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

In the Matter of	)	
	)	
Ensuring Continuity of 911 Communications	)	PS Docket No. 14-174
	)	

REPORT AND ORDER

Adopted: August 6, 2015 **Released: August 7, 2015**

By the Commission: Chairman Wheeler and Commissioners Clyburn, Rosenworcel, and Pai issuing separate statements; Commissioner O'Rielly concurring and issuing a statement.

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I. INTRODUCTION AND SUMMARY

1. In this *Report and Order*, the Federal Communications Commission (FCC or Commission) takes important steps to ensure continued public confidence in the availability of 911 service by providers of facilities-based fixed, residential voice services in the event of power outages.[1]

2. For over one hundred years, consumers have trusted that they will hear a dial tone in an emergency even when the power is out. Now, as networks transition away from copper-based, line-powered technology, many are aware of the innovation this transition has spurred in emergency services, but many consumers, remain unaware that they must take action to ensure that dial tone's availability in the event of a commercial power outage. The Commission's own consumer complaints portal reveals frustration over the failure of service providers to adequately inform subscribers about how to self-provision backup power in order to access 911 services in a power outage. This period of transition has the potential to create a widespread public safety issue if unaddressed.

3. Accordingly, we create new section 12.5 of our rules to place limited backup power obligations on providers of facilities-based fixed, residential voice services that are not line-powered to ensure that such service providers meet their obligation to provide access to 911 service during a power outage, and to provide clarity for the role of consumers and their communities should they elect not to purchase backup power. To be sure, many providers of residential voice communications already offer some level of backup power to consumers. However, the vital importance of the continuity of 911 communications, and the Commission's duty to promote "safety of life and property through the use of wire and radio communication,"[2] favor action to ensure that all consumers understand the risks associated with non-line-powered 911 service, know how to protect themselves from such risks, and have a meaningful opportunity to do so. Specifically, we require all providers of facilities-based, fixed, voice residential service that is not line powered[3] -- including those fixed applications of wireless service offered as a "plain old telephone service" (POTS) replacement -- to offer new subscribers the option to purchase a backup solution that provides consumers with at least 8 hours of standby power during a commercial power outage, which will enable calls to 911.[4] In addition, we require these providers to offer, within three years of the effective date of the eight hour obligation, at least one option that provides a minimum of 24 hours of 911 service.

4. Additionally, we require all providers of facilities-based, fixed, voice residential service that is not line-powered to notify subscribers, at the point of sale and annually thereafter until September 1, 2025, of the availability of backup power purchasing options, use conditions and effect on power source effectiveness, power source duration and service limitations, testing and monitoring, and replacement details. Additionally, we direct the PSHSB to work with CGB to develop, prior to the implementation date of these rules for smaller providers, as herein defined, non-binding guidance with respect to the required notifications to subscribers. We limit these obligations to ten years as that should be enough time to ensure that overall consumer expectations regarding residential voice communications are aligned with ongoing technology transitions.

[1] Unless otherwise noted, all citations to comments or *ex parte* filings in this *Report and Order* refer to filings in PS Docket No. 14-174.

[2] 47 U.S.C. § 151.

[3] A provider currently offering line-powered service is subject to these rules to the extent it offers a covered non-line-powered service while these rules are in effect.

[4] The backup power offered for purchase under our rule must include power for all provider-furnished equipment and devices installed and operated on the customer premises that must remain powered in order for the service to provide 911 access. As noted below, our rule does not extend this obligation to cordless telephones purchased by the homeowner.

5. Finally, we encourage covered providers to conduct tailored outreach to state and local disaster preparedness entities to ensure that consumables and rechargeable elements associated with backup power technical solutions deployed in their area are well understood so that communities may prioritize restocking and/or recharging in response to extended power outages.[5]

II. BACKGROUND

6. Our Nation's communications infrastructure and the services available to consumers are undergoing technology transitions. The Commission has recognized that these transitions will bring enormous benefits to consumers, but also that they raise important questions about how to appropriately carry out our obligations set forth in the Communications Act, including promoting public safety and national security, and protecting consumers.[6]

7. To further these statutory objectives, in November 2014, the Commission adopted a *Notice of Proposed Rulemaking* (*Notice*) seeking to ensure reliable backup power for consumers.[7]. Specifically, the Commission sought comment on the "communications services we should include within the scope of any backup power requirements we may adopt" and "propose[d] that any potential requirements would apply to facilities-based, fixed voice residential services, such as interconnected Voice over Internet Protocol (VoIP), that are not line-powered by the provider."[8] The Commission proposed that "providers should assume responsibility for provisioning backup power that is capable of powering network equipment at the subscriber premises during the first 8 hours of an outage" but sought comment on what should happen in the event of an extended commercial power outage.[9] The Commission also recognized the importance of outreach to consumers on the effect of commercial power outages to their communications services and sought comment on effective consumer notification.[10]

III. DISCUSSION

8. Communications services play an essential role in the delivery of public safety services, particularly 911, and that role is especially prominent during emergencies that lead to power outages. In the *Notice* in this proceeding, we sought comment on the means to ensure that consumers have access to minimally essential communications, including 911 calls and telephone-based alerts and warnings, during a loss of commercial power.[11] In this *Report & Order*, we take steps toward that goal by establishing clear lines of responsibility for ensuring continued 911 service during such commercial power outages and by: (1) establishing a phased-in obligation for the offering of backup power solutions to consumers; and (2) requiring covered providers to engage in disclosure of the risks associated with these outages and steps consumers may take to address those risks.

9. As discussed in greater detail below, we require that providers of non-line-powered facilities-based, fixed, voice residential service, including fixed wireless service intended as POTS

[5] We defer action on issues raised in the *Notice of Proposed Rulemaking* regarding backup power for other services. *Ensuring Customer Premises Equipment Backup Power for Continuity of Communications, et al.*, PS Docket No. 14-174, et al., Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd 14968, 14975 para. 11 (2014) (*Notice*).

[6] *See generally Notice; Technology Transitions, et al.*, GN Docket No. 13-5 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, 1435 para. 1 (2014) (*Technology Transitions Order*).

[7] *Notice*, 29 FCC Rcd at 14975-76, 14987, paras. 11-13, 33.

[8] *Id.* at 14987, para. 33.

[9] *Id*. at 14987, para. 35; 14990, para. 40.

[10] *Id.* at 14990, para. 39.

[11] *Id.* at 14988, para. 34 (seeking comment on what services should be considered "minimally essential" for purposes of continuity of power).

replacement, offer, at the subscriber's option and expense, a backup power solution that provides 911 access for 8 hours in the event of commercial power loss. Within three years, providers must also offer a 24-hour backup power solution. We also require covered providers to explain at point of sale how the subscriber may extend the provision of backup power during longer, multi-day outages through devices such as solar chargers, car chargers or mobile charging stations and to direct customers to sources of such equipment. No provider will be required to install backup power unless requested by, and at the expense of, the subscriber, and no subscriber will be forced to purchase unwanted equipment. Rather, our rules will ensure that subscribers who so elect can obtain backup power simply and conveniently when activating a covered service. In addition, in order to ensure that consumers are adequately informed in determining whether to make this election, we adopt disclosure requirements designed to ensure that subscribers are aware of the backup power options available for their service, including installation and other usage instructions. We also encourage, but do not require, providers to conduct tailored outreach to state and local disaster preparedness entities to ensure that consumables associated with their backup power technical solutions are well understood so that communities may prioritize restocking and/or recharging in support of extended power outages.

A. Need for Line Powering or an Alternative Source of Power During Outages

10. In the *Notice*, we noted that, in the past, consumers have relied upon service providers for backup power for their residential landline phones.[12] That is, equipment on the subscriber premises of those 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. We proposed and sought comment on steps we could take to safeguard continuity of communications throughout a power outage across networks that provide residential fixed voice service used to dial 911, including the possible adoption of new rules.[13] Based on the record of this proceeding, we conclude that in order to ensure the availability of 911 service in the provision of facilities-based, fixed, voice residential services during power outages, we must adopt rules to require, among other things, either line powering or (at the subscriber's option and expense) an alternative means of maintaining 911 access during commercial power outages.

11. During a power outage, many subscribers must rely on a battery back-up, or an uninterruptible power supply (UPS),[14] to ensure that their service will continue to operate. That is, many subscribers cannot rely on the availability of continuous power that is sufficient to provide basic telephony indefinitely in their homes.[15] Specifically, modern fiber and cable networks do not provide power to operate necessary equipment at the subscriber location, including network devices (e.g., cable modems, optical network terminals) and telephones.[16] The deployment of a VoIP service requires that

[12] *Id.* at 14975, para. 11; *see also* Communications Security, Reliability, and Interoperability Council (CSRIC), Final Report – CPE Powering at 5 (2014), available at https://transition.fcc.gov/pshs/advisory/csric4/CSRIC%20WG10%20CPE%20Powering%20Best%20Practices%20Final%20Draft%20v2%20082014.pdf (CSRIC Report). CSRIC is a multi-stakeholder advisory body charged with making "recommendations to the FCC regarding ways it can strive for security, reliability, and interoperability of communications systems." *See* FCC, CSRIC Charter, https://transition.fcc.gov/bureaus/pshs/advisory/csric5/CSRIC_Charter_Renewal_2014.pdf.

[13] *Notice* 29 FCC Rcd at 14969, para. 2.

[14] *See* ENERGY STAR® Program Requirements, Product Specification for Uninterruptible Power Supplies (UPSs) https://www.energystar.gov/ia/partners/prod_development/new_specs/downloads/uninterruptible_power_supplies/ES_UPS_V1_Draft1_Specification.pdf?0544-2a1e (defining a UPS as: "Combination of convertors, switches, and energy storage devices (such as batteries) constituting a power system for maintaining continuity of load power in case of input power failure.").

[15] *Notice*, 29 FCC Rcd at 14987, para. 33.

[16] *See id.;* CSRIC Report *at 8.*

analog voice signals be converted to IP, using a voice codec.[17] The most commonly deployed model for VoIP services in the United States places the Analog Telephone Adapter (ATA) in a network device that is installed inside of the living unit. This ATA function is commonly used in hybrid fiber coax cable networks that use embedded multimedia terminal adapters (eMTA), twisted pair telephone (DSL) networks and increasingly Fiber-to-the-Home (FTTH) Optical Network Units (ONUs), also called Optical Network Terminals (ONTs).[18] Voice codecs support voice, fax, and other legacy TDM services over IP, and their function is sometimes referred to as the ATA.[19] Network devices with the embedded ATA function are powered directly by AC power or through a UPS that converts AC to DC power.[20] According to the CSRIC report, in other use cases, the ATA function is being placed in consumer owned devices, creating more challenges for battery backup of VoIP services.[21]

12. Given that consumers are increasingly relying on new types of service for residential voice communications, and that in many areas traditional line-powered 911 service is now, or is soon likely to be, no longer be available,[22] the *Notice* asked whether it was reasonable for providers to continue to bear primary responsibility for backup power, and if so, to what extent.[23] We also stated that it was our intention to: (1) establish clear expectations for both providers and subscribers as to their responsibilities throughout the course of an outage; and (2) minimize potential for lapses in service because of subscriber confusion or undue reliance on the provider with respect to backup power for equipment at the subscriber premises.[24] The *Notice* communicated a desire to adopt baseline requirements for ensuring continuity of power for devices at the subscriber location during commercial power outages.[25] We acknowledged that backup power is not solely a copper retirement issue.[26] Thus, we intended to address backup power at the subscriber premises also for those who have already migrated or been transitioned to an IP-based network.[27]

13. We adopt the rules that follow because we believe that it is essential for all consumers to be able to access 911 emergency services during commercial power outages, especially those outages caused by catastrophic storms or other unpredictable events, and to understand how to do so. Ensuring the ability to maintain such service is a vital part of our statutory mandate to preserve reliable 911 service, and more generally, our statutory goal to promote "safety of life and property through the use of wire and radio communication."[28] We agree with the National Association of State Utility Consumer Advocates (NASUCA) that it is unlikely that our concerns would be adequately addressed without the adoption of regulatory requirements.[29] We are supported in our conclusion by commenters such as the Pennsylvania Public Utility Commission (PA PUC), which urges the Commission to adopt baseline requirements for ensuring continuity of power during commercial power outages applicable to providers of interconnected

[17] CSRIC Report at 6.

[18] *Id.* at 8.

[19] *Id.* at 8.

[20] *Id.* at 8.

[21] *Id. at* 6.

[22] *Notice*, 29 FCC Rcd at 14976, para. 13.

[23] *Id.* at 14988, para. 35.

[24] *Id.* at 14987, para. 32.

[25] *Id.*

[26] *Id.* at 14976, para. 13

[27] *Id.*

[28] 47 U.S.C. § 151.

[29] NASUCA Reply at 8.

VoIP-based services that do not provide line power at their central office, but rather rely on backup power.[30]

14. Specifically, we find that public safety officers, first responders and other public officials have a need to communicate with citizens through whatever means possible, and 911 service plays an important role in this regard.[31] Indeed, consumer advocates and 911 providers emphasize the need to adopt robust backup power requirements to ensure public safety.[32] For example, Public Knowledge notes that right now consumers of traditional landline service are "guaranteed backup power during power outages" and "many consumers keep their landline service specifically to retain this feature."[33] Public Knowledge further states that, "[w]ith the advent of cordless phones the only time the consumer worried about backup batteries was for their cordless phone or they simply retained a traditional phone to use during emergencies."[34]

15. NASUCA and many other commenters agree that Commission action will help preserve consumers' ability to access 911 service.[35] Specifically, NASUCA "fully supports the Commission's determination to ensure reliable backup power for consumers of IP-based voice and data services across networks that provide residential, fixed service that substitutes for and improves upon the kind of traditional telephony used by people to dial 911."[36] According to NASUCA, "[b]ackup power requirements will help ensure that service will continue in a power outage."[37] The National Association of State 911 Administrators (NASNA) similarly observes that "[t]he transition from legacy copper loops to other network technologies means that an important safety net—Central Office provisioning of line power

[30] Pennsylvania Public Utility Commission (PA PUC) Comments at 8. *See also* New York Public Safety Commission (NYPSC) Comments at 4 (stating that "where line equipment normally requires commercial power, the FCC should require that companies provide contingent backup power to ensure that network availability is maintained during commercial power outages).

[31] *See* CSRIC Report at 19.

[32] *See* Public Knowledge, Appalshop, Benton Foundation, Center for Media Justice, Center for Rural Strategies, Common Cause, The Greenlining Institute, Media Action Center, Media Literacy Project, National Consumer Law Center (on behalf of its low-income clients), New America Foundation Open Technology Institute, Rural Broadband Policy Group, and TURN (The Utility Reform Network) (jointly, "Public Knowledge *et al.*") Comments at 21-28. For ease of reference, these joint commenters may also be referred to in this document as "Public Knowledge." *See also* Intergovernmental Advisory Committee Recommendation 2013-5, "Response to Technology Transitions Task Force Request for Comments on Potential Trials of Transitions to Internet Protocol Based Networks," adopted July 8, 2013, at 3 available at https://transition.fcc.gov/statelocal/recommendation2013-05.pdf (asserting that all new technologies must maintain system resiliency, especially with respect to power supply, that powering of copper legacy networks separate from the electric grid historically helped to make them extremely resistant to power outages, ad that "uninterrupted, resilient, extended-use power for telephone access must be available in the interest of public safety.").

[33] *See* Public Knowledge Reply at 6. Although Public Knowledge's filing is styled "Comments," it was filed after the deadline for initial comments and is thus referred to in this document as a "Reply."

[34] *Id*. at 8.

[35] *See e.g.* NASUCA Comments at 2; Communications Workers of America (CWA) Comments at 1; AARP Comments at 23 (arguing that network providers that offer voice services must be responsible for provisioning services that are consistent with public safety objectives and that the lack of backup power for CPE places consumers, their neighbors, and first responders at risk); PA PUC Comments at 5 (arguing that it is imperative that consumers who have either migrated or been transitioned to an IP-based network or new facilities continue to have reasonable CPE backup power alternatives as a means to ensure continuity of communications throughout a commercial power outage).

[36] NASUCA Comments at 2.

[37] *Id.*

to the subscriber premises—will disappear unless the Commission takes action to mitigate it."[38] The Communications Workers of America (CWA) asserts that CWA, consumer organizations, state regulatory commissions, and public safety associations "support Commission proposals to facilitate the transition to high-speed broadband networks, protect consumers and promote public safety by *upgrading* Commission rules regarding back-up power, network changes, and service discontinuance."[39]

16. We agree that this period of transition gives rise to the need for "upgrading Commission rules." We observe that the consumers most at risk of losing continuity of 911 communications during commercial power outages are those in the midst of transitioning from legacy copper, or that are new to non-copper media, because they may currently assume they will be able to reach 911 during a power outage. For example, Public Knowledge asserts that "the new technologies with which AT&T and Verizon propose to replace traditional POTS are not self-powered, do not work with vital devices on which consumers rely, and are not available in every community."[40] Public Knowledge further argues that, "[w]hile technology transitions hold tremendous promise for a state-of-the-art communications network, the loss of guaranteed backup power or shifting backup power responsibility to the consumer are serious changes that could end up creating a network that serves some and not others."[41]

17. We agree with the commenters who assert that transitions to new technology should not result in 911 service being more vulnerable than when consumers used the legacy network.[42] As we stated in the *Notice*, the absence of line powering for some voice services (such as those provided by cable companies) was not an issue that needed to be addressed when legacy line-powered network options were widely available, but it must be addressed as more and more residential subscribers are faced with only VoIP and other residential IP-based services (or legacy services delivered over fiber) as options, because these services typically will require a backup power source to function during power outages.[43] Accordingly, we focus our requirements to support the continued transmission of 911 communications for service that will no longer have line powering capabilities. Because of the importance of the continuity of 911 communications, we also include under the new requirement providers that may have never provided line powering, but that provide services intended to replace traditional POTS services on which consumers have relied for continuous access. With the accelerating transition to new technologies, consumers of these services will no longer have competitive alternatives that come with line-powering capabilities.

18. We reiterate our observation in the *Notice* that adequate and reliable access to 911 services and functionalities during emergency conditions is a long-standing public policy objective. Although we recognize that we are in the midst of sweeping change, we believe that voice communications continue to play an essential and central role in the delivery of public safety services,[44] and that this role does not diminish during events that cause power outages. Indeed, it is at these times that consumers most need to know that they will be able to use their home telephone to get help through 911.

19. We recognize that, as noted by some commenters, many users of interconnected VoIP service may well be unconcerned about backup power, choosing instead to rely on their mobile phones or

[38] National Association of State 911 Administrators (NASNA) Comments at 1-2.

[39] CWA Comments at 1 (emphasis added).

[40] Public Knowledge Reply at 7.

[41] *Id*. at 6.

[42] *See, e.g., id.*

[43] *Notice*, 29 FCC Rcd at 14987, para. 33.

