition, to the extent that Verizon begins to make RTT available, it must ensure that all 911 calls made by persons seeking emergency assistance using this technology are delivered in accordance with the obligations of all telecommunications carriers, including wireless carriers, to transmit 911 calls to the appropriate PSAP or local emergency authority.⁴¹ The required notice must be prominently placed and in plain language on Verizon's website and in the materials described above. It must further include a listing of text-based alternatives to 911, including, but not limited to, TTY capability over the PSTN, various forms of PSTN-based and IP-based TRS,⁴² and text-to-911 (where available). The provision of this information is necessary to ensure that, during the waiver period, there is no expectation on the part of consumers with disabilities that TTY technology will be supported by IP-based wireless services, and to ensure that these consumers know that alternative accessible telecommunications options exist.

15. Second, once every six months, Verizon is required to file a report with the Commission, and also inform its customers, through the same channels set forth above, regarding its progress toward and the status of the availability of new IP-based accessibility solutions, such as RTT.⁴³ Such reports shall include, but not be limited to, information on the interoperability of Verizon's selected accessibility solution with the technologies deployed or to be deployed by other carriers and service providers, as well as the backward compatibility of such solution with TTYs. The information on such capabilities of Verizon's IP-based accessibility solutions, including RTT, must include a showing of Verizon's efforts to ensure delivery of 911 calls to the appropriate PSAP.⁴⁴ Additionally, Verizon must continue to coordinate with PSAPs on implementing text-to-911 service. To the extent there are obstacles to achieving

³⁸ See *AT&T TTY-RTT Transition Waiver Order* ¶¶ 18-19.

³⁹ That is, this notification condition must be implemented by December 14, 2015. December 13 is a Sunday.

⁴⁰ See generally *1997 Commission Waiver Order*, 12 FCC Rcd at 22695 ¶ 60 ("Carriers whose systems are not compatible with TTY calls must make every reasonable effort to notify current and potential subscribers that they will not be able to use TTYs to call 911 with digital wireless devices and services.").

⁴¹ See 47 C.F.R. §§ 64.3000, 64.3001. See also *AT&T TTY-RTT Transition Waiver Order* ¶ 18 n.71.

⁴² See *AT&T TTY-RTT Transition Waiver Order* ¶ 18 n.71. The Commission has approved various types of TRS, including TTY-to-voice, speech-to-speech relay service, captioned telephone relay service, IP relay service, and video relay service. See *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Waivers of iTRS Mandatory Minimum Standards*, Report and Order, Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 10697, 10698-701 (2014), for a description of each of these services. Because some of these relay services operate over the PSTN while others utilize IP-based technologies, collectively, they can provide a wide range of telecommunications options for persons with disabilities during the temporary waiver period. Although such indirect access to 911 via a CA is not as effective as direct communications access, as noted above consumers also will continue to have such direct access through their TTYs to make 911 calls over PSTN-based and IP-based wireline services.

⁴³ See *AT&T TTY-RTT Transition Waiver Order* ¶ 19 n.72; see also *1997 Commission Waiver Order*, 12 FCC Rcd at 26264 ¶ 59, 22695-96 ¶¶ 63-64 (requiring quarterly status reports providing, among other things, "information regarding the problems associated with TTY access through digital wireless systems, proposed technical solutions, and steps taken to achieve the proposed technical solutions").

⁴⁴ See *AT&T RTT-TTY Transition Waiver Order* ¶¶ 18-19.

interoperability with other providers' solutions and compatibility with TTYs, the report shall describe such obstacles in detail, state what steps are being taken to overcome them, and provide an estimated timetable for the successful deployment of accessibility solutions.⁴⁵ The first of these reports shall be due to the Commission on May 13, 2016.

16. *Waiver Duration.* We next must determine an appropriate duration for the waiver. Verizon requests that the waiver duration be identical to the waiver duration granted to AT&T.⁴⁶ AT&T proposed an expiration of the waiver on "December 31, 2017, and the effective date of the TTY to RTT transition, if later."⁴⁷ In the *AT&T TTY-RTT Waiver Order*, we concluded that that it is in the public interest for the waiver granted to AT&T to expire on December 31, 2017 or upon the effective date of rules providing for alternative IP-based accessibility solutions, whichever is earlier.⁴⁸ For the same reasons, the duration of the waiver to Verizon is to expire on the sooner of December 31, 2017, or upon the effective date of rules providing for alternative IP-based accessibility solutions.

17. In conclusion, we believe that Verizon has shown good cause for the Commission to waive temporarily its rules requiring that TTY technology be supported for Verizon's IP-based wireless services. In light of the reported technical difficulties of supporting TTY technology for wireless IP services and Verizon's commitment to deploy improved accessibility solutions for such services, we find that considerations of hardship and equity warrant the grant of a waiver in these special circumstances.⁴⁹ We thus grant the temporary waiver requested by Verizon subject to the specific conditions set forth above, until December 31, 2017, or upon the effective date of rules providing for alternative IP-based wireless accessibility solutions, whichever is earlier. This waiver does not impact or cover requirements for the support of TTY technology for any wireline services or wireless services not offered on an IP network.⁵⁰

IV. ORDERING CLAUSES

18. Accordingly, IT IS ORDERED that, pursuant to the authority contained in sections 4(i), 4(j), 225, 255, and 617 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 225, 255, 716, and sections 0.91, 0.131, 0.141, 0.191, 0.291, 0.361, 0.392, 0.331, and 1.3 of the Commission's rules, 47 C.F.R. §§ 0.91, 0.131, 0.141, 0.191, 0.291, 0.361, 0.392, 0.331, 1.3, this Order is ADOPTED.

19. IT IS FURTHER ORDERED that the Petition for Waiver, filed by Verizon on October 23, 2015, IS GRANTED to the extent described herein.

20. IT IS FURTHER ORDERED that the temporary waiver of sections 6.5, 7.5, 14.20, 20.18(c), and 64.603 of the Commission's rules, 47 C.F.R. §§ 6.5, 7.5, 14.20, 20.18, 64.603, and any other Commission rules that require support of TTY technology as an accessible solution for VoIP networks, SHALL BE EFFECTIVE upon release, and SHALL EXPIRE December 31, 2017, or upon the effective date of rules providing for alternative IP-based accessibility solutions, whichever is earlier.

⁴⁵ For example, if applicable, such report should include the percentage of Verizon's network that is to be covered by a successful solution at each stage of the timetable. See *AT&T RTT–TTY Transition Waiver Order* ¶ 19 n.74.

⁴⁶ Verizon Petition for Waiver at 1.

⁴⁷ See *AT&T TTY-RTT Transition Waiver Order* ¶ 20; see also AT&T Reply Comments at 3.

⁴⁸ See *AT&T TTY-RTT Transition Waiver Order* ¶ 21.

⁴⁹ See *WAIT Radio*, 418 F.2d at 1159; *Northeast Cellular*, 897 F.2d at 1166.

⁵⁰ See *AT&T TTY-RTT Transition Waiver Order* ¶ 23.

21. To request materials in accessible formats (such as Braille, large print, electronic files, or audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice) or (202) 418-0432 (TTY).

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