[44] *See, e.g.*, *id.* at 14975, para. 12.

alternative backup sources.[45] Nonetheless, because of the critical nature of 911 communications, we are not persuaded by the argument that there is no need for action to ensure the continuity of 911 communications to homes across the country. Nor are we convinced that we should abandon this effort because of claims that consumer expectations, which have developed over decades, are already reset such that they no longer expect their home phone to work during power outages.[46] Consumers who have yet to abandon (or who have only recently abandoned) line-powered service may not have had their expectations "reset." At this time of transition, it is these consumers who are more likely to mistakenly believe that they can access emergency services during a power outage when the line power option had already been eliminated.

20. We find merit in NASUCA's argument that the public interest requires the industry to be responsible for ensuring that its subscribers at least have some option to purchase backup power, either from the service provider or a third party.[47] Therefore, as more fully discussed below, we conclude that the public interest would be best served by ensuring the option for continued access to backup power to maintain continuity of 911 communications during a loss of commercial power.

21. We have previously recognized that the benefits associated with reliable 911 service are substantial.[48] The provision of backup power for network equipment at the subscriber premises promotes the "safety of life and property through the use of wire and radio communication,"[49] by enabling 911 calls for subscribers of the covered services, when the power is out. Specifically, the rules we adopt today will preserve safety of life by enabling the use of VoIP and other non-line powered services to contact 911 in a commercial power outage, which is what millions of Americans have come to expect from their "home phone."[50] We expect that providing the option for at least 8 hours of backup power would ensure the ability to make many life-saving 911 calls during commercial power outages.[51] Therefore, we find, as we

[45] *See, e.g.* Corning Comments at 2-6; AT&T Comments at 12.

[46] *See, e.g.* ADTRAN Comments at 17-21 (asserting that historically the monopoly telephone service provider offered the service, CPE and power; and this model and the related expectations no longer exists); American Cable Association (ACA) Comments at 5-7 (arguing that the voice service market has evolved and consumers have already shifted from line power copper to use of wireless and wireline technologies with backup power capabilities); and Telecommunications Industry Association (TIA) Comments at 5 (noting that consumers understand the trade-offs between legacy devices that did not require their being involved in powering them, and mobile and non-tethered services).

[47] NASUCA Reply at 4.

[48] *In The Matter Of Improving 911 Reliability, Reliability And Continuity Of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75, 11-60, Report and Order, 28 FCC Rcd 17476, 17500-03, paras. 73-79 (2013) (*Improving 911 Reliability Report and Order*); *In The Matter Of Facilitating The Deployment Of Text-To-911 And Other Next Generation 911 Applications Framework for Next Generation 911 Deployment*, PS Docket Nos. 11-153, 10-255, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd. 9846, 9852-57, paras. 12-22 (2014) (*Facilitating the Deployment of Text-To-911 Second Report and Order*); *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Fourth Report and Order, 30 FCC Rcd 1259, 1316-20, paras. 158-66 (2015).

[49] 47 U.S.C. § 151.

[50] *Notice*, 29 FCC Rcd at 14975, para. 11.

[51] Even if just one life is saved per year through any of these associated benefits, the benefits to the nation could be calculated at $9.1 million. The value of a statistical life (VSL) is currently estimated at $9.1 million. *See* Memorandum from Polly Trottenberg, Under Secretary for Policy, Office of the Secretary for Transportation, and Robert S. Rivkin, General Counsel, Department of Transportation, Guidance on Treatment of the Economic Value of a Statistical Life in U.S. Department of Transportation Analyses at 1 (Feb. 28, 2013), http://www.dot.gov/sites/dot.gov/files/docs/VSL Guidance_2013.pdf (*DOT Guidance on Economic Value of a Statistical Life*). The Department of Transportation defines VSL as "the additional cost that individuals would be

(continued….)

have before, that "[r]eliable 911 service provides public safety benefits that, while sometimes difficult to quantify, are enormously valuable to individual callers and to the nation as a whole."[52]

22. We have also previously found that greater access to 911 enables other public safety-related benefits as well. The Commission's "Text-to-911" proceeding concluded that increasing access to 911 "could yield other benefits, such as reduced property losses and increased probability of apprehending criminal suspects.[53] Also, the increased ability to place 911 calls necessarily means that there is an increased ability to receive calls in an emergency, including calls from public entities attempting to disseminate important information during widespread emergencies (such as evacuation notices).[54] Many communities have installed such a function that "has proven to be effective in other counties and cities, such as San Diego during the fires of 2007."[55]

B. Covered Services

23. In the *Notice*, we sought comment to help identify the most essential communications services that a customer would need to get emergency help during a power outage. We referred to this in the *Notice* as "minimally essential" communications.[56] We intended to afford sufficient power for minimally essential communications, including and especially 911 calls and the receipt of emergency alerts and warnings.[57]

24. We also noted that voice services historically have been the primary means of contacting 911 for emergency help.[58] Moreover, we observed that line-powered service can operate continuously and indefinitely during a commercial power failure, and does not require a backup power source to maintain continuity of communications for access to 911. Thus, we proposed that any rules apply "to facilities-based, fixed voice services, such as interconnected VoIP, that are not line-powered by the provider."[59]

25. Consistent with this proposal, we conclude that it would be in the best interest of the public to apply our rules to facilities-based, fixed voice services, such as interconnected VoIP, that are not line-powered by the provider.[60] Our conclusion is based on the fact that, as we stated in the *Notice*, voice

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willing to bear for improvements in safety (that is, reductions in risks) that, in the aggregate, reduce the expected number of fatalities by one." *Id*. at 2.

[52] *Improving 911 Reliability Report and Order*, 28 FCC Rcd at 17500, para 73.

[53] *Facilitating the Deployment of Text-To-911 Second Report and Order*, 29 FCC Rcd at 9862, para. 33 ("For example, property losses may be reduced if text-to-911 is used to promptly inform authorities of a fire, thereby enabling the fire department to reach the emergency sooner."); *id.* at n.95.

[54] *See infra* para. 81.

[55] Areej M. Sadhan, Evaluating the Reverse 9-1-1 System in Santa Clara County: Does the Process Work? at 50 (2014), http://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=1378&context=etd_projects; *see also, e.g.*, Salt Lake Valley Emergency Communications Center, Reverse Phone Notification for Herriman Wildfire (Sept. 21, 2010), http://vecc9-1-1.com/reverse-phone-notification-for-herriman-wildfire/.

[56] *Notice*, 29 FCC Rcd at 14988, para. 34.

[57] *Id.*

[58] *Id.*

[59] *Id.* at 14987, para. 33.

[60] We note that in adopting the rules in this order, we do not need to make, nor are we making, any new broader finding concerning the jurisdictional nature of interconnected VoIP or state authority with respect to interconnected VoIP. *See, e.g., IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, WC Docket Nos. 05-196, 04-36, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd. 10245, 10261-66, ¶ 26 (2005) (continued….)

service is still the primary means of reaching help through 911.[61] We clarify that a wireless voice service is "fixed" for purposes of our rules if it is marketed as a replacement for line-powered telephone service and is intended primarily for use at a fixed location. We further clarify that whether a wireless service is "fixed" does not depend on the regulatory classification of the service under Federal or state law, or on the mobile capabilities of the service. Similarly, the use of a femtocell or similar equipment in a residential setting does not automatically convert a mobile service into a fixed service. The decisive factor is whether the service is intended to function as or substitute for a "fixed" voice service.

26. Although the rule we adopt today would allow for calls other than to or from 911, we find there is not currently a means to prioritize the provision of power for only some voice calls (such as 911 calls) over other communications (such as calls to friends and family). Many commenters generally agree that there is no practical way to maintain power for only some calls. For example, according to Verizon, calibrating a provider's battery backup obligations and capabilities based upon essential versus non-essential calls would be inconsistent with consumer's expectations, and unnecessarily complex.[62] ITTA, the Alarm Industry Communications Committee (AICC), NASUCA, and others argue that it would be technically difficult, if not impossible, to distinguish among certain types of calls or functions in a way that would allow rapid load-shedding of non-essential communications to conserve backup power, if minimally essential communications were defined as only 911 or emergency communications.[63]

27. Some commenters argue for an even broader definition of covered services, citing various examples.[64] Although we recognize that limiting the definition as we have done omits some services on which consumers currently rely in emergencies, we expect that both the consumer backup power needs and our rules will evolve.[65] More importantly, we do not more broadly define covered services because we find that at this time it would be in the best interests of the public to limit application of our rules to discharge our statutory duty to ensure the continued viability of 911. Imposing specific obligations on providers to support other communications could introduce confusion and impose costs on providers that may well exceed the incremental benefits. This is particularly true given the many backup power solutions on the market today that are capable of supporting both essential and non-essential communications.

28. We reject the argument of NCTA and others that adopting backup power rules exclusively for fixed services unduly favors competing mobile services. The rules we adopt herein are

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(requiring interconnected VoIP providers to comply with E911 requirements "regardless of the regulatory classification" of such services).

[61] *Notice*, 29 FCC Rcd at 14988, para. 34.

[62] Verizon Reply at 11.

[63] *See, e.g.,* Alarm Industry Communications Committee (AICC) Comments at 6; ITTA Comments at 21; NASUCA Comments at 10.

[64] For example, AARP notes that voice is only one element of a growing set of communication applications that will include a variety of connected devices that enable real-time communication and monitoring. AARP Comments at 11. Appalshop, Inc. stresses the need for support and function of other devices that consumers and businesses have come to rely on, such as, but not limited to, heart monitors, security alarms, medical emergency alarms, devices that provide access to technology for people with disabilities, credit card machines, and fax machines. Appalshop Comments at 3. And, still others have expressed concern about the extent to which limited backup power will be able to support broadband communications that are needed specifically to sustain IP-based relay services in the event of a power outage in an IP environment.

[65] *See* Association of Public-Safety Communications Officials-International, Inc. (APCO) Comments at 3 (noting that ideally, all NG-9-1-1 capabilities should be considered minimally essential; however, at least initially, multi-media capabilities could become a drain on limited back-up power capabilities for CPE; and should that be the case, at least voice calls and texts to 9-1-1 should be considered minimally essential communications, with the eventual goal of including all NG9-1-1 capabilities.).

intended to clarify the obligations of providers and the expectations of consumers in the provision of services that a customer would perceive as replacing line-powered telephone service. Mobile wireless services increasingly compete with fixed services, but they function differently in multiple respects. Perhaps most significantly, mobile wireless devices are battery-powered in their normal mode of operation. Thus, we do not believe that consumers would reasonably expect such devices to draw line power during a commercial power failure. Moreover, the battery that powers a mobile device provides an inherent source of "backup power" that is often capable of providing far more than 8 hours of service per charge, and often may be charged through additional means, such as a car charger.

29. Therefore, we conclude that, at this time, the appropriate services that should be subject to backup power requirements for effective 911 service during power outages are facilities-based, fixed voice service that is not line-powered by the providers, and is offered as a residential service.

C. Responsibilities of Providers of Covered Services

30. To promote clear expectations and customer choice, we adopt a combination of performance and disclosure requirements to empower consumers to understand the backup power options available to maintain continuity of 911 service and to obtain the equipment necessary to provide such service, if they wish, at the point of sale. Providers of covered services must offer at least one technical solution capable of supporting at least 8 hours of uninterrupted 911 service and install such equipment, at the subscriber's option and expense, as part its installation of service. Within three years, providers of covered services also must offer new subscribers at the point of sale and install, at the subscriber's option and expense, a 24-hour backup power solution if a subscriber desires additional protection. We also adopt a disclosure requirement designed to ensure that both current and new subscribers understand their options with respect to backup power and are aware of the consequences of their decisions whether, and to what extent, to purchase backup power. Finally, we encourage providers of covered services to engage in targeted outreach to the communities they serve to ensure that local emergency managers are aware of the limitations inherent in various fixed, residential voice service technologies commonly used in their areas, as well as backup power options for individuals and communities more broadly to maintain continuity of communications in an emergency.

1. Performance Requirements

a. Duration

31. We adopt backup power requirements that offer consumers meaningful alternatives to address their individualized needs, recognizing that consumers may have different preferences for backup power. Comments in response to the *Notice* confirm that "a one-size fits all solution is inappropriate and would disserve customer interests."[66] Accordingly, we adopt a phased-in approach that will provide consumers with multiple options. As an initial baseline, we will require providers of covered services to offer, at the point of sale, to install a technical solution capable of supporting at least 8 hours of uninterrupted 911 service during a power outage. Within three years, providers must also offer, at the point of sale, a technical solution capable of supporting 24 hours of uninterrupted 911 service if the subscriber desires additional backup power. To minimize costs and provide flexibility, we do not specify the means by which providers of covered services offer to supply these amounts of backup power; instead, providers are free to develop individual technical solutions.[67] To plan for longer power outages, we strongly encourage providers to inform subscribers of options to extend such uninterrupted service

[66] Hawaiian Telcom Reply at 4.

[67] Examples include backup batteries housed within equipment, spare batteries that may be maintained with separate chargers, uninterruptible power supplies (UPS), or a combination thereof, resulting in ability to maintain continuity of 911 communications for 8 or 24 hours. Providers are not required to research and/or provide information on every possible backup power source that could potentially be compatible with a Covered Service; however, they must offer new subscribers at least one backup power option for each duration specified in our rules.

over multiple days and direct subscribers to sources of known compatible accessories such as home, car, or solar chargers. For longer power outages, we do not require providers to offer or install any particular solution, but we strongly encourage providers to inform subscribers at the point of sale, and through annual disclosures to existing and new subscribers discussed below,[68] about known options to ensure uninterrupted 911 service and provide examples of retail sources for associated equipment, which may include third-party vendor sources if providers do not offer such equipment themselves.[69]

32. In the *Notice*, we observed that 8 hours of backup power for network equipment at the subscriber premises appears to be consistent with a number of VoIP deployment models already in practice, though some providers have deployed backup power capabilities for up to 24 hours.[70] We find that 8 hours of backup power is the appropriate amount of time to afford consumers with continuity of power in the critical hours immediately after a power outage, and is a backup power duration that is technically feasible today. The record reflects that the option to receive 8 hours of backup power is already an industry norm, as well as a reasonable baseline for the amount of standby time that is likely to be useful to consumers during emergencies.[71] The United States Telecom Association (US Telecom), for example, states that "provisioning eight hours of backup power is consistent with industry standards and reflects what VoIP providers currently employ."[72] Verizon offers subscribers a 12-volt battery that provides up to 8 hours of backup for voice services and also observes that "[c]ompanies such as Comcast, Cablevision, and Cox offer a battery with eight hours of backup, and Time Warner offers a battery with a choice of eight or twelve hours."[73] The Electronic Security Association (ESA) and the Alarm Industry Communications Committee (AICC) urge the Commission to promote adherence to the National Fire Protection Association (NFPA) minimum standard on battery backup, which also is 8 hours.[74] In light of this broad consensus, and based on the fact that 8 hours of backup power is already being provisioned today by some providers, we disagree with commenters who suggest that 8 hours is not an appropriate standard for backup power offerings.[75] We find that it is technically feasible for providers of covered services to offer subscribers the option of at least 8 hours of backup power through provider-supplied backup power equipment or by offering compatible third-party equipment. While many providers already offer their subscribers an 8-hour backup power capability, the rule we adopt today establishes a common baseline that will ensure that consumers have access to backup power options regardless of their provider. This will promote public safety and emergency preparedness by allowing subscribers to reach 911 and receive telephone-based alerts and warnings[76] in the critical hours immediately following a commercial

[68] *See infra* Section III.C.2.

[69] For example, providers might direct customers to sources of compatible accessories such as home, car, or solar chargers, or provide information about mobile charging stations deployed during emergencies.

[70] *Notice*, 29 FCC Rcd at 14988, para. 35.

[71] *See* PA PUC Comments at 9 (observing that "backup power that is capable of powering CPE for a minimum of at least eight hours during a commercial power outage is consistent with the Commission's enunciated proposal" and that "eight hours appear to be consistent with certain VoIP deployment models already in practice, such as Verizon's FiOS service").

[72] United States Telecom Association (USTelecom) Comments at 5.

[73] Verizon Comments at 18.

[74] ESA Comments at 2; AICC Comments at 4-5. *See also* USTelecom Comments at 5 ("NFPA is the 'leading advocate of fire prevention and an authoritative source on public safety,' and its adoption of an eight-hour industry standard for battery backup demonstrates its suitability for addressing public safety concerns.").

[75] *See* Hawaiian Telcom Reply at 4 (arguing that "[t]he predominant length of power outages is four hours or less" and that "[a] fixed minimum duration requirement for voluntarily provided CPE back-up power, such as eight hours, is not realistic for most providers").

power failure.[77] We emphasize that the requirements we adopt today do not place any obligation on the consumer to purchase backup power; the obligation is placed on the provider not providing line-powered service, to make backup power available to the consumer, and to install appropriate backup power upon initial installation of service if requested by the consumer. To that end, we expect that installers should be able to answer questions about backup power.

33. While we believe that 8 hours of backup power would address the need for continuity of communications immediately after a power outage, we recognize that, in some cases, 8 hours of backup power may not be enough for subscribers to reach critical emergency services during an extended loss of power.[78] AARP urges the Commission to require providers to be "responsible for the deployment and maintenance of voice-enabling CPE that delivers at least 12 hours of standby time."[79] NASUCA and the Communications Workers of America (CWA) also suggest that a longer time period, such as 12 or 24 hours, would be more useful for subscribers who need a longer duration to attend to other time sensitive matters that arise during the course of a natural disaster or other emergency.[80] While industry commenters oppose a mandate to provide more than 8 hours of backup power to every subscriber,[81] service providers note existing solutions, as well as innovative new solutions, that are capable of supporting longer standby times.[82] Along similar lines, NASUCA urges the Commission to monitor advances in battery technology, and as soon as such technology is available at a reasonable cost, to require providers to furnish backup batteries with 7-day standby time and 24-hour talk time.[83]

34. In light of the critical need for maintaining 911 service during more severe and long-lasting power failures, we will require providers to offer subscribers a 24-hour backup power solution within three years. The record indicates that the provision of 24 hours of backup power is at least technically feasible today. ACA has "determined that batteries with 24 hour stand by capability can be ordered from at least one vendor but are not immediately available because they are not widely used."[84] As explained below, we do not require providers to offer technologically distinct 8-hour and 24-hour solutions, so a 24-hour solution could consist simply of three 8-hour batteries.[85] Many providers that offer an 8-hour solution are therefore likely to be capable of offering a 24-hour solution with minimal

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[76] *See* Rural Broadband Policy Group Ex Parte, May 16, 2015, at 3 (discussing the importance of Reverse 911 calls to warn residents and issue evacuation orders in an area affected by a wildfire); Public Knowledge *et al*. Comments at 18 ("New networks should also be able to support Reverse 911 functions, which in urban areas can typically support 5,000 30-second calls in less than 10 minutes.").

[77] *See* ESA Comments at 2 ("Not only is standby power for communications important for life safety systems, but it is also critical in allowing the consumer to dial 911 during these outages.").

[78] For example, NASNA argues that "[t]wenty-four hours would be more useful and account for the fact that in the midst of a power outage due to a natural disaster or other emergency will likely have urgent communication needs that may take time to accomplish." NASNA Comments at 2.

[79] AARP Reply Comments at 3.

[80] NASUCA Comments at 9-10; CWA Reply at 2.

[81] *See* USTelecom Comments at 5 ("Any obligation greater than eight hours runs the risk of imposing onerous and unnecessary burdens on providers for provisioning backup power during emergencies, while at the same time diminishing the important role of consumers in individually preparing for emergencies.").

[82] Verizon, for example, states that it is "rolling out a new approach that uses standard D-Cell batteries that are more readily available and replaceable than 12-volt batteries and that provides backup power for up to 24 hours (which can easily be extended by customers)." Verizon Comments at 18.

[83] NASUCA Reply at 13.

[84] ACA June 24, 2015 Ex Parte at 3.

[85] *See infra* Sec. III.C.1.b

additional difficulty. That said, we want to encourage continued innovation in the development of 24-hour and longer term backup power solutions and avoid locking in solutions that are minimally compliant but that may not provide the best value to consumers. We will therefore phase-in the 24-hour requirement over three years, during which time we expect providers to work diligently to implement innovative solutions for providing at least 24 hours of backup power that improve upon current offerings in terms of cost, reliability and ease of use. This is consistent with ACA's recommendation for a phase-in of the 24-hour battery requirement for smaller providers;[86] however, we find that given the overall market conditions for 24-hour battery supplies, including questions about immediate availability, it is appropriate to phase in the requirements for all providers, regardless of size.[87] While NASUCA recommends that the Commission monitor battery backup power developments and phase in the requirements as soon as the market will allow, we find that providing a date certain both allows the market sufficient time to develop, and places a backstop for development, thereby spurring innovation in a reasonable timeframe. In the meantime, we encourage but do not require providers to offer a 24-hour solution using available technologies.

35. As commenters note, the need for continued access to 911 during an extended power outage does not end after 8, or even 24, hours. For example, Public Knowledge argues that "a minimum time of seven days backup power is a reasonable requirement that will keep consumers safe before, during, and after a natural disaster, and allow them to rebuild their communities."[88] Based on a study by the Environmental and Energy Study Institute, Public Knowledge observes that restoring power after Hurricane Sandy and Hurricane Katrina took 12 and 15 days respectively, and on average takes 7 to 23 days.[89] To address such extended losses of commercial power Public Knowledge asserts that "carriers must prioritize the adoption of devices that use batteries that can last days and are not proprietary."[90] Other commenters argue that "Americans have come to trust and expect basic telephone service to work indefinitely, particularly during power outages caused by natural disasters and public safety emergencies" and urge us to adopt even longer backup power requirements, ranging from seven days to two weeks.[91]

36. We are not persuaded that a requirement for providers of covered services to offer or install more than 24 hours of backup power is necessary at this time. All things equal, we would prefer access to 911 during a loss of commercial power to last indefinitely, as consumers have come to expect

[86] ACA June 24, 2015 Ex Parte at 3. ("ACA therefore has no problem with adopting this mandate provided there is a sufficient transition, especially for smaller operators, to obtain both batteries with 24 hour stand by time and devices that can accommodate either a 24 hour battery or multiple batteries that in aggregate enable 24 hour stand by time.").

[87] *See* AT&T Comments at 14 ("If the Commission nonetheless decides that the record in this proceeding supports the imposition of backup-power standards, it should give providers and equipment manufacturers sufficient time to redesign and replace any affected CPE.").

[88] Public Knowledge, *et al.* Comments at 9-10, 25-26 (citing a study of the Environmental and Energy Study Institute that, based on evidence regarding long-term power outages after large-scale extreme weather events, recommends a CPE backup system that lasts a minimum of 10 days, and perhaps longer in "communities that are particularly reliant on landline service, or experience more frequent outages than average.").

[89] *Id.* at 10.

[90] *Id*. at 27.

[91] *See* Rural Broadband Policy Group (RBPG) Ex Parte, May 16, 2015, at 5 ("[A] telephone carrier that chooses to use a technology that does not carry its own electricity must make necessary arrangements to ensure a minimum of seven days or an ideal of two weeks worth of backup power during commercial outages."); Appalshop Comments at 2 ("[A] telephone carrier interested in changing the technology it uses to provide basic telephone service must make necessary arrangements to ensure two weeks worth of backup power during outages."); Sue Wilson Comments at 4 (arguing that the ability of basic telephone service to function during power outages "is an invaluable characteristic of the old telephone network" and that providers of new technologies should be required "to ensure two weeks worth of backup power during outages").

with line-powered services. We recognize, however, that there are technical, operational, and cost considerations that must be balanced against this theoretical desire. For reasons discussed above, we believe that it is both technically feasible and consistent with current business models for covered services to require providers to offer options for 8 and 24 hours of backup power on the timelines specified in our rules. We agree, however, with commenters who suggest that a mandate to offer backup power for multi-day outages could impose unnecessary burdens on service providers and excessive costs on consumers for comparatively little public safety benefit.[92] As CSRIC has observed, backup power technologies are evolving, and the cost of more advanced batteries such as lithium-ion cells is likely to decrease over time as other options such as power-over-Ethernet become more widespread.[93] We will continue to monitor these developments to ensure that our rules keep pace. Moreover, power outages of extended duration allow well-informed consumers time to recharge their existing batteries or make other arrangements to reach emergency assistance until power is restored.[94] We therefore strongly encourage providers to inform subscribers, both at the point of sale and annually thereafter, of known ways consumers can maintain connectivity during extended power outages. As an example, this could include guidance on restocking or recharging a power supply used to provide 8- or 24-hour capability. Providers could also give information on purchasing other accessories such as solar, home or car chargers that may allow exhausted batteries to be recharged and that are compatible with the provider's equipment. Providers need not offer such accessories themselves or endorse particular third-party suppliers, but they should provide sufficient information, including technical specifications when necessary, for subscribers to obtain compatible accessories from commercial sources. Such information may be provided through welcome kits, brochures, e-mails to subscribers, or any other means reasonably calculated to reach each subscriber, as discussed below, while providing due consideration for any preference expressed by the customer.[95] Providers sometimes deploy mobile charging stations to areas affected by an extended outage, and may inform subscribers when such mobile charging stations are made available.

37. In adopting these requirements, we acknowledge observations that "[n]otwithstanding the availability of backup batteries, many customers today choose not to obtain a battery, given the growing reliance on wireless or the customers' use of handsets or other devices that themselves require commercial power to operate."[96] We also agree with commenters such as Verizon that "[c]ustomers should be free to decline [a backup] battery, depending on their personal preference."[97] We further acknowledge that comments in the record indicate that, when it is offered, consumers often may not choose to avail themselves of options to purchase backup power.[98] Commenters note, for example, that

[92] *See* USTelecom Comments at 5 (cautioning the Commission against "imposing onerous and unnecessary burdens on providers for provisioning backup power during emergencies").

[93] CSRIC Report at 7, 19.

[94] For example, communities affected by a disaster may set up temporary shelters or heating and cooling centers where residents can obtain first aid and take shelter from severe weather. *See* Press Release, Gov. McDonnell Issues Update on Virginia's Recovery from June's Historic Derecho Storm, July 5, 2012, *available at* http://www.virginiadot.org/newsroom/statewide/2012/gov._mcdonnell_issues_update58750.asp (describing shelters available to Virginia residents during the 2012 derecho storm and noting that "[l]ocalities are opening cooling centers to provide daytime relief from the heat for their citizens").

[95] *See infra* Section III.C.2.

[96] Verizon Comments at 17.

[97] *Id.* at 19.

[98] *See* Bright House Networks Reply at 2 (stating that after Bright House Networks made batteries optional for new installations at approximately $35 plus shipping, "[a] truly negligible number of customers decided to purchase a battery after receiving notice that the service will not function without power"); Letter from Mary McManus, Comcast, to Marlene H. Dortch, Secretary, FCC, GN Docket No.13-5, PS Docket No. 14-174, at 1-2 (filed June 8, 2015) (Comcast *Ex Parte* Letter) (stating that "for the year 2014, less than 1 percent of new Xfinity Voice

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many subscribers of fixed, residential VoIP service also purchase mobile voice service that provides an alternate means of reaching 911 in an emergency, and that others prefer cordless phones that require backup power beyond that supplied by service provider networks.[99] Nevertheless, some consumers – particularly the elderly and other populations that are at the greatest risk during an emergency – may not subscribe to mobile wireless service and may rely solely on the continued functionality of their residential voice service to reach 911.[100] Furthermore, mobile networks are not designed in the same manner as wireline networks and may become overloaded in times of extreme use in an emergency situation, and thus be unavailable for use to reach 911.[101] We emphasize that nothing in our rules forces consumers to purchase backup power they do not want. We require only that consumers who want service that will work during power outages and have not otherwise provided for such uninterrupted service have the option of obtaining that capability, and that they have sufficient information to make an informed decision.

38. In the *Notice*, we discussed the duration of backup power in terms of "the availability of standby backup power, not actual talk time."[102] Commenters differ on whether backup power should be measured in terms of standby time, talk time, or some other metric that takes into account variations in battery life under different conditions. NASUCA, for example, questions provider assertions about backup battery life on the grounds that 8 hours of battery life yields far less actual talk time, and because batteries deteriorate as they age.[103] Public Knowledge observes that the actual duration of a battery depends on its use, and that the more calls are placed, the more quickly backup power is depleted.[104] In light of these potential discrepancies, we believe that adopting a uniform definition of "backup power" is necessary to avoid potential consumer confusion. Therefore, we base our backup power requirements on the amount of time a technical solution can maintain a covered service in standby mode, *i.e.*, able to provide a dial tone and to initiate and receive voice calls, but not necessarily in continuous use. We believe that standby time is an appropriate metric, because our rules are premised on the need for covered services to be available to dial 911 or receive incoming communications such as emergency alerts and warnings during emergencies, not necessarily on the need for extended talk time when commercial power fails. We recognize that actual battery life may vary depending on how often subscribers place calls and how long such calls last, but we conclude it would not be practical to account for such situation-specific variations in our rules and that standby time is a more consistent and useful point of comparison. Accordingly, we require providers of covered services to offer subscribers the option to obtain backup power for 8 hours (effective 120 days after publication of this *Report and Order* in the Federal Register)[105] or 24 hours (effective within three years thereafter) of standby time, measured at rated

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customers purchased a backup battery," and that approximately 13 percent of customers obtained a replacement battery after being notified that their existing battery was depleted).

[99] *See* Public Knowledge Reply at 8 (recognizing "three different levels of backup power – at the carrier's central location, on customer premises, and for the actual phone – that vary depending on the nature of the technology").

[100] *See, e.g., id*. at 6 (urging the Commission not to "creat[e] a network that serves some and not others").

[101] *See, e.g.*, *Improving the Resiliency of Mobile Wireless Communications Networks; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-239 and 11-60, Notice of Proposed Rulemaking, 28 FCC Rcd 14373 (2013).

[102] *See Notice*, 29 FCC Rcd at 14988, para. 35 n. 109.

[103] NASUCA Reply at 9, 10.

[104] Public Knowledge *et al.* Comments at 26.

[105] As noted below, for covered providers with fewer than 100,000 domestic retail subscriber lines, the effective date of this obligation is extended for an additional 180 days. *See infra*, section IV.D.

specifications,[106] without a duration requirement for actual talk time.

b. Methods of Provisioning Backup Power

39. We agree with commenters who advocate flexibility in how providers achieve continuity of 911 access for the time periods discussed above. The record reflects that providers currently employ a variety of backup power technologies and that a range of backup power options are also available direct-to-consumer from third-party sources. CSRIC, for example, identifies nine "use cases" for residential VoIP deployment, with a range of equipment functioning as an analog telephone adaptor (ATA) with varying levels of battery backup.[107] CSRIC observes that "[t]he most commonly deployed model for VoIP services in the United States is to locate the ATA function in a network device, installed inside the living unit."[108] In addition, as NCTA states, uninterruptible power supplies (UPS) that can power multiple devices during a power outage are already widely available at national retailers.[109] Bright House also describes "numerous retail options available to subscribers like UPS, portable power packs, solar, and manual cranks that power multiple devices during an outage and offer a more compelling and flexible solution to subscribers at comparable prices"[110] Some parties also comment that subscribers who use more versatile power options such as UPS should not have to also pay for the duplicative cost of an additional limited-function battery; nor should the Commission require consumers to pay for a backup power option that does not work in their situation.[111]

40. We do not require use of a specific technical solution or combination of solutions. Providers, which are not providing line-powered service, have flexibility to develop and offer their own backup power solutions, as long as those solutions comply with the rules we adopt today. In addition, we expect that installers should be able to answer questions about backup power. For example, a provider could offer a solution with a single, internal battery delivering 8 hours of backup power. With respect to the 24-hour option required within three years, providers may choose to offer consumers a single 24-hour battery (or battery tray as offered by Verizon),[112] three 8-hour batteries, or some other combination of installed and spare batteries, UPS systems or other technologies to provide 24 hours total. If the solution requires a proprietary battery or other equipment that is not widely available in retail stores, the equipment should be provided as part of the installation of service. If, however, the solution accepts commonly available equipment such as D-Cell batteries, providers need not supply such equipment themselves, as long as they notify subscribers at the point of sale that it is not included and must be

[106] We also seek to avoid the potential for confusion in measuring actual battery life under a wide variety of operating conditions. Therefore, we measure the duration of backup power offerings in terms of rated specifications, *i.e.*, the typical electrical load and the volt-ampere or wattage rating.

[107] CSRIC Report at 7-18.

[108] *Id.* at 8. The CSRIC report also discusses other technologies, such as Radio Frequency over Glass (RFoG) architecture used by cable operators, in which an RFoG micro node (R-ONU) terminates the fiber connection at the edge of the premises but passes VoIP traffic to an embedded multimedia terminal adapter (eMTA) device with an internal ATA. *Id.* at 10. Fiber-to-the-Home (FTTH) systems may also incorporate an outdoor-mounted device known as an optical network unit or terminal (ONU/ONT) powered by a UPS or wall transformer. *Id.* at 10. We note that the CSRIC report also considers additional use cases beyond the scope of this *Report and Order*, such as Digital Enhanced Cordless Telecommunications (DECT) cordless phones that connect to the network via a standard analog POTS interface in a base station powered by an AC/DC transformer with no battery backup. *See id.* at 15. Our rules here are focused on the backup power required for a service to continue to provide 911 functionality during a loss of commercial power, not on the end-user equipment that subscribers choose to connect to the network.

[109] NCTA Comments at 2.

[110] Letter from Thomas M. Wilson, Counsel to Bright House Networks, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 1 (filed May 26, 2015) (Bright House *Ex Parte* Letter), at 1.

[111] Bright House Networks Reply at 3. *See also* Century Link Reply at 40, and Hawaiian Telcom, Inc. Reply at 4.

[112] Verizon Comments at 18.

supplied by the subscriber for the solution to function properly.[113] In cases involving spare batteries that are not widely available at retail stores, the solution offered to subscribers should also include a charger or some other method of ensuring that such batteries are stored in a charged state.[114]

c. Battery Monitoring and Maintenance

41. In the *Notice*, we sought comment on whether the provider should have any responsibility to monitor backup power status to determine whether the battery had degraded run time or performance.[115] Generally, the comments of individual consumers and consumer advocacy organizations support requiring providers either to maintain and monitor the backup power or to provide subscribers with the means to do such monitoring. For example, AARP urges the Commission to adopt as a rule the CSRIC recommendation that service providers work with their vendors to provide a mechanism to monitor battery status, and determine whether the battery is degraded.[116] AARP states that this can be done through remote monitoring of batteries as part of the service offered to subscribers, or through LEDs visible to subscribers.[117] Other commenters suggest that the backup power system contain a self-monitoring feature that notifies subscribers audibly and visually when the backup power system is in use, and when it is running low.[118] ESA notes, however, that some subscribers may not pay attention to these warnings, and that it may require personal interaction with subscribers to assist with upgrading or changing a battery that needs attention.[119] On the other hand, service providers generally argue that requiring remote monitoring of backup power is either impractical with current technology[120] or, even if technically feasible, of limited use to subscribers or providers.[121] AT&T contends that "IP-based voice service providers generally do not assume responsibility for monitoring their customers' backup batteries," and that "[r]elying on customers, rather than service providers, to monitor and maintain battery backup power for network equipment at the subscriber premises makes eminent sense given technological and marketplace changes."[122]

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[113] We do, however, require providers to assist with the installation of customer-supplied batteries such as D-Cells to the extent that subscribers obtain and make such batteries available when service is installed.

[114] For example, a provider could offer a backup power system using standard D-Cell batteries without including a supplemental charger because such batteries are widely available at local retailers. A solution based on less widely available batteries such as sealed lead-acid or lithium-ion cells should include a charger to ensure that spare batteries are maintained in a charged state.

[115] *Notice*, 29 FCC Rcd at 14989, para. 37.

[116] AARP Comments at 23.

[117] AARP Comments at 24 (citing CSRIC Report at 21).

[118] *See, e.g.,* AICC Comments at 6; ESA Comments at 2.

[119] ESA Comments at 2.

[120] *See* Verizon Reply at 11 ("[M]onitoring may not be feasible under systems as currently designed, and requiring such monitoring will require substantial and costly shifts in technology."); (Hawaiian Telcom Reply at 4 ("The provider has no ability to monitor whether a customer's battery is functioning properly."). *Cf.* Comcast Ex Parte, June 8, 2015, at 1 (noting that the price of purchasing backup power for Xfinity Voice service "includes battery monitoring and customer notification when batteries are depleted").

[121] *See* AT&T Comments at 9 ("Requiring service providers to monitor and maintain backup power for CPE would harm, rather than benefit, consumers" and would "impose enormous burdens on service providers that would significantly raise the cost of the service – both to pay for the monitoring itself and to cover any potential liability issues associated with allegations that the provider was negligent in monitoring"); Cincinnati Bell Comments at 10 (arguing that remote battery monitoring technology is not mature, and that tests revealed that many battery alarms were baseless "ghost" alarms the would interfere with the efficient operation of the network operations center).[121]

[122] AT&T Comments at 9; *see also* Cincinnati Bell Comments at 10 ("Rather than imposing this cost on providers and/or consumers . . . consumers who choose to have battery back-up units installed should be responsible for

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42. We do not believe it would serve the public interest to require providers of covered services to remotely monitor backup power status at this time. Similarly, we decline to adopt any requirement that providers inspect or test backup power equipment after fulfilling their initial responsibility under our rules to offer subscribers the option, at the point of sale, for backup power to be installed as part of the initiation of service. This is consistent with CSRIC's observations that "[i]ncreasingly, battery backup is being offered as an optional accessory to the consumer, which they can control and manage themselves."[123] While we believe service providers are in the best position to identify and make available backup power solutions compatible with and appropriately sized for specific covered services, we agree with commenters who believe subscribers are in the best position to monitor backup power once installed, and in light of the disclosure requirements we are implementing designed to ensure they are adequately informed on how to do so.[124] With respect to batteries, we are not persuaded that battery monitoring technology has evolved to the point of allowing service providers to conduct useful remote monitoring of battery status without raising costs to consumers or diverting resources away from more important network reliability issues through an increase in false failure alarms.[125] We observe, however, that our allocation of monitoring responsibility to consumers is based on the expectation that service providers offer adequate information for subscribers to understand when their equipment is functioning properly and when it may require maintenance or replacement. Service providers should also inform subscribers of the potential for batteries to degrade over time and either make replacement batteries available for self-installation at the subscriber's expense or provide sufficient information for subscribers to obtain replacement batteries from third parties.

d. No Obligation to Retrofit

43. Some service providers express concerns about the cost and complexity of any obligation to retrofit currently installed equipment to comply with any backup power requirements the Commission adopts. AT&T, for example, states that "[i]f service providers were required to provide CPE backup power, the Commission should require only prospective implementation in order to avoid the technological pitfalls of retrofitting prior deployments."[126] ITTA argues that "[r]etrofitting existing service deployments for customers who are not interested in battery backup power would divert resources from new deployments, thus slowing the expansion of services to customers who desire advanced broadband capabilities."[127] We agree and decline to adopt any obligation that providers of covered services retrofit currently-deployed equipment to accommodate the amount of backup power specified in our rules for new installations. The record reflects that some covered services are currently deployed without backup power[128] and that consumers may prefer to continue using their existing equipment.[129]

(Continued from previous page)
checking and replacing their own batteries, just like they do with batteries for their fire/smoke alarms and other consumer devices.").

[123] CSRIC Report at 3,6.

[124] *See, e.g.,* AT&T Comments at 9; Verizon Reply at 11.

[125] *See* Cincinnati Bell Comments at 10.

[126] AT&T Reply at 11.

[127] Letter from Micah M. Caldwell Vice President, Regulatory Affairs, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 2 (filed Apr. 30, 2015) (ITTA *Ex Parte* Letter).

[128] *See* Hughes Network Systems Reply at 3 (noting that "satellite terminals . . . require more power than electronics using alkaline batteries, due to the satellite terminal having to supply power for transmitting to and receiving from a satellite").

[129] *See* Bright House Networks Reply at 3 (arguing that "[c]onsumers should have a right to choose to use VoIP modems that do not include backup batteries" and that "a battery mandate would increase the number of useless backup batteries that will end up stranded in multifunction devices that consumers keep for their other services").

Accordingly, we require only that backup power options be offered at the point of sale.[130] Providers may continue offering retrofit options for backup power upgrades to existing customers or those who decline the option at the point of sale, but they are under no obligation to do so. We note, however, that even service providers that do not currently offer backup power acknowledge that third-party UPS units may allow subscribers to maintain communications capabilities without the need to retrofit existing equipment.[131] Therefore, we conclude that providers' obligations to current subscribers should include the disclosure requirements discussed below and the option for subscribers to self-install commercially available backup power solutions that are compatible with existing equipment.[132]

e. Compensation and Costs for Providing Backup Power

44. In the *Notice*, we proposed that any requirement for service providers to ensure a substitute for line power would be premised on the condition that such providers "would be entitled to commercially reasonable compensation in exchange for providing this service."[133] In response, Public Knowledge asserts that the Commission should use legacy POTS as a baseline and require providers to furnish backup power without an additional fee because, until the transition to IP-based services, reliability has always been paid for as part of a subscriber's phone bill, and allowing providers to charge for backup power for the same service via new technology would be a step backward.[134] However, this argument disregards the record evidence that batteries or other potential substitutes for line powering carry a not insignificant additional cost over an entire network, and that it is not unreasonable to permit providers to recoup those additional costs from those subscribers who have need for the additional coverage. We also note that it is current practice among many interconnected VoIP providers to charge an extra fee for batteries or other backup power capabilities, suggesting that the expectations Public Knowledge cites may be changing as consumers increasingly adopt VoIP services.[135] As CSRIC has observed, "[o]ne clear trend across all VoIP use cases is that battery backup is increasingly being offered as an option to the consumer, with the cost and maintenance of the UPS and batteries being the consumer's responsibility."[136] Ultimately, we are persuaded that subscribers should not have to pay for backup power they do not want.[137] As discussed above, consumers may desire different amounts of backup power – or none at all – depending on their individual circumstances.

45. Accordingly, we conclude that providers of covered services may charge subscribers for the backup power capabilities provided under our rules, if subscribers wish to purchase such capabilities.

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[130] We define the "point of sale" in functional terms as the transaction between a service provider (or its agent) and a subscriber in which the subscriber requests, and commits to purchasing, a covered service. This may occur by telephone, online, or in person at a retail location. The offer of backup power required under our rules must be made as part of this transaction, regardless of when equipment is actually installed at a subscriber's home or when the subscriber is ultimately billed for such equipment.

[131] *See* Hughes Network Systems Reply at 3 (stating that an external UPS in the range of 3000 volt-ampere-hours (VAh) would provide 8 hours of standby time for a satellite service).

[132] *See* infra Section III.C.2.

[133] *Notice*, 29 FCC Rcd at 14988, ¶ 35 n.109.

[134] Public Knowledge Reply at 7.

[135] *See, e.g.,* Bright House Networks Reply at 2 (noting that, in 2014, Bright House began offering batteries as an option for new installations, and making them available for purchase for approximately $35 plus shipping); Comcast *Ex Parte* Letter, June 8, 2015, at 1 ("New Xfinity Voice customers have the option of purchasing a backup battery for their Comcast voice modem for $35.00 plus $5.95 for shipping and handling. The price includes battery monitoring and customer notification when batteries are depleted.").

[136] CSRIC Report at 3, 6.

[137] *See* Verizon Comments at 19; Bright House Networks Reply at 3; CenturyLink Reply at 40; Hawaiian Telcom, Reply at 4.

We emphasize that we do not specify the rates at which providers of covered services may offer backup power or related accessories, we expect market forces to ensure that backup power is offered at competitive prices. A service provider can receive compensation for all aspects of implementing the rules we adopt today, including the backup power installation, and costs of equipment and labor, from the consumer that elects to have backup power installed. And we do not preclude service providers from including backup power capabilities without separate charge, if they choose to do so for competitive or other reasons.

46. By requiring only that service providers provision backup power upon subscriber request at point of sale, and at the requesting subscriber's expense, we have effectively negated the argument that these rules will substantially increase costs to providers. The majority of commenters who raise issues related to costs base their arguments on the assumption that the Commission would mandate a universal backup power solution across all subscribers, including retrofitting existing subscribers.[138] The action we take today will substantially limit the providers' costs by requiring backup power installations only for customers that request backup power at the point of sale, and at those customers' expense. Fiber to the Home Council Americas states that "while the industry has generally supplied backup batteries to all subscribers, it would make a material difference to the cost of a build, enabling expansion into less dense areas, if it could supply battery backup only to those subscribers that expressly want it –a number all-fiber service providers has determined is not great."[139] Similarly, NCTA stated that in their experience only a small number of customers have purchased backup power.[140] We also find concerns about the environmental effects of requiring all consumers to obtain backup power are inapplicable because we do not make such a requirement.[141]

47. There are additional factors that minimize the costs associated with compliance for the covered providers. First, as noted previously, the record indicates that numerous entities comprising a significant share of the IP voice services market are already offering their customers 8 hours of backup power; for those entities no additional costs are necessary.[142] To the extent that a service provider is not currently offering the requisite 8 hours of backup power, the fact that numerous providers are currently offering such a solution indicates that solutions exist and are widely available. Accordingly, there is little need to custom-design a solution when many of the solutions can be used universally. Indeed, providers may avoid the costs of supplying or installing a proprietary solution. This also saves providers the costs of supplying batteries directly. The same cost-mitigating principles apply to the discussion of 24-hour and extended duration backup power; the commercial market for this solution already exists and even the smaller providers are confident in their ability to provide this level of backup power if provided ample transition.[143] The record also indicates that many providers already offer some form of backup power, even if it is not an 8-hour solution, and therefore would be familiar with the practice of installing backup power solutions for their customers.[144] Because the cost to providers of complying with this rule should

[138] *See* ACA Comments at 13-14; Cincinnati Bell Comments at 8; Letter from Thomas Cohen, Counsel to FTTH Council, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 3 (filed May 7, 2015) (FTTH Council May 7, 2015 *Ex Parte* Letter); ITTA April 30 *Ex Parte* Letter at 2; Letter from Steven F. Morris, NCTA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 2 (filed May 18, 2015) (NCTA *Ex Parte* Letter); NCTA May 18, 2015 Ex Parte at 2. Some parties raised costs associated with one technical solution over another but our rules for backup power solutions are technology neutral. *See* Alarm Industry Communication Committee Comments at 7.

[139] FTTH Council *Ex Parte* Letter at 2.

[140] NCTA *Ex Parte* Letter at 2.

[141] *See* Bright House Network Reply at 2-3.

[142] *See supra* Section III.C.1.a.

[143] ACA June 25, 2015 Ex Parte at 3.

[144] *Id.*

be minimal both at the outset as well as when the 24-hour requirement takes effect, and the particular benefit to the public of enhanced continuity of communications to reach help through 911 during power outages is substantial, we conclude that our action today produces a net public benefit.

2. Subscriber Disclosure Obligations

a. Need for Subscriber Disclosure Obligations

48. In the *Notice*, we sought comment on whether we should require providers to develop and implement consumer education plans regarding the availability of backup power,[145] and noted our belief that such plans "would be critical to consumers' ability to successfully self-provision."[146]

49. Commenters representing government stakeholders and consumers support such a requirement.[147] For example, PA PUC states that, if providers require their customers to be responsible for purchasing or replacing backup power batteries, providers "must develop and implement outreach and education programs to ensure customers are aware that [customers] are responsible for providing their own backup power."[148] The New York Public Service Commission indicates that it is "critical that information about the consumer's role in maintaining continuity of power is transmitted to the customer by the service provider," and that providers need to develop programs to "ensure consumers are aware that [they] are responsible for providing their own backup power."[149] The Attorneys General for the Peoples of the States of Illinois and New York state that, because of the reluctance to advertise a diminished service, "carriers may not emphasize the need for backup power disclosures."[150] The FCC's Intergovernmental Advisory Committee asserts that "providers should be required to communicate effectively and accurately the services that may no longer be available and options for consumers to obtain comparable services, including options with respect to backup power supplies."[151]

50. Industry stakeholders, on the other hand, oppose such a requirement. The Independent Telephone & Telecommunications Alliance (ITTA) states that there is "no evidence that additional consumer education would be helpful or necessary, and argues that a requirement is "unwarranted and a waste of resources."[152] AT&T recommends that the Commission refrain from imposing a consumer

[145] *Notice*, 29 FCC Rcd at 14990, para. 39.

[146] *Id*.

[147] *See generally* Public Knowledge Reply Comments at 8-9 (stating that the "provider should be responsible for consumer education," and that "requiring consumers to be responsible for backup power when the commercial power fails is a vast cultural shift"); AARP Comments at 22-23; APCO Comments at 3-4; NASNA Comments at 2 (arguing that the provider should be responsible for consumer education).

[148] PA PUC Reply Comments at 8 (emphasizing that providers need education programs and must coordinate their efforts with the states).

[149] NYPSC Comments at 3.

[150] Attorneys General for the Peoples of the States of Illinois and New York (Attorneys General) Comments at 9, n.30 (responding to Comments of AT&T at 1, 5; Comments of Verizon at 17- 18). Attorneys General also assert that consumers "may not be aware that VoIP and wireless service operate differently from traditional landline telephony in a commercial power outage, carriers have no incentive to inform consumers of this deficiency or to correct it." *Id.* at 15.

[151] *See* Intergovernmental Advisory Committee to the Federal Communications Commission, Advisory Recommendation 2015-5, *In the Matter of Technology Transitions*; *Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*; *Special Access for Price Cap Local Exchange Carriers*; *AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*; GN Docket No. 13-5, RM-11358; WC Docket No. 05-25, RM-10593, at 5 (May 12, 2015), *available at* https://transition.fcc.gov/statelocal/recommendation2015-05.pdf (IAC Recommendations).

[152] ITTA Comments at 20. *See generally* Verizon Reply Comments at 10.

education requirement, and instead work with providers to review backup power best practices for consumer education.[153] Others, such as CenturyLink, Hawaiian Telcom, NCTA, and Verizon,[154] suggest that the Commission support the implementation of CSRIC recommendations regarding consumer notification.[155] They argue that this would give providers the flexibility to implement consumer education measures as their networks and business models warrant.[156]

51. Others argue that a requirement is unnecessary because providers already give consumers information related to backup power.[157] For example, NCTA argues that the Commission's existing rules already "ensure that consumers are made aware of the backup power ramifications of choosing a VoIP service," and require providers at the initiation of interconnected VoIP service to "inform consumers of the 'circumstances under which E911 service may not be available,'. . . includ[ing] 'loss of electrical power."[158] ITTA notes that it is "standard industry practice for interconnected VoIP providers to notify consumers regarding the potential limitations of IP-enabled voice services and equipment during a power outage."[159] Fiber to the Home Council Americas (FTTH Council) also asserts that industry efforts to notify consumers about battery backup availability are effective based on assumptions regarding consumer adoption of wireless and VoIP services.[160]

52. AT&T states that providers of IP-based voice service already educate consumers on the necessity of a backup battery during a power outage and provide information about the backup battery, [161]

[153] AT&T Comments at 13-14 (quoting and citing CSRIC Report).

[154] CenturyLink Comments at 46-48 (suggesting that "promoting these best practices is preferable to federal regulatory mandates at this time," and citing CSRIC Report); *see also* Hawaiian Telcom Reply Comments at 5; NCTA Reply Comments at 7; Verizon Comments at 21 and Reply Comments at 10, Letter from Jennifer A. Manner, Senior Counsel, Regulatory Affairs, Hughes Network Systems, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 1,3 (filed April 20, 2015) (Hughes Network Systems *Ex Parte* Letter).

[155] *See* CSRIC Report at 20-23 (recommending that service providers inform consumers of the implications of not having battery backup for their voice service during power interruptions; provide a full explanation of emergency use capabilities, battery backup units, and how to access information as part of its customer premise service explanation; provide detailed battery backup information; and provide information about where consumers may purchase replacement batteries, instructions for proper disposal and or recycling options for used batteries).

[156] *See* CenturyLink Comments at 46-48; *see also* Hawaiian Telcom, Inc. Reply Comments at 5; NCTA Reply Comments at 7; Verizon Comments at 21 and Reply Comments at 10.

[157] NCTA Comments at 5; NCTA Reply at 3; ACA Comments at 11 (explaining that customers "are provided with information on the limitations of VoIP service at the time service is initiated").

[158] NCTA Comments at 5; NCTA Reply Comments at 6 (citing 47 C.F.R. § 9.5(e)(1)); *see also* ACA April 9, 2015 *Ex Parte* at 3 (stating that as required by 47 C.F.R. § 9.5(e)(1-3), "VoIP providers must disclose and obtain acknowledgement from the subscriber that the service will not work when there is a loss of electrical power and must provide a label for the modem used by each subscriber describing this limitation").

[159] ITTA Comments at 20.

[160] Fiber to the Home Council Americas Comments at 19. FTTH Council presents that because consumers are increasingly subscribing to "voice service from wireless and VoIP providers, consumers have indicated that the benefits of line power voice service are not sufficiently great to offset the costs." Fiber to the Home Council Americas May 7, 2015 *Ex Parte, Attachment* "Presentation of the FTTH Council on the Technology Transitions NPRM, May, 2014" at 7-8, and "RVA Survey Data, At A Glance." However, Fiber to the Home Council Americas expressed support for "reasonable requirements on all providers of voice service to notify their subscribers of the capabilities of their service to access emergency communications during power outages." Fiber to the Home Council Americas May 7, 2015 *Ex Parte* at 4; see also Fiber to the Home Council Americas May 13, 2015 *Ex Parte* at 3.

[161] AT&T Comments at 9, 17, n.16 (citing to "U-verse Voice service during a power outage," *available at* https://www.att.com/esupport/article.jsp?sid=KB408090), and May 15, 2015 *Ex Parte* at 2 (explaining that AT&T provides information to customers "about the effect of a loss of power on their VoIP service," and this information (continued….)

including practices for prolonging battery life, where to purchase battery replacement, and replacement instructions.[162] CenturyLink indicates that it plans to provide information regarding "sample batteries that would work with [CenturyLink] equipment as well as suppliers of such equipment for those customers wishing to provide their own backup power."[163] Charter and Cablevision state that they are making "significant efforts to educate their customers about the VoIP services they offer, including that such service will not work during a power outage without a backup battery."[164]

53. We find that the lack of uniformity in providers' backup power information, and as commenters present, lack of consumer awareness at a time of technological transition,[165] may lead to consumer confusion about consumer expectations and responsibilities in the access of 911 service during power outages. While some providers already offer or plan to make available information to consumers in the near future, it appears from comments submitted and providers' websites that the information provided to consumers is not consistent across the industry.[166] This lack of uniformity may lead to

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is given at the time of installation and also made available on the AT&T website); AT&T May 15, 2015 Ex Parte at 2.

[162] AT&T Comments at 9, 17 and note 16 (citing to "U-verse Voice service during a power outage," *available at* https://www.att.com/esupport/article.jsp?sid=KB408090).

[163] CenturyLink Comments at 48, note 130.

[164] Charter and Cablevision *Ex Parte*, May 4, 2015.

[165] Attorneys General Comments at 15.

[166] Providers present information using many methods. Some may include pictures of their equipment while others present information without pictures. *Compare* AT&T, About U-verse Voice Battery Backup, http://www.att.com/esupport/article.jsp?sid=KB407650&cv=803 (last visited June 21, 2015) (presenting step by step instructions with pictures of equipment possibly found in subscriber premises) *with* Bright House, When Battery Home Phone Modem Replace, http://support.brighthouse.com/Article/When-Battery-Home-Phone-Modem-Replace-2542/ (last visited June 21, 2015) (presenting many models by name only, on one page, and provides much less information about each model) *and* Optimum, Battery Backup, http://optimum.custhelp.com/app/answers/detail/a_id/1404/kw/backup%20battery (last visited June 21, 2015) (providing chart for subscriber to identify the modem model, some links broken, working links lead to modem general information and backup power details page). Other providers allow subscribers to purchase backup power online or give necessary specification information for subscribers to purchase backup power from the third party. *Compare* Comcast, Purchase a Battery for Your XFINITY Voice Phone Modem, http://customer.xfinity.com/help-and-support/phone/getting-a-new-battery/ (last visited June 21, 2015) (providing a 1-800 phone number for residential customers and a separate number for "Business Voice" customers, and the cost for the unit and shipping fee); *with* Charter Communications, Important Information about Charter Telephone 911 Services & Battery Backup, https://www.charter.com/browse/content/policies-battery (last visited June 8, 2015) (explaining that equipment will not work in a power outage unless customers contact Charter to purchase backup batteries); *and* Cincinnati Bell, Connected, http://www.cincinnatibell.com/fioptics/user-guides/documents/cisco.pdf (last visited June 5, 2015) (explaining on page 18 of a subscriber welcome kit, in smaller font compared to the earlier pages, that ONTs are capable of battery backup that can provide up to 8 hours of power, no additional information provided about where to purchase the unit or the specifications for the unit). Some providers post online information that the service requires electrical power to operate, including a backup power source in case of a loss of power. *See e.g.,* Hawaiian Telcom, Hawaiian Telcom TV Terms and Conditions, http://www.hawaiiantel.com/TV/ServiceTermsConditions/tabid/1512/Default.aspx (informing consumers that the service "requires electrical power to operate"); Optimum, Customize Your Service > Battery Backup, http://www.optimum.com/homephoneservice/customize/batterybackup.jsp (last visited June 5, 2015) (noting that Optimum Voice will not operate in a power outage and directing consumers to an Optimum store); Mediacom, 911 During Outages, https://mediacomcable.com/CustomerSupport/troubleshooting/phone%20troubleshooting/911duringoutages.html (last visited June 5, 2015) (explaining that some models of MTA include a battery backup that provides backup power for a limited time); *see also supra* para. 52.

consumer confusion at a time of technological transition from services provided over copper networks to services provided over IP-based networks,[167] and agree with commenters that there are consumers who "may not be aware that VoIP and wireless service operate differently from traditional landline telephony in a commercial power outage."[168] We acknowledge the concerns of commenters representing unique populations, such as AARP, which states that "[g]iven the diversity of service provider practices . . . the level of consumer understanding of CPE battery backup issues is certainly not uniform.[169] Further, subscriber complaints reveal that current disclosure practices are likely insufficient. For example, the Commission's consumer complaints portal reveals that some subscribers are frustrated by VoIP service providers' failure to inform subscribers about the need to self-provision a battery to operate backup power in order to access 911 services.[170] Based on the record, while we acknowledge that there are some disclosures already mandated[171] and some additional information provided voluntarily, we are not convinced disclosures currently required only for interconnected VoIP providers, are of sufficient scope or uniformity across all covered providers, to satisfy the Commission's obligation to promote the safety of life and property and ensure consistent 911 services.[172] Although not all subscribers may receive backup power information from more than one provider in a given year, we acknowledge that backup power information may be confusing especially for unique populations struggling during the technology

[167] Several commenters describe a technological transition and the lack of consumer awareness. *See* Massachusetts Department of Telecommunications and Cable (MDTC) Reply at 5 (stating "CPE backup power issue raised in the NPRM is a prime example of the type of change for which ongoing consumer outreach is essential); *see also* Rural Broadband Policy Group Comments at 4 (stating "[a]t this stage in the technology transitions . . . consumers are not informed of the need for backup power with new technologies"), Public Knowledge Reply at 8 (stating that "[t]his would be the first time that we ask consumers to take on the responsibility of ensuring their communications line to safety, 911, and loved ones has appropriate power during the most difficult times"). As noted in the *Notice*, the Public Safety and Homeland Security Bureau (PSHSB) hosted a public workshop in April 2014 in which various stakeholders discussed the impacts of technology transitions on public safety. *Notice*, 29 FCC Rcd at 14975-76, para. 12, n.27. Participants emphasized the subscribers' need for continuity of communications, specifically the need for backup power during power outages. *Id*.

[168] *See* Attorneys General Comments at 15.

[169] AARP Comments at 22.

[170] Complaint 7575, Nov. 11, 2014 (stating that "Comcast in no way informed me that a battery is not included with their MTA and that if the power were to fail, I would not have the ability to dial 911 for emergency purposes. I have children in the home that are sometimes alone and it is important that they have this ability even during a power outage. . . . [i]t is very important that every measure is taken to allow phone customers the ability to dial 911"); Complaint 118163, Feb. 5, 2015 (explaining that an agent of provider phoned and asked for access to subscriber's premises, subscriber asked if agent was asking about "changing [his] phone service over to the Internet. . . [subscriber] explained that if the power or Internet would go out then [subscriber] would lose …911 capability. [Agent] said she had never heard about that before.).

[171] 47 C.F.R. § 9.5(e); In adopting the rule, the Commission explained that Interconnected VoIP service providers are required to notify new and existing consumers in plain language, of the circumstances under which the E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service. *VoIP 911 Order*, 20 FCC Rcd at 10272, para. 48 (2005).

[172] *See, e.g.,* 47 U.S.C. § 151; *see also*, AT&T, About U-verse Voice Battery Backup, http://www.att.com/esupport/article.jsp?sid=KB407650&cv=803 (last visited June 5, 2015) (noting that during a power outage a Battery Backup Unit must be used, and providing some information about conserving batter life); Charter Communications, Important Information about Charter Telephone 911 Services & Battery Backup, https://www.charter.com/browse/content/policies-battery (last visited June 8, 2015) (explaining that equipment will not work in a power outage unless customers contact Charter to purchase backup batteries); Cincinnati Bell, Connected, http://www.cincinnatibell.com/fioptics/user-guides/documents/cisco.pdf (last visited June 5, 2015) (explaining within Terms of Service that ONTs are capable of battery backup that can provide up to 8 hours of power).

transition,[173] or those who may need to switch providers often, such as military families needing to relocate. We find that it is in the public interest for the Commission to establish a uniform requirement to provide minimum information as described below in order to ensure that all subscribers of covered services are equipped with necessary information to access 911 services during power outages regardless of provider or technology used.

54. Adoption of best practices established by CSRIC, as recommended by some industry commenters, may help, and we do not intend to discourage adoption of these practices. However, we are not convinced that the voluntary adoption of these practices without a standard, mandatory baseline will eliminate consumer confusion. We therefore address these concerns by requiring minimum subscriber disclosure obligations, while at the same time encouraging providers to voluntarily follow additional CSRIC best practices regarding backup power.

55. As NCTA discussed,[174] current Commission rules require a limited customer notification for interconnected VoIP service providers.[175] This requirement, however, is only for a subset of covered providers considered in this *Report and Order*,[176] and we find that the information currently required is too limited to fully inform consumers about backup power. Specifically, section 9.5(e)(1) of the Commission rules requires customer notifications for circumstances such as "loss of electrical power," "under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service."[177] Informing consumers of the circumstances under which their E911 service is not available does not adequately inform a consumer on how to purchase, efficiently use, monitor, or replace backup power at the consumer's premises.[178]

56. We conclude that requiring providers to develop and implement subscriber disclosures regarding backup power with minimum baseline disclosures serves the public interest and will promote access to 911 while being of minimal cost to the providers. As CenturyLink notes, there is a clear public benefit in promoting consumers' awareness of the need for affirmative action to acquire and maintain backup power.[179] According to the Communications Workers of America (CWA), "Commission oversight is essential to encourage . . . consumer education about the time limits and capabilities of battery-provided backup power."[180] Attorneys General state that "enabling consumers to prepare themselves for emergencies and avoiding public confusion should be fundamental Commission goals."[181] We agree with these commenters, and others, who recognize the importance of consumer information in managing the historical consumer expectations regarding continuity of communications.[182] As described in detail below, we also find the costs to providers in making the required disclosure to be minimal.

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[173] *See* III.A. (discussing need for rules during technology transition).

[174] *See* NCTA Comments at 5; NCTA Reply Comments at 6.

[175] 47 C.F.R. § 9.5(e)(1-3).

[176] *See supra* Section III.B. (defining "covered services").

[177] 47 C.F.R. § 9.5(e)(1); *see also* IP-Enabled Services; E911 Requirements For IP-Enabled Service Providers, *First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 10245, 10272-73, at para. 48, n.154-155 (2005).

[178] *See, e.g.,* TWC Community Forum, Arris TG1672G cable modem's battery is dying/dead?, (November 28, 2014, 05:41pm), http://forums.timewarnercable.com/t5/Equipment/Arris-TG1672G-cable-modem-s-battery-is-dying-dead/m-p/61027/highlight/true#M503.

[179] CenturyLink Comments at 46.

[180] Communications Workers of America Reply Comments at 3.

[181] Attorneys General Comments at 12-13.

[182] *See* Public Knowledge Reply at 8 (stating this is a "vast cultural shift," and that "[t]he transition should not mean that customers must accept new fallibility in their telephone services"); *see also* AARP Comments at 22.

b. Minimum Information Elements

57. The disclosure requirements adopted today are intended to equip subscribers with necessary information to purchase and maintain a source of backup power to enhance their ability to maintain access to reliable 911 service from their homes. Several parties commented on what information should be included in the disclosures. For example, some commenters strongly support including information about battery life spans, procedures for ordering, installing, replacing, and extending battery life during a power outage.[183] The City of New York recommends that we require providers to furnish information to assist in extending the "useful life of battery backup" such as powering off the system or closing applications.[184] APCO suggests that a public education requirement include information on "any impact to 9-1-1 services."[185] The respective Attorneys General for the State of Illinois and the State of New York strongly support consumer education addressing the many factors that can affect the amount of "stand-by time" a backup power solution provides.[186] The California PUC urges the Commission "to mandate that service providers give customers educational materials consistent with California's existing requirements," which include, for example, requiring providers to tell their customers that their services require backup power on the customer's premises, limitations of service, and potential service failure during power outages.[187] The California PUC also requires providers to tell consumers about how to best "maximize the ability to make or receive necessary phone calls during an outage."[188]

58. In addition to commenting on the appropriate level of disclosure in any Commission requirements, some commented on the opportunity for states to require more extensive disclosure. For example, the California PUC requests that the Commission allow the states to "adopt more extensive backup power requirements."[189] Similarly, NARUC suggested that the Commission establish "a floor" that does not impact more protective state-level measures.[190]

59. Several industry commenters identified information that is currently included in some backup power notifications to subscribers. For example, ACA asserts that providers inform potential and current subscribers that their voice service is not powered by the network, and during a power outage,

[183] *See generally* NARUC Reply at Appendix A ("Resolution Urging the FCC to Partner with States to Protect Residential and Business Consumers During the Technology Transition"); *see also id*. at 3; AARP Comments at 22 (providers should provide information of "the purchase of replacement, installation, and proper disposal of batteries); Massachusetts Department of Telecommunications and Cable Comments at 5-6.

[184] City of New York Comments at 2-3.

[185] *See* APCO Comments at 3.

[186] *See* Attorneys General Comments at 13.

[187] California Public Utilities Commission (CPUC) Comments at 3. *See also* Order Instituting Rulemaking on the Commission's Own Motion into Reliability Standards for Telecommunications Emergency Backup Power Systems and Emergency Notification Systems Pursuant to Assembly Bill 2393., 2010 WL 324784 (Cal. P.U.C. 2010). The CPUC also urges the Commission to include cordless phones in an education requirement because cordless phones are not self-powered and fail during a power outage. *See* CPUC Comments at 4; Randall Scott Comments at 5 (suggesting statements on monthly cable bills). We consider issues regarding cordless phones or other devices not provided by service providers outside the scope of this proceeding.

[188] CPUC Comments at 3.

[189] *Id*. at 7. Several states and state advocates urged the Commission to work with the states on these issues. *See generally*, NARUC Reply at 11; PA PUC Comments at 13-14; NYPSC Comments at 9; CPUC Comments; MDTC Reply Comments at 4.

[190] NARUC Comments at 11.

without battery backup, the subscriber may lose access to 911.[191] ACA explains that this notice also alerts customers about specific backup power capabilities of the equipment.[192]

60. We agree with the commenters who suggest that the Commission adopt minimal requirements for the types of information that service providers must give subscribers, regarding backup power. This will decrease the likelihood of consumer confusion, and ensure that all subscribers have access to basic information about the need for, and how to acquire and conserve, backup power. In this respect, we observe that several providers already give relevant information to their customers; however, the amount and type of information given varies greatly from one provider to another, and thus gives rise to the potential for consumer confusion.[193] This confusion may lead the consumer to fail to take proper precautions to acquire and maintain backup power, and ultimately result in the inability to access 911 at a critical moment during a power outage. Thus, we find it in the public interest to identify minimum information that must be communicated to consumers regarding backup power.[194] In this respect, we require providers to disclose to subscribers the following information: (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) subscriber backup power self-testing and monitoring instructions; and (7) backup power warranty details, if any. In order to minimize the burden on smaller providers, we direct the PSHSB to work with CGB to develop such forms or other documents, prior to the implementation date of these rules for smaller providers, as herein defined, for the use of smaller providers in disclosing the required notifications to their subscribers, including subscribers with disabilities.

61. *Availability of Backup Power Sources.* Subscribers must be made aware whether their service is capable of accepting backup power and, after the initiation of service, whether they may obtain backup power from the provider or from a third party. Some providers post this information online, [195] but we find that the posted information is both too limited and not readily accessible by all subscribers.

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[191] ACA Comments at 11 (providers inform subscribers if loss to 911 if subscribers do not have a "UPS, including battery backup, and when backup batteries lose their charge").

[192] *Id.*

[193] *See supra, note* 166; *see also* CenturyLink, CenturyLink will no longer install Battery Backup Units, http://www.centurylink.com/help/index.php?assetid=311 (last visited June 5, 2015) (explaining that customers are responsible for acquiring their own battery backup solutions and replacement batteries); Verizon, Battery Backup Unit (BBU), http://www.verizon.com/support/residential/tv/fiostv/general+support/new+to+fios+tv/questionsone/121498.htm (last visited June 5, 2015) (explaining that the ONT provided to customers has a battery backup under warranty for one year); Comcast, Emergency Backup System, http://customer.xfinity.com/helpandsupport/phone/poweroutagesanddigitalvoiceservice/ (explaining that some Comcast customers are eligible to purchase backup batteries from Comcast); Bright House Networks, Bright House Networks Phone Modem Battery Policy, http://brighthouse.com/policies/policies/battery-policy.html (last visited June 5, 2015) (explaining that Bright House Networks modems may or may not have backup batteries and customers are responsible for maintaining, monitoring, and replacing batteries).

[194] We emphasize that this information establishes a floor only, and does not supplant the ability of states, to the extent they have jurisdiction over the service, to adopt additional obligations that do not prevent implementation of our rules.

[195] *See generally, e.g.,* Verizon, Battery Backup Unit (BBU), http://www.verizon.com/support/residential/tv/fiostv/general+support/new+to+fios+tv/questionsone/121498.htm (last visited June 5, 2015) (explaining that the ONT includes a Battery Backup Unit with swappable batteries); Frontier, When and How to Replace Your Battery Backup for Frontier Voice, https://frontier.com/docs/help-center/connecticut/replace-battery-backup (explaining to customers how to replace batteries in Frontier CPE); AT&T U-verse Support, About U-verse Voice Battery Backup, http://www.att.com/esupport/article.jsp?sid=KB407650&cv=803 (explaining to users how to use battery backup with AT&T CPE); *see also supra* note 161.

Therefore, it is insufficient notice to subscribers of a critical piece of information that they need to ensure continuity of access to critical 911 services during a power outage. Accordingly, we require providers to inform new and existing subscribers about the availability of compatible backup power sources for their service, as outlined below.[196] Again, we emphasize that providers are not required to research and/or provide information on every possible backup power source that could potentially be compatible with a Covered Service; disclosure obligations under our rules are limited to basic information allowing consumers to make informed choices about their purchase and use of backup power to maintain continuity of access to 911.

62. *Service Limitations With and Without Backup Power.* We require providers of Covered Service to notify subscribers about the service limitations with and without the use of a backup power source.[197] As we stated in the *Notice*, consumers of wireline telephony may expect their plug-in phones to work during a power outage without any further action on their part.[198] Non-copper based networks and services not based on TDM may not support these traditional wireline functionalities, or may not support them in the ways consumers have come to expect.[199] We are persuaded by commenters who support more fulsome disclosures of service limitations.[200] Accordingly, we require providers of Covered Service to inform subscribers about the impact of power outages on the use of 911 services and the type of service that will continue to work with backup power.[201] For example, the obligation may be satisfied by notifying subscribers that voice service will be unavailable during a power outage without backup power, and that this backup power will not also power services other than voice. Further, to the extent the provider has information about other services at the subscriber premises – for example, home security, medical monitoring devices, or other similar equipment – the provider should notify the subscriber that these services will not be powered by the backup power source for voice service.[202]

63. At this time, we decline to require providers of a Covered Service to disclose the limitations of cordless handsets during power outages. Commenters such as US Telecom and California PUC note that cordless phones rely on commercial power, and will not function during a power outage.[203] Accordingly, the California PUC supports a requirement that providers tell consumers that "cordless phones will not work in power outage."[204] However, we observe that the concern about cordless phones not functioning during a power outage exists regardless of the underlying network providing service to a subscriber; that is, it is an equipment issue that does not depend on the type of underlying network – copper, fiber, or cable. Accordingly, we do not believe it is imperative to impose such an obligation here on the service provider.

64. *Purchasing and Replacement Options.* Providers of Covered Service must inform subscribers about backup power purchasing and replacement options to enable subscribers to make

[196] *See infra* Section III.C.2.c.

[197] This requirement does not replace the current rule that requires only interconnected VoIP service providers to disclose, obtain, and retain written customer acknowledgement that the service provided will not work when there is a loss of electrical power. *See* 47 C.F.R. § 9.5(e)(1).

[198] *Notice,* 29 FCC Rcd at 14974-75, para. 9.

[199] *Id.*

[200] *See* APCO Comments at 3; CPUC Comments at 4.

[201] APCO Comments at 3.

[202] *See e.g.* Comcast *Ex Parte* Letter at 1 (explaining that Comcast customers have the option to purchase battery backup that includes battery monitoring and customer notification).

[203] AT&T Ex parte 5/15 at 1; California PUC Comments at 4 (stating "[c]ordless phones are not self-powered, and fail during a power outage").

[204] CPUC Comments at 4, appx. A.

informed decisions regarding whether to purchase backup power and how to find backup power that is compatible with the service. If, after the initiation of service, the provider does not sell a backup power source directly to subscribers, the provider must give subscribers enough identification information about what type of power source is compatible as well as purchasing options. Such identifying information must, at a minimum, include where to purchase a power source, the approximate cost, and the voltage and type of battery that is compatible with the service. That many providers currently make this information available suggests that the burden of doing so is not unreasonable.[205]

65. *Backup Power Duration.* Providers of Covered Service must inform subscribers about the expected duration of the backup power source and factors that impact duration, e.g., usage and storage conditions.[206] We agree with the commenters who argue that standby time can be affected by many factors.[207] Therefore, in addition to explaining the length of time the provider's backup power source is expected to power the service in standby mode and, to the extent possible, the expected amount of talk time, providers of Covered Service must notify subscribers of the proper backup power usage and storage conditions, and how these affect the backup power source operation during a power outage. This obligation includes identifying how subscribers may limit and conserve backup power both before and during a power outage. We agree with the suggestion of the City of New York that providers furnish "information to assist the [subscriber] in extending the useful life of battery backup."[208] Accordingly, providers of Covered Service must advise subscribers of the proper backup power storage and charging conditions so that subscribers know, for example, whether battery power life, capacity, or run time will decline, whether the batteries must be replaced after a certain amount of time, and the proper storage temperatures. That is, the information provided must at a minimum clearly inform subscribers about the impact of environmental factors.

66. We strongly encourage providers to assist subscribers in developing a plan for extended backup power by notifying them of options to extend backup power beyond the life of the battery. For example, providers could inform subscribers that they could purchase several backup power units for use during prolonged outages, and provide directions for rotating these as required to keep the units charged. We also strongly encourage providers to inform subscribers of any available accessories such as solar or car chargers, which may be able to recharge a depleted backup power unit.[209] And, when applicable, providers should inform subscribers of the availability of deployed mobile charging stations.[210] This information will arm subscribers with the knowledge necessary to be prepared for extended power

[205] For example, the Time Warner Cable website states that "[al]though Time Warner Cable does not provide backup batteries, [the consumer] may purchase one from the modem manufacturer," and then gives the instructions to select the modem manufacturer from the list provided to "learn more about how to purchase a backup battery." Time Warner Cable, Stay Connected Even When the Power is Out, http://www.timewarnercable.com/en/support/phone/topics/phone-power-backup.html.

[206] Providers may direct subscribers to the backup power source manufacturer if provider sells the manufacturer's backup power source as a third party backup power solution to subscribers.

[207] *See e.g.* Attorneys General Comments at 13 (suggesting that because "stand-by time can be affected by many factors—this makes consumer education and standardization critical," and strongly supports a requirement that providers "conspicuously display both stand-by time and talk time in the event the back-up power source is needed").

[208] City of New York Comments at 2-3. We do not, however, agree with the City of New York that providers should advise subscribers to turn off systems to save battery and close applications, even if those actions would help reduce power consumption and preserve battery life, as this could prevent the receipt of emergency communications. Consumers would be better served with information on how to reduce power draw when a backup power solution is in use.

[209] *See supra* Section III.C.1.

[210] *See supra* Section III.C.1.a. (discussing mobile charging stations).

outages and to take steps to mitigate disruption to their 911 communications.

67. *Testing and Monitoring.* Although we do not require providers to monitor backup power sources, when the subscriber purchases backup power directly from the provider, the provider must inform and instruct subscribers about how to self-monitor and self-test the backup power source. Several commenters support such a requirement, and we find the analogy in the comments of MDTC to be appropriate: "like smoke alarms, IP equipment have similar importance to personal and public safety and is usually dependent upon the user for periodic testing and battery replacement."[211] We are persuaded by these commenters that providers must clearly explain how a subscriber may test, monitor, and maintain the backup power source. We observe that several providers are currently effectively providing pictorial or other detailed explanations about subscriber self-testing and self-monitoring of backup power.[212] Given their ongoing relationship with their subscribers, we find that providers are in the best position to notify and remind subscribers about how to test and monitor backup power. By furnishing specific instructions to subscribers on how to self-monitor and test backup power sources, providers will decrease consumer confusion, and greatly enhance the public's ability to maintain critical communications during power outages.

68. *Warranty.* If the subscriber acquires the backup power from the provider, the provider must explain the elements of the warranty, if any, such as the warranty expiration date, and under what circumstances a replacement would be provided.[213] We note that several providers already effectively offer online information regarding replacement procedures, which suggests that this is information that is helpful to consumers in preserving their ability to reach 911.[214]

c. Availability of Required Information

69. Each element of the information described above must be given to subscribers both at the point of sale and annually thereafter, as described below.[215] This information will help subscribers plan in

[211] MDTC Reply Comments at 5-6 (stating "[i]ndustry and other stakeholders need to develop outreach and education plans that inform and remind consumers of the need to test and replace their equipment so that it works in an emergency and reminds them that the equipment's backup battery power is limited").

[212] *See, e.g.,* AT&T U-verse Support, *About U-verse Voice Battery Backup*, http://www.att.com/esupport/article.jsp?sid=KB407650&cv=803 (last visited June 5, 2015) (Providing a Backup Battery Status alerts chart that explains audible alerts and LED light states for various statuses); Bright House Networks, *How can I tell Whether the Battery for My Home Phone Modem Needs to be Replaced?*, http://support.brighthouse.com/Article/When-Battery-Home-Phone-Modem-Replace-2542/ (last visited June 5, 2015) (explaining various battery indicator light states and tests the consumer can perform); Time Warner, *Be Prepared for Power Outages*, http://www.timewarnercable.com/en/support/phone/topics/phone-power-backup.html (last visited June 8, 2015) (noting that consumers should check the battery indicator light twice a year); Frontier, *About Frontier Voice Battery Backup*, https://frontier.com/docs/help-center/connecticut/about-frontier-voice-battery-backup (last visited June 5, 2015) (providing a chart listing visual indicators and audible alerts for various status alert states of the backup battery unit). We also observe that backup power source audible alerts and color light signals are at times a source of consumer confusion. *See* AT&T, *Why is my backup battery beeping? ...And how do I make it stop?! (Residential Gateway)*, AT&T Community Forums (Oct. 8, 2013 11:05 AM), https://forums.att.com/t5/Receivers-Battery-Backup/Why-is-my-back-up-battery-beeping-And-how-do-I-make-it-stop/td-p/3601359 (explaining that the customer's backup power device is making beeping noises).

[213] Providing subscribers with a copy of any warranty or warranties for backup power would be sufficient to satisfy this obligation.

[214] *See, e.g.,* Frontier, *When and How to Replace Your Battery Backup for Frontier Voice*, https://frontier.com/docs/help-center/connecticut/replace-battery-backup (last visited June 5, 2015) (listing steps to replace the batteries for various modem models); Comcast, *SMC Networks SMCD3GNV Battery Installation and Replacement* http://media2.comcast.net/anon.comcastonline2/support/help/faqs/battery/New/SMCD3GNV.pdf (last visited June 8, 2015) (using graphics to explain battery replacement process).

[215] *See infra,* Section III.C.2.c.

advance to extend the effectiveness of their backup power and ultimately, as we stated in the *Notice*, count on the continued availability of 911 service in harsh weather conditions or other emergencies when consumers are most vulnerable.[216]

70. We sought comment in the *Notice* on when providers should make information available regarding backup power.[217] For example, we asked whether the information should be made available at the point of sale, at the initial set up of service, or at some other point in the process. We also asked whether providers should make detailed backup power information available prior to a predicted extreme weather event or other anticipated emergency.[218]

71. Commenters support disclosure of backup power information to subscribers at various points in time. For example, the Attorneys General argue that the Commission should inform subscribers "when new service requires additional equipment to access emergency services in a power outage."[219] The CPUC supports providing information upon "service initiation and annually thereafter regarding backup power,"[220] as well as sending "an annual reminder to customers to check the status of their battery."[221] On the other hand, providers such as CenturyLink see value in asking "at the point-of-sale" if their customers want backup power, at which time consumers will be assessed a "one-time, non-recurring charge."[222]

72. We are persuaded by comments supporting an initial disclosure at the point of sale for the new service and an annual disclosure for all subscribers, both new and existing. We agree with AT&T that subscribers should have the information they need to "shop among competitive alternatives for backup power, including the alternative of opting out of backup power altogether."[223] As commenters note, service providers have an important role in disseminating information to their subscribers. AARP states that the "availability and distribution of accurate information related to CPE backup power from reliable sources is an important means to empower consumers."[224] Equipped with initial and annual notifications, including the disclosures and information as described above, all subscribers, both new and existing, will be in a better position to make backup power purchase decisions and conduct regular maintenance in order to ensure access to 911 services during power outages.

73. We also sought comment on how providers should make backup power information available to consumers.[225] Commenters suggest that providers should offer information on websites, and in individual electronic and paper billing materials.[226] ACA, for example, states that its members use a

[216] *Notice*, 29 FCC Rcd at 14975, para. 11.

[217] *Notice*, 29 FCC Rcd at 14990, para. 39.

[218] *Id.*

[219] Attorneys General Comments at 9.

[220] CPUC Comments at 7; Randall Scott Comments at 6 (suggesting providers annually mail information to consumers about "how and where . . . obtain and install alternative or replacement [units]").

[221] CPUC Comments at 7. CPUC requires that covered providers periodically remind consumers, "on at least an annual basis." Order Instituting Rulemaking on the Commission's Own Motion into Reliability Standards for Telecommunications Emergency Backup Power Sys. & Emergency Notification Sys. Pursuant to Assembly Bill 2393, 2010 WL 324784, Cal. P.U.C. D. 10-01-026, (Jan. 21, 2010).

[222] CenturyLink Comments at 47.

[223] AT&T Reply Comments at 11.

[224] AARP Comments at 2, 16-17.

[225] *Notice,* 29 FCC Rcd at 14975, para. 39.

[226] AARP Comments at 22; Randall Scott Comments at 5 (suggesting statements on monthly cable bills).

variety of approaches, such as posting information on the operator's website, to inform subscribers about backup power supplies for CPE.[227] CenturyLink states that "service providers are increasingly communicating with customers about the issue of backup power," and supplementing brochures provided to customers with information on the company website.[228] ESA raises concerns that there may be scenarios, for example with the elderly, requiring "personal interaction with consumers to assist with upgrading or changing a battery."[229] NTCA, GVNW, and Vantage Point Solutions suggest that consumers that "utilize an assistive device in connection with a disability" should be part of the consumer education process.[230]

74. We seek to provide flexibility regarding the manner in which providers inform their subscribers, while also honoring any preferences expressed by customers. We thus permit providers to convey both the initial and annual disclosures and information described above by any means reasonably calculated to reach the individual subscriber. For example, a provider may meet this obligation through a combination of disclosures via email, an online billing statement, or other digital or electronic means for subscribers that communicate with the provider through these means. For a subscriber that does not communicate with the provider through email and/or online billing statements – such as someone who ordered service on the phone or in a physical store and receives a paper bill by regular mail – email would not be a means reasonably calculated to reach that subscriber.

75. We observe that many providers use a variety of methods to offer backup power source information on their websites as well as in welcome kits,[231] including charts, pictorial explanations, and links to backup power source manufacturers. We encourage providers to continue to do this, as long as required disclosures are reasonably calculated to reach each subscriber. Posting information on a website may be helpful but, by itself, would not satisfy our requirement that notifications be reasonably calculated to reach individual subscribers, even for those subscribers that communicate with the provider via online means. Further, we are persuaded by commenters that there are populations, such as the elderly[232] or individuals with disabilities,[233] who have no or a very limited online relationship with the provider or otherwise may need more targeted consumer education outreach beyond posting online information.

76. We believe that the cost of these backup power disclosure requirements will be minimal and, thus, will be exceeded by the significant benefits we expect to result from this subscriber disclosure, such as enhanced subscriber access to 911 services.[234] Among other things, we note that the vast majority of providers already furnish subscribers with some backup power information. As a result of current disclosure practices, we expect that only a small share of the providers will need to take additional steps to comply with these rules beyond modifications to existing disclosures. Similarly, providers already

[227] ACA Comments at 2-3; Fiber to the Home Council Americas Comments at 4.

[228] CenturyLink Comments at 48-49 (stating that in Omaha, Nebraska, CenturyLink "advised customers of the importance of maintaining battery power (particularly with respect to 911 access), provided the names of the suppliers of the CenturyLink provided batteries, cautioned that most batteries would last about three years, and noted that there was a visual indicator on the battery unit to indicate when it needed to be replaced. CenturyLink also provided information about other battery backup suppliers and their websites for replacement battery purposes.").

[229] Electronic Security Association Comments at 3.

[230] NTCA, GVNW, Vantage Point Solutions Ex Parte at 4.

[231] AT&T, *AT&T U-verse Digital Voice Self Installation Guide*, https://www.att.com/support_media/images/pdf/uverse/VoIP_Service_Activation.pdf (last visited June 5, 2015) (AT&T Welcome Kit explaining battery backup).

[232] Electronic Security Association Comments at 3.

[233] NTCA, GVNW, Vantage Point Solutions *Ex Parte* at 4 (stating that "consumers that utilize an assistive device in connection with a disability" should be address as part of the "consumer education process").

[234] *See supra* para. 22.

furnish subscribers with information upon initiation of service, and are free to include the information we require herein with the other materials, removing the need for a special cost of distribution. Also, in order to limit costs to providers, we make clear above that a service provider may fulfill its disclosure obligation via any means reasonably calculated to reach the consumer, while also honoring any preference expressed by the customer. Such methods may include electronic outreach, including email notification and paperless billing statements; paper copies are not required for subscribers who access and receive information through those means. The annual notification associated with this requirement gives service providers ample time to plan, for example including the appropriate notifications in normally-distributed billing statements in a manner that does not serve to increase the number of printed pages distributed. As noted above, the Commission will further reduce compliance costs by providing guidance as to the required notifications to subscribers. Accordingly, the costs of satisfying the notification requirement should be minimal for service providers, and the benefits of informing consumers of backup power solutions in order to reach 911 service from the subscriber premises during power outages, far outweighs any such minimal costs.

77. As with the rules obligating providers to offer backup power solutions, there are numerous benefits associated with the disclosure requirements on how commercial power outages affects VoIP service. Millions of Americans have come to rely on their TDM voice service working during a commercial power outage to call 911.[235] With this backdrop, educating consumers that their phones will not work in a commercial power outage absent backup power is essential even if the consumer opts not to purchase backup power. At a minimum, an educated consumer will not have the expectation of relying on a VoIP service only to have it fail to operate when the consumer tries to make a 911 call, wasting valuable time in the process. In this way the consumer notifications not only promote the availability of 911 service in power outages, pursuant to our statutory mandate governing IP transitions, but also promote the "safety of life and property through the use of wire and radio communication,"[236] the Commission's statutory charge, by enabling customers to know the limitations of their service in an power outage situation and to make alternate arrangements—either via a backup power solution or alternate means of communication—to ensure the 911 call can go through. This is consistent with our findings with respect to requiring minimum wireless location accuracy where we found that the rules "will improve emergency response times, which, in turn, will improve patient outcomes, and save lives."[237] We find, therefore, that it is reasonable to expect that the rules we adopt today will save lives and result in numerous other benefits that are less quantifiable but still advance important public interest objectives.[238] Given that the notification requirements contained herein have minimal associated costs, we find that the benefits of these rules far exceed the costs.

3. Community Outreach

78. In the *Notice,* we sought comment on whether we should require providers to develop and implement consumer education plans regarding the availability of backup power.[239] We also inquired whether there is a need for measures beyond written notice to customers.[240] The few commenters that

[235] *Notice*, 29 FCC Rcd at 14975, para. 11.

[236] 47 U.S.C. § 151.

[237] *Wireless E911 Location Accuracy Fourth Report and Order,* 30 FCC Rcd at 1319, para. 162.

[238] Even if just one life is saved per year, and we expect that providing the option for at least eight hours of backup power would allow for many life-saving 911 calls during commercial power outages, the benefits to the nation could be calculated at $9.1 million. The value of a statistical life (VSL) is currently estimated at $9.1 million. *See* DOT Guidance on Economic Value of a Statistical Life at 1. The Department of Transportation defines VSL as "the additional cost that individuals would be willing to bear for improvements in safety (that is, reductions in risks) that, in the aggregate, reduce the expected number of fatalities by one." *Id.* at 2.

[239] *Notice*, 29 FCC Rcd at 14990, para. 39.

[240] *Id.* at 15001-02, paras. 74-75.

addressed this issue see a need for outreach beyond written disclosures to subscribers for the Nation to make the transition to an all-IP environment effectively and with the least amount of consumer confusion. We agree with NASUCA that a backup requirement without a comprehensive consumer education plan would be of limited value,[241] and we find that a truly comprehensive plan should contain an outreach component. That is, as noted by the Massachusetts Department of Telecommunications and Cable (MDTC), written notice to subscribers is only a portion of the consumer outreach and education that is necessary during these times of technology transitions.[242]

79. We agree with MDTC that to provide for flexibility in the delivery of technology transition information, while ensuring its accuracy and effectiveness, providers should develop outreach and education plans in coordination with state, local, and tribal agencies and community organizations.[243] Our Intergovernmental Advisory Committee (IAC) notes that "education efforts must include all levels of governments that interact with consumers. In this manner, state, local and tribal governments will be able to assist consumers in making informed choices that satisfy their communications needs." However, the IAC further believes that providers instead of the FCC, state, local or tribal governments should have the primary responsibility to do consumer outreach on technology transitions. Thus, the IAC asserts that the FCC should "require [ ] providers to inform consumers of their options well before actual transition occurs." For example, the IAC recommends that "providers should have dedicated phone, website and email contacts for consumers to report issues, and to obtain information. The objective of such outreach should be to provide information and answer questions, rather than market new services to consumers."[244]

80. We recognize that many providers already offer consumer education beyond providing mere written notice, and they already engage in community outreach as well.[245] We see great value in providers forging closer relationships with communities, so that local officials can know and understand the likelihood that their residents will be able to summon help, or communicate the status of their welfare in an extended power outage. Community outreach can also help ensure the best possible outcome before disaster strikes (for example, by encouraging communities to maintain sufficient supplies of batteries and other UPS equipment).

81. We also note that many communities have a robust telephone-based alert capability to warn residents of emergencies in their area. For this reason, and for the great value in being able to receive incoming calls from emergency services personnel, providers of covered services should organize their outreach to subscribers pursuant to this *Report and Order* around the goal of sustaining continuous communications availability.

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[241] NASUCA Comments at 3.

[242] MDTC Comments at 4.

[243] *Id*.

[244] *See* IAC Recommendations at 2-3.

[245] *See, e.g.* Verizon's emergency preparedness outreach activities at: https://www.verizonwireless.com/aboutus/commitment/emergency-preparedness.html; outreach with Red Cross and FEMA http://www.verizon.com/about/news/red-cross-fema-verizon-pseg-partner-perth-amboy-national-prepareathon-day; Online consumer tips about hurricanes at http://www.verizon.com/about/news/mother-nature%E2%80%99s-extreme-power-verizon-tips-consumers-businesses; Blogpost about Winter storms: http://www.verizon.com/about/news/weather-outside-frightful; Online consumer tips about winter storms: http://www.verizon.com/about/news/nemo-develops-verizon-finalizes-storm-preparations, http://www.verizon.com/about/news/winter-storm-saturn-threatens-east-verizon-finalizes-storm-preparations-offers-preparedness; Verizon Senior Symposium (Technology Education Event) at http://www.verizon.com/about/community/dc_outreach.html; AT&T Emergency Prep & Outreach Storm prep tips at http://www.att.com/Common/merger/files/pdf/att_emer_prepare_tips.pdf and http://about.att.com/newsroom/tech_tips_to_prepare_for_spring_severe_weather.html; Bright House Involvement in Community at http://brighthouse.com/about/about-us/community.html.

82. In order to minimize cost and provide maximum flexibility, at this time, we encourage, but do not require, all providers to engage in the type of community outreach that would be required for a consumer education plan to truly be considered comprehensive.

D. Legal Authority

83. Today we adopt rules to educate and empower consumers to take necessary steps to ensure that their "home phone" is capable of making 911 calls during a power outage. These rules are well-grounded in the "broad public safety and 911 authority Congress has granted the FCC."[246] Congress created the Commission, in part, "for the purpose of promoting safety of life and property through the use of wire and radio communications."[247] Congress specifically directed the Commission to "designate 911 as the universal emergency telephone number within the United States for reporting an emergency to appropriate authorities and requesting assistance,"[248] in legislation the purpose of which was to "encourage and facilitate the prompt deployment through the United States of a seamless, ubiquitous, and reliable end-to-end infrastructure for communications . . . to meet the Nation's public safety and other communications needs."[249] The D.C. Circuit has also specifically upheld the Commission's extension to interconnected VoIP providers of the obligation "already required of providers of traditional telephone service [to] transmit 911 calls to a local emergency authority."[250] In 2008, Congress expressly confirmed that authority to adopt rules that "promote and enhance public safety by facilitating the rapid deployment of IP-enabled 911 and E–911 services."[251] Congress has also charged the Commission with promulgating "regulations, technical standards, protocols, and procedures as are necessary to achieve reliable, interoperable communication that ensures access by individuals with disabilities to an Internet protocol-enabled emergency network, where achievable and technically feasible."[252]

84. In this *Report and Order*, we exercise this broad and longstanding authority over 911 to impose requirements on residential facilities-based voice service providers in their provision of 911 service. Our adoption of rules to enable the continued provision of 911 service during power outages—a logical component of the larger duty to provide 911 service in general—lies clearly within this authority. The Commission's "broad authority" over 911 is grounded in multiple statutory provisions, as discussed above, that work together to promote universal access to 911. The rules we adopt today contribute to the implementation of this statutory scheme by facilitating the provision of 911 service under specific circumstances: when a customer is relying on a residential voice service that is not line-powered to place

[246] *Nuvio Corp. v. FCC*, 473 F.3d 302, 312 (D.C. Cir. 2006) (Kavanaugh, J., concurring); *see also Improving 911 Reliability Report and Order*, 28 FCC Rcd at 17529-30 ¶ 148-50; Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Request of King County, Washington, CC Docket No. 94-102, *Order on Reconsideration*, 17 FCC Rcd. 14789, ¶ 1 (2002).

[247] 47 U.S.C. § 151.

[248] Wireless Communications and Public Safety Act of 1999, PL 106–81, 113 Stat 1286 § 3(a) (1999) (codified at 47 U.S.C. § 251(e)(3)).

[249] *Id.* § 2(b)

[250] *Nuvio,* 473 F.3d at 303.

[251] New and Emerging Technologies 911 Improvement Act of 2008 (NET 911 Act), PL 110–283, 122 Stat 2620 (2008) (codified at, *inter alia*, 47 U.S.C. § 615a-1); *see also* 47 U.S.C. § 615a-1(a) (imposing a "duty" on "each IP-enabled voice service provider to provide 9-1-1 service and enhanced 9-1-1 service to its subscribers in accordance with the requirements of the Federal Communications Commission"); *id*. at § 615a-1(c) (directing the Commission to issue regulations implementing the statute, and to modify such regulations "as necessitated by changes in the market or technology"). The statutory term "IP-enabled voice service" means "interconnected VoIP service" as defined in section 9.3 of the Commission's rules. *Id.* § 615b (8).

[252] *See* Twenty-First Century Communications and Video Accessibility Act of 2010, PL 111-260, 124 Stat 2751 § 106(g) (2010) (CVAA) (codified at 47 U.S.C. § 615c(g)).

a 911 call during a power outage. These rules will ensure that customers who may face such circumstances are aware of the limitations of their service and empowered with options for maintaining 911 access in the event of power loss, closing a potential gap in the provision of 911 service. This *Report and Order* further advances the Commission's statutorily mandated responsibilities over 911 by promoting the availability of 911 service during times when reports of emergencies and requests for assistance may be particularly urgent, as well as by enabling persons with disabilities to maintain 911 access during such periods. The rules will thus help the Commission more effectively implement Congress's statutory goals of ubiquitous and reliable 911 service for all Americans.[253]

85. Many commenters agree that our adoption of requirements to promote continuity of access to 911 during power outages is an appropriate – and necessary – exercise of our statutory public safety authority. Communications Workers of America states that "[t]he Commission has the statutory obligation to promote public safety through our nation's communications networks" and affirms our view that "protecting public safety is one of the core principles that must guide [the Commission's] policies during the technology transition."[254] The Alarm Industry Communications Committee (AICC) also contends that "[b]ackup power requirements should be adopted to protect consumers and to meet the Commission's mandate to promote the national defense and the safety of life and property" under Title I.[255] Similarly, the PA PUC "believes that the [FCC] has the statutory authority to address this issue and require that providers have sufficient backup power to maintain 911/E911 connectivity during commercial power outages so long as the federal rules do not preempt more stringent state rules."[256] AARP comments that "[w]ith regard to the NPRM's questions regarding whether the Commission has sufficient authority, the answer is an unequivocal yes."[257]

86. Commenters also cite the importance of safeguarding 911 service in particular as a basis for our adoption of rules proposed in the *Notice*. The Electronic Security Association notes that "[n]ot only is standby power for communications important for life safety systems, but it is also critical in allowing the consumer to dial 911 during [power] outages."[258] AARP similarly observes that "[t]he issue of CPE backup power also overlaps the 911 reliability issue" and suggests that backup power requirements would fill an existing gap because the Commission's 911 reliability rules "do not address the reliability of access network components that are associated with the origination of 911 calls."[259]

87. We disagree with Corning's suggestion that the rules we adopt today contravene the holding of *American Library*.[260] That court's statement that the Commission's "general jurisdictional

[253] For the foregoing reasons, the rules we adopt to ensure continuity of 911 communications are also "necessary in the execution of [the Commission's] functions" under section 4(i) of the Communications Act. 47 U.S.C. § 154(i).

[254] Communications Workers of America Reply at 2 (quoting *Technology Transitions Order*, 29 FCC Rcd at 1433, para. 1.

[255] AICC Comments at 4.

[256] PA PUC Comments at 5.

[257] AARP Comments at 28. AARP further contends that "the Commission has the ability to apply Title II requirements to all voice services, regardless of the technology platform utilized" and urges us to classify VoIP as a telecommunications service to provide an additional source of authority for backup power requirements. We find that issue beyond the scope of the *Notice* in this proceeding and decline to address it here.

[258] Electronic Security Association Comments at 2.

[259] AARP Comments at 11-12. *See also* 47 C.F.R. § 12.4(a)(4)(ii) (excluding from the Commission's definition of "Covered 911 Service Providers" subject to annual reliability certification requirements "any entity that . . . [o]ffers the capability to originate 911 calls where another service provider delivers those calls and associated number or location information to the appropriate PSAP").

[260] *See* Corning Comments at 15; *see also American Library Ass'n v. FCC,* 406 F.3d 389 (D.C. Cir. 2005) (*American Library*).

grant does not encompass the regulation of consumer electronics products . . . when those devices are not engaged in the process of radio or wire transmission"[261] is inapposite: the rules we adopt govern the provision of 911 service – which is either "radio or wire transmission" -- during power outages. These rules grant providers maximum flexibility to define the technical parameters of backup power solutions they offer to achieve that goal. In the absence of line powering, these solutions may incorporate any number of proprietary and competitively sourced inputs, including D-Cell, lead-acid or lithium-ion batteries, UPS, solar panels, power over Ethernet or other technologies, including combinations thereof, provided that the solution on "offer" can support the required continuity of 911 service during a power failure. This service-oriented requirement is thus far different from the "broadcast flag" rule struck down in *American Library*. The court held that the latter rule impermissibly "impose[d] regulations on devices that receive communications after those communications have occurred" rather than on "communications themselves."[262] The requirements we adopt are obligations with respect to radio and wire communications. Indeed, the purpose of these requirements is to promote access to and awareness of solutions that enable 911 calls to be originated during a power outage. The requirements therefore cannot be said to apply "after . . . communications have occurred."[263] The fact that devices or equipment operating on backup power may remain in standby mode when not in use, or that our performance rule is defined in terms of "standby time," does not change this analysis. Defining the rule in terms of "standby time" is simply a means of specifying the period of time in which the rule requires 911 service be provided—e.g., during the first 8 hours of an outage. Backup power solutions offered under our rules are not required to meet any performance standards that apply *while* a device is in standby mode, except that the solution must make 911 calling "available" throughout the standby period.[264]

88. For similar reasons, we find unavailing AT&T's comment that "[b]ecause the Commission has deregulated CPE, it has disclaimed any authority to impose CPE backup power requirements."[265] The rules we adopt today do not apply to CPE or regulate CPE. Rather, those rules govern the obligations of service providers to provide access to 911 service during a commercial power outage in the absence of line powering. While solutions offered under our flexible performance rule may encompass – solely at such providers' option -- the backup of some devices or equipment that might be classified as deregulated CPE, that does not mean that our rules cannot encompass such equipment when powering such equipment (which is located on a customer's premises) is part of the solution chosen by the service provider. As discussed above, there is no general requirement to provide backup power for all equipment that might be located at the customer's premises. Rather, the requirement is that, in lieu of line powering provided as a part of traditional POTS service, a covered service provider must offer a backup power solution that provides the customer with 911 access during a commercial power outage.[266]

89. *First Amendment*. The disclosure obligations we adopt today are permissible under the

[261] *American Library*, 406 F.3d at 700; *see also* Corning Comments at 15 ("[T]he [proposed] rule would regulate CPE before the devices engage in wire transmission by ensuring the device could be used to make a call at some later time during a power outage.")

[262] *Id*. at 703.

[263] *Id.*

[264] *See supra* Section III.C.1.a.

[265] AT&T Reply at 8; *see also id*. at 7 n.2 (citing *Second Computer Inquiry*, 77 FCC 2d. 384 9 (1980) ("We conclude that CPE is a severable commodity from the provision of transmission services and that regulation of CPE under Title II is not required and is no longer warranted.")).

[266] We recognize that some telephone handsets (including cordless telephones) that are traditionally considered unregulated CPE may need backup power during a commercial power outage in order to function. This is also the case, however, when line-powered service is provided. The rules adopted today do not apply to such CPE, because such CPE is not part of the "service" provided to the customer (just as it is not part of a line-powered service offering).

First Amendment of the U.S. Constitution. No commenter asserts otherwise. In general, government regulation of commercial speech will be found compatible with the First Amendment if it meets the criteria laid out in *Central Hudson*: (1) there is a substantial government interest; (2) the regulation directly advances the substantial government interest; and (3) the proposed regulation is not more extensive than necessary to serve that interest.[267] As we have noted, the government has a substantial interest, enshrined in Section 1 of the Communications Act, in protecting the safety of the public through the use of wire and radio communications.[268] The Commission has also long observed that "the government has a substantial interest in ensuring that consumers are able to make intelligent and well-informed commercial decisions in an increasingly competitive marketplace."[269] The disclosures here directly advance that government interest by warning consumers of the potential loss of access to 911 during commercial power failures and informing consumers of backup power options to maintain continuity of such communications. Like the "anti-cramming" rules the Commission adopted in 2012,[270] we conclude that the disclosure requirements adopted here withstand Constitutional scrutiny, in that they advance the substantial government interests of protecting public safety and ensuring that consumers are able to make informed choices about uninterrupted access to 911 through networks that lack line power without requiring any more extensive disclosure than necessary to serve those interests.

90. Moreover, under the standard set forth in *Zauderer*, compelled disclosure of "purely factual and uncontroversial" information is permissible if "reasonably related to the State's interest in preventing deception of consumers."[271] Courts have also recognized that other government interests beyond preventing consumer deception – here, the public safety interest in uninterrupted access to 911 – may be invoked to sustain a disclosure mandate under *Zauderer*.[272] The information about backup power disclosed to subscribers under our rules consists of factual information regarding the limitations of networks not equipped with line powering, and it is not disputed that this limitation exists or affects the provision of 911 service during power outages. This information plays an important role in preventing consumer confusion by setting clear and consistent expectations about subscribers' ability to reach 911 in an emergency. It also allows consumers to make informed decisions about the amount and type of backup power they purchase, further reducing consumer confusion and preserving public trust in the 911 system as a means of reaching emergency assistance.

E. Sunset Date

91. The rules we adopt today ensure that consumers are adequately informed about the role of backup power in the technology transitions and that they have the ability to purchase backup power for their service. Clearly delineating the respective roles of the provider and the consumer during this period of transition minimizes the potential for confusion or for unforeseen lapses in 911 service availability during power outages, and creates baseline expectations. Over time, we expect that both the marketplace and consumer expectations will evolve along with advances in technology so that adequate backup power

[267] *Central Hudson Gas & Electric Corp. v. Public Service Commission,* 447 U.S. 557, 566 (1980). Commercial speech that is potentially misleading has less First Amendment protection, and misleading commercial speech is not protected at all and may be prohibited. *Id.* at 563-64.

[268] *See* 47 U.S.C. § 151.

[269] *See* Consumer Information and Disclosure et al., CG Docket 09-158 et al., *Notice of Inquiry*, 24 FCC Rcd 11380, 11389-90 ¶ 21 (2009) (citing Truth-in-Billing and Billing Format, *First Report and Order and Further Notice of Proposed Rulemaking*, CC Docket No. 98-170, 14 FCC Rcd 7492, 7531 ¶ 61 (1999)).

[270] *See* Empowering Consumers to Prevent and Detect Billing for Unauthorized Charges, *et al*., CG Docket No. 11-116, *et al*., *Report and Order and Further Notice of Proposed Rulemaking*, 27 FCC Rcd 4436 (2012).

[271] *Zauderer v. Office of Disciplinary Counsel*, 471 U.S. 626, 651 (1985); *see also* R.J. Reynolds Tobacco v. FDA, 696 F.3d 1205 (D.C. Cir. 2012).

[272] *See American Meat Institute v. United States Dep't of Agriculture*, 760 F.3d 18 (D.C. Cir. 2014) (en banc).

solutions and availability will become commonplace. In light of this prediction, we will sunset the requirements adopted in this *Report and Order* on September 1, 2025. We anticipate that this ten-year period will allow sufficient time for a "cultural and educational shift" in consumer expectations,[273] along with marketplace and technological development. Consumers will then be empowered to assume primary responsibility over their backup power, similar to the responsibility consumers now bear for mobile devices they may rely on for 911 access during an emergency. If, however, we determine after ten years that the marketplace and expectations have not evolved in the predicted manner we may take appropriate action designed to extend and/or modify the requirements contained herein.

IV. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Act Analysis

92. Pursuant to the Regulatory Flexibility Act of 1980, as amended,[274] the Commission's Final Regulatory Flexibility Analysis (FRFA) relating to this *Report and Order* is attached as Appendix B.

B. Paperwork Reduction Act Analysis

93. This document contains new 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 adopted in this *Report and Order*.

94. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198,[275] we previously sought comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. In this present document, we have assessed the effects of the new rules adopted herein on small business concerns and find that the rules adopted here minimize the information collection burden on such entities.

C. Congressional Review Act

95. The Commission will send a copy of this *Report and Order* to Congress and the Government Accountability Office pursuant to the Congressional Review Act.[276]

D. Implementation

96. In this *Report and Order*, we require that providers of non-line-powered, facilities-based, fixed, voice residential service, including fixed wireless service intended as POTS replacement, offer new subscribers at the point of sale, at the subscriber's option and expense, a backup power solution that provides 911 access for 8 hours during a commercial power loss. Except as noted below, this provision of our rules will become effective 120 days after publication of this *Report and Order* in the Federal Register. Within three years of the foregoing effective date of the 8-hour obligation, providers must also offer a 24-hour backup power solution. We seek to ensure that the measures we adopt are timely implemented so that consumers can begin to realize the benefits as soon as feasible, while allowing a reasonable time for providers to prepare. Except as noted below, the disclosure provisions of the rules will become effective 120 days after the Commission notifies the public that approval has been received from the Office of Management and Budget.

97. We delay the effective date of two of the rules we adopt herein for providers that have

[273] *See* Public Knowledge *et al*. Comments at 24.

[274] *See* 5 U.S.C. § 604.

[275] *See* 44 U.S.C. 3506(c)(4).

[276] *See* 5 U.S.C. 801(a)(1)(A).

fewer than 100,000 domestic retail subscriber lines for an additional 180 days to afford ample time to modify their current practices as necessary to come into compliance with our rules. The obligation of these providers to offer 8 hours of backup power will become effective 300 days after publication of this *Report and Order* in the Federal Register. The disclosure obligations for these providers will become effective 300 days after the Commission notifies the public that approval has been received from the Office of Management and Budget. The obligation of such providers to offer 24 hours of backup power will become effective on the same extended three-year schedule as for all other providers.

98. Such an accommodation addresses the concerns of some commenters that adopting mandatory backup power obligations for all customers will be particularly burdensome for providers with a small number of lines,[277] and is in line with Commission precedent.[278] While we do not think that the more limited backup power obligations that we adopt herein will be overly burdensome for any provider, we agree with ACA's suggestion that providers with a small number of lines are more resource-constrained and would benefit from additional time to obtain any necessary equipment and prepare materials and processes for disclosure, and prepare materials and processes for disclosure. We note that ACA asserts that smaller operators should be defined as those with fewer than 100,000 voice service customers, and cites the *Rural Call Completion Report and Order* in support of its position. However, we observe that the *Rural Call Completion Report and Order* did not define smaller providers in terms of the number of customers, but subscriber lines. We find that providing an accommodation to providers on the basis of subscriber lines, rather than subscribers, is reasonably designed to minimize burdens on smaller providers without compromising the effectiveness of the rules. The number of lines better reflects a provider's size and share of traffic than does the number of subscribers.[279] We find that limited, additional time to comply with these aspects of our rules strikes the right balance between the particular circumstances and resource constraints of providers that serve fewer customers and ensuring that consumers have backup power options available in a timely manner.

99. For this purpose, we rely on the standard adopted in the 2013 Rural Call Completion proceeding. In the *Rural Call Completion Report and Order*, the Commission applied the requirements to providers of long-distance voice service who make the initial long-distance call path choice for more than 100,000 domestic retail subscriber lines.[280] Accordingly, in this proceeding, in an effort to ensure a reasonable burden of compliance, we give providers with fewer than 100,000 domestic retail subscriber lines an additional 180 days to comply with the obligations adopted in this *Report and Order*

V. ORDERING CLAUSES

100. Accordingly, IT IS ORDERED, pursuant to sections 1, 4(i), and 251(e)(3) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 251(e)(3); section 101 of the NET 911 Improvement Act of 2008, Pub. L. No. 110-283, 47 U.S.C. § 615a-1; and section 106 of the Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 47 U.S.C. § 615c, that this *Report and Order* in PS Docket No. 14-174 IS ADOPTED.

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[277] ACA June 24, 2015 Ex Parte at 2; NTCA/GVNW/Vantage June 8, 2015, Ex Parte at 3; NCTA June 16, 2015, Ex Parte at 1.

[278] ACA June 24, 2015 Ex Parte at 2. As NCTA/GVNW/Vantage note, such providers may not have the same ability as nationwide providers to "drive innovation in the equipment market." NTCA/GVNW/Vantage June 8, 2015, Ex Parte at 3. ACA asserts the Commission has "sufficient precedent to support defining smaller voice providers as those with fewer than 100,000 voice service customers." *Id*., *citing Rural Call Completion,* Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154, 16164-69, paras. 19-27 (2013).

[279] *See* Rural Call Completion, *Order on Reconsideration,* 29 FCC Rcd 14026, para. 21 (2014). *See also* Consumer and Governmental Affairs Bureau Seeks Comment on Small Business Exemption from Open Internet Enhanced Transparency Requirements, *Public Notice,* DA 15-731 (rel. June 22, 2015), at 2.

[280] *Rural Call Completion*, *Report and Orde*r, 28 FCC Rcd at 16164-69, paras. 19-27.

101. IT IS FURTHER ORDERED that Part 12 of the Commission's Rules, 47 C.F.R. Part 12, is HEREBY AMENDED as set forth in Appendix C

102. IT IS FURTHER ORDERED that the requirements of this *Report and Order* WILL BECOME EFFECTIVE as specified in paragraphs 96-99 herein.

103. IT IS FURTHER ORDERED that, pursuant to Section 801(a)(1)(A) of the Congressional Review Act,[281] the Commission SHALL SEND a copy of this *Report and Order* to Congress and to the Government Accountability Office.

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

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

[281] 5 U.S.C. § 801(a)(1)(A).

APPENDIX A

List of Commenters in PS Docket No. 14-174

Commenters

The 60 Plus Association
AARP
Access Point, Inc., Birch Communications Inc., BullsEye Telecom, Inc., Matrix Telecom Inc., New Horizon Communications, LLC; Telscape Communications, Inc., Xchange Telecom
Ad Hoc Telecommunications Users Committee
ADT LLC d/b/a ADT Security Services
ADTRAN, Inc.
Alarm Industry Communications Committee
American Cable Association
Association of Public-Safety Communications Officials-International, Inc.
Appalachian Regional Commission
Appalshop, Inc.
AT&T Services, Inc.
Cai, Simin
California Association of Competitive Telecommunications Companies
California Public Utilities Commission
CenturyLink, Inc.
Cincinnati Bell Telephone Company LLC
City of New York, Department of Information Technology and Telecommunications
Communications Workers of America
Competitive Carriers Association
COMPTEL
Corning Incorporated
Edison Electric Institute
Electronic Security Association
Environmental and Energy Study Institute
Fasimpaur, Karen
Fiber to the Home Council Americas
Full Service Network LP and TruConnect
Garland Connect, LLC
Goff, David
Granite Telecommunications, LLC
GVNW Consulting, Inc.
Haney, Hance
ITTA - The Voice of Mid-Size Communications Companies
Pennsylvania Public Utility Commission
Public Knowledge
Layton, Roslyn
Leggett, Nickolaus E.
National Association of State Utility Consumer Advocates
National Association of Telecommunications and Advisors, National League of Cities
National Association of Regulatory Utility Commissioners
National Association of State 911 Administrators
National Cable & Telecommunications Association
Neustar, Inc.
New York State Public Service Commission
Nicholls, Michael C.

NTCA-The Rural Broadband Association
The Office of the People's Counsel for the District of Columbia
Rural Broadband Policy Group XXXXXX
Sprint Corporation
Steel, Trish
TCA, Inc.-Telcom Consulting Associates
Telecommunications Industry Association
Texas 9-1-1 Alliance, Texas CSEC & MECDA
United States Telecom Association
Utilities Telecom Council
Verizon
Villafane, Ivan
Vonage Holdings Corp.
Walczak, Sam
Wilson, Sue
WorldNet Telecommunications, Inc.
XO Communications, LLC

Reply Commenters
AARP
Alarm Industry Communications Committee
American Cable Association
AT&T Services, Inc.
Bright House Networks, LLC
California Association of Competitive Telecommunications Companies
CenturyLink, Inc.
Charter Communications, Inc.; Cablevision Systems Corp.; Cox Communications, LLC
Communications Workers of America
COMPTEL
Fiber to the Home Council Americas
Frontier Communications
Full Service Network LP, TruConnect
Hawaiian Telcom, Inc.
Hughes Network Systems, LLC
Information Technology and Innovation Foundation
Massachusetts Department of Telecommunications and Cable
National Association of State Utility Consumer Advocates
National Cable & Telecommunications Association
New America's Open Technology Institute, *et al.*
NTCA-The Rural Broadband Association
Pennsylvania Public Utility Commission
People of the State of Illinois by Attorney General Lisa Madigan, People of the State of New York by Attorney General Eric Schneiderman
Scott, Randall
U.S. TelePacific Corp.
Verizon
WorldNet Telecommunications, Inc.
XO Communications, LLC

***Ex Parte* Commenters**
ADT LLC d/b/a ADT Security Services
Al-Chalabi, Dr. Salah/Chaltel Ltd. (UK)

American Cable Association
AT&T Services, Inc.
Bright House Networks, LLC
Charter Communications, Inc.
Comcast Corporation
Communications Workers of America
COMPTEL
Fiber to the Home Council Americas
GVNW Consulting, Inc.
Hughes Network Systems, LLC
ITTA - The Voice of Mid-Size Communications Companies
National Association of State Utility Consumer Advocates
National Cable & Telecommunications Association
NCTA-The Rural Broadband Association, GVNW Consulting, Inc.
New America's Open Technology Institute, Common Cause, Public Knowledge
NTCA-The Rural Broadband Association, GVNW Consulting, Inc., Vantage Point Solutions
Public Knowledge
Rural Broadband Policy Group, Appalshop, Broadband Alliance of Mendocino County, National Rural Assembly, Center for Rural Strategies, Public Knowledge, The Utility Reform Network, YouthBuild, USA.
TeleCommunication Systems, Inc.
Verizon
WorldNet Telecommunications, Inc.

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Commission incorporated an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Emerging Wireline Networks and Services NPRM* (Notice). The Commission sought written public comment on the proposals in the Notice, including comment on the IRFA. No comments were filed addressing the IRFA regarding the issues raised in the Notice. Because the Commission adds/amends the rules in this *Report and Order*, the Commission has included this Final Regulatory Flexibility Analysis (FRFA). This present FRFA conforms to the RFA.

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

2. In this *Report and Order*, the Commission takes important steps to ensure public safety and confidence in the availability of 911 service during a period of technology transition in the provision of facilities-based, fixed, voice residential services. First, the Commission requires all providers of facilities-based, fixed, voice residential services, that are not line powered, including those fixed applications of wireless service intended as a "plain old telephone service" (POTS) replacement, to offer new subscribers the option to purchase at least at least 8 hours of standby power for use in the event of a commercial power outage. In addition, the Commission requires these providers, within three years, to offer to sell a solution for 24 hours of backup power. Second, the Commission requires all such providers to notify subscribers, at the point of sale and annually thereafter for ten years, of the availability of backup power purchasing options; use conditions and effect on power source effectiveness; power source duration and service limitations; testing and monitoring; and replacement details. Third, the Commission encourages covered providers to conduct tailored outreach to state and local disaster preparedness entities, to ensure that consumables and rechargeable elements associated with backup power, are well understood so that communities may prioritize restocking and/or recharging in support of extended power outages.

3. The Commission recognizes that consumers are increasingly relying on new types of telephone service, and in many areas, traditional line-powered 911 service already is, or soon will be unavailable. The Commission adopted the *Report and Order* because it is in the best interest of all consumers to be able to access 911 emergency services during commercial power outages, especially those outages caused by catastrophic storms or other unpredictable events. Ensuring the ability to maintain such service is a vital part of the Commission's larger duty to provide 911 service, and more generally, promote "safety of life and property through the use of wire and radio communication."

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

4. The IRFA solicited comment on the impact of the proposed rules to small businesses, as required by the RFA. While no comments were submitted specifically in response to the IRFA, a few commenters express concerns about the anticipated costs with any rules the Commission might adopt, some of which focused on smaller providers. For example, Cincinnati Bell Telephone Company LLC (CBT) argues that a mandate that providers must provide 8 hours of backup power, including retrofitting existing subscribers, would be a huge undertaking for providers, and burden on consumers who do not want or care about backup power.[282] CBT claims that contacting every subscriber would take a sizeable number of man hours and mailings, and would take additional time for consumers to arrange to be home for the installation.[283] Moreover, CBT assumes there would be a larger than normal number of no-shows, because many customers may not care about battery backup.[284] Likewise, ITTA assumes that the

[282] CBT Comments at 8.

[283] *Id.*

[284] *Id.*

requirement would apply to all voice customers regardless of whether they request it, and as such, would be a huge undertaking for providers and inconvenient and burdensome for customers.[285] The American Cable Association argues that the additional cost of complying with a new regulation to provide battery backup capability would be unreasonably burdensome for smaller operators and their subscribers, particularly if the Commission imposes a monitoring requirement.[286] The National Cable & Telecommunications Association argues more generally that any mandate to provide batteries to all VoIP customers, would be tremendously wasteful and would impose significant unwarranted costs on consumers.[287]

5. Of the few commenters expressing concerns about the anticipated costs, nearly all object to costs associated with regulations that mandate the installation of backup power, regardless of whether the consumer wants it. We do not adopt any such regulation here. Instead, we require only that providers disclose to subscribers backup power options, and offer backup power of at least 8 hours of standby time, to those customers who wish to install backup power. For those subscribers who want to install backup power, covered providers may charge them for it. Therefore, there would be minimal cost to the provider, other than the costs of subscriber disclosure, and offering the option of backup power.

6. Additionally, a few commenters in the record argued for special considerations for smaller providers.[288] For example, based upon the Commission's *Rural Call Completion,* R&O,[289] among other things, ACA urged the Commission to give smaller operators (those with fewer than 100,000 voice service customers) adequate time to obtain devices with battery backup capability for voice service, and account for possible equipment shortages.[290] ACA specified in its *Ex Parte* filing that the obligation to offer battery backup capability should not become effective until 180 days after the bigger operators (those with more than 100,000 voice customers) are required to come into compliance.[291]

7. We find that ACA's request would further mitigate the already minimal cost of implementing our rules. However, we choose to identify the smaller operators not based on the number of voice service customers, but on the number of domestic retail subscriber lines, just as we have done in other recent proceedings, such as the *Rural Call Completion R&O* cited by ACA in its *Ex Parte* Notice. In the *Rural Call Completion R&O*, the Commission applied the requirements to providers of long-distance voice service who make the initial long-distance call path choice for more than 100,000 domestic retail subscriber lines, counting the total of all business and residential fixed subscriber lines and mobile phones and aggregated over all of the providers' affiliates.[292] There is also ample Commission precedent for giving smaller operators a longer time to comply than larger operators.[293] Accordingly, in this

[285] ITTA April 30, 2015 Ex Parte at 2 (claiming that providers would need to devote significant man hours to contacting every subscriber to make an appointment, install the equipment and repeat the process for no-shows, which are likely to be numerous given that most customers do not want or understand backup power).

[286] ACA Comments at 14. ACA also opposes any requirement that providers must change out existing CPE that does not have battery backup, regardless of whether the customer requests it. Id. at 15.

[287] NCTA May 18, 2015 Ex Parte at 2.

[288] ACA June 24, 2015 Ex Parte at 2; NTCA/GVNW/Vantage June 8, 2015, Ex Parte at 3; NCTA June 16, 2015, Ex Parte at 1.

[289] *Rural Call Completion*, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-135, WC Docket No. 13-39, ¶ 19 (rel. Nov. 8, 2013).

[290] ACA Ex Parte at 2.

[291] *Id.*

[292] *Rural Call Completion Report and Order*, FCC 13-135, WC Docket No. 13-39, ¶ 19.

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[293] *See e.g. Accessibility of User Interfaces, and Video Programming Guides and Menus et al.*, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-138, MB Docket Nos. 12-107 and 12-108 ¶¶ 111, 114 (rel. Oct. (continued….)

proceeding, in an effort to lessen the burden, we give providers with fewer than 100,000 domestic retail subscriber lines, an additional 180 days to comply with the obligations adopted in is this *Report and Order*. Such action will not only give these providers additional time to meet the obligations, but will allow the backup power equipment market further time to develop.

C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

8. 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 rules adopted herein. The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. A "small business concern" is one which: (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).

9. Our action may, over time, affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three comprehensive, statutory small entity size standards that encompass entities that could be directly affected by the proposals under consideration.[294] First, a "small business" has the same meaning as the term "small business concern" under section 3 of the Small Business Act.[295] Nationwide, there are a total of approximately 28.2 million businesses, according to the SBA.[296] Second, a "small organization" is generally "any not-for-profit enterprise that is independently owned and operated and is not dominant in its field."[297] Nationwide, as of 2007, there were approximately 1.6 million small organizations.[298] Finally, the term "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[299] Census Bureau data for 2007 indicate that there were 89,427 governmental jurisdictions in the United States.[300] We estimate that, of this total, as many as 88,506 entities may qualify as "small governmental jurisdictions."[301] Thus, we estimate that most governmental jurisdictions are small.

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31, 2013) ("We set a compliance deadline of three (3) years from the date the Report and Order is published in the Federal Register by which covered entities must comply with the requirements of Sections 204 and 205…We set a later compliance deadline of five (5) years from the date the Report and Order is published in the Federal Register by which certain mid-sized and smaller MVPD operators and small MVPD systems must comply with the requirements of Section 205.").

[294] *See* 5 U.S.C. § 601(3)–(6).

[295] 5 U.S.C. §§ 601(3), 632.

[296] *See* SBA, Office of Advocacy, "Frequently Asked Questions," available at http://www.sba.gov/sites/default/files/FAQ-March-2014-0.pdf.

[297] 5 U.S.C. § 601(4).

[298] INDEPENDENT SECTOR, THE NEW NONPROFIT ALMANAC & DESK REFERENCE (2010).

[299] 5 U.S.C. § 601(5).

[300] U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES, Section 8, page 267, 2012, Table 428 (2012).

[301] The 2007 U.S Census data for small governmental organizations are not presented based on the size of the population in each such organization. There were 89,476 local governmental organizations in 2007. If we assume that county, municipal, township, and school district organizations are more likely than larger governmental organizations to have populations of 50,000 or less, the total of these organizations is 52,095. If we make the same population assumption about special districts, specifically that they are likely to have a population of 50,000 or less, and also assume that special districts are different from county, municipal, township, and school districts, in 2007 (continued….)

10. The rules adopted here focus narrowly on providers of any facilities-based, fixed voice service that is intended as residential service, including fixed applications of wireless service offered as a residential service, and not line powered. Moreover, we limit application to ensuring continuity of 911 communications during commercial power outages.

11. **Incumbent Local Exchange Carriers (incumbent LECs).** Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to incumbent 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.[302] According to Commission data, 1,307 carriers reported that they were incumbent local exchange service providers.[303] Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.[304] 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 Notice.

12. 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."[305] The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.[306] 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.

13. **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. 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. Transmission facilities may be based on a single technology or a combination of

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there were 37,381 such special districts. Therefore, there are a total of 89,476 local government organizations. As a basis of estimating how many of these 89,476 local government organizations were small, in 2011, we note that there were a total of 715 cities and towns (incorporated places and minor civil divisions) with populations over 50,000. CITY AND TOWNS TOTALS: VINTAGE 2011 – U.S. Census Bureau, *available at* http://www.census.gov/popest/data/cities/totals/2011/index.html. If we subtract the 715 cities and towns that meet or exceed the 50,000 population threshold, we conclude that approximately 88,761 are small. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES 2011, Tables 427, 426 (Data cited therein are from 2007).

[302] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[303] *See Trends in Telephone Service*, FCC, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

[304] *See id*.

[305] 5 U.S.C. § 601(3).

[306] *See* Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (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." *See* 15 U.S.C. § 632(a); *see also* 5 U.S.C. § 601(3). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. *See* 13 C.F.R. § 121.102(b).

technologies."[307] Under that size standard, such a business is small if it has 1,500 or fewer employees.[308] 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.[309] Of these 1,442 carriers, an estimated 1,256 have 1,500 or fewer employees and 186 have more than 1,500 employees.[310] 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.[311] In addition, 72 carriers have reported that they are Other Local Service Providers.[312] Of the 72, seventy have 1,500 or fewer employees and two have more than 1,500 employees.[313] 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 in this *Report and Order*.

14. **Wireless Telecommunications Carriers (except Satellite).** This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services.[314] The appropriate size standard under SBA rules is for the category Wireless Telecommunications Carriers. The size standard for that category is that a business is small if it has 1,500 or fewer employees.[315] For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year.[316] Of this total, 10,791 establishments had employment of 999 or fewer employees and 372 had employment of 1000 employees or more.[317] Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by rules adopted in this *Report and Order*.[318]

15. **Cable and Other Program Distribution.** 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

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[307] U.S. Census Bureau, 2007 NAICS Definitions, "517110 Wired Telecommunications Carriers" (partial definition), http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2007%20NAICS%20Search (last accessed Nov. 20, 2014).

[308] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[309] *See Trends in Telephone Service* at Table 5.3.

[310] *See id.*

[311] *See id*.

[312] *See id*.

[313] *See id*.

[314] http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2007%20NAICS%20Search

[315] 13 C.F.R. § 121.201, NAICS code 517210.

[316] U.S. Census Bureau, Subject Series: Information, Table 5, "Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517210" (issued Nov. 2010).

[317] http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ2&prodType=table*Id*. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "100 employees or more."

[318] *See http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ2&prodType=table*

transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies."[319] The SBA has developed a small business size standard for this category, which is: all such firms having 1,500 or fewer employees.[320] Census data for 2007 shows that there were 31,996 establishments that operated that year. Of those 31,996, 1,818 operated with more than 100 employees, and 30,178 operated with fewer than 100 employees. Thus, under this size standard, the majority of firms offering cable and other program distribution services can be considered small and may be affected by rules adopted in this *Report and Order*.

16. **Cable Companies and Systems.** The Commission has 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.[321] Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard.[322] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[323] Industry data indicate that, of 6,635 systems nationwide, 5,802 systems have under 10,000 subscribers, and an additional 302 systems have 10,000-19,999 subscribers.[324] Thus, under this second size standard, most cable systems are small and may be affected by rules adopted in this *Report and Order*.

17. **All Other Telecommunications.** 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."[325] 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.[326] According to Census Bureau data for 2007, there were 2,623 firms in this category that operated for the entire year.[327] Of these, 2478 establishments had annual receipts of under $10 million and 145 establishments had annual receipts of

[319] U.S. Census Bureau, 2007 NAICS Definitions, "517110 Wired Telecommunications Carriers" (partial definition), http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2007%20NAICS%20Search (last accessed Nov. 20, 2014).

[320] *See* 13 C.F.R § 121.201, NAICS code 517110.

[321] *See* 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. *See Implementation of Sections of the 1992 Cable Television Consumer Protection and Competition Act: Rate Regulation*, MM Docket Nos. 92-266, 93-215, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408 para. 28 (1995).

[322] 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.

[323] *See* 47 C.F.R. § 76.901(c).

[324] WARREN COMMUNICATIONS NEWS, TELEVISION & CABLE FACTBOOK 2006, "U.S. Cable Systems by Subscriber Size," page F-2 (data current as of Oct. 2007). The data do not include 851 systems for which classifying data were not available.

[325] U.S. Census Bureau, "2007 NAICS Definitions: 517919 All Other Telecommunications," http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2007%20NAICS%20Search (last accessed Nov. 20, 2014).

[326] *See* 13 C.F.R. § 121.201, NAICS code 517919.

[327] U.S. Census Bureau, 2007 Economic Census, Subject Series: Information, Table 4, "Establishment and Firm Size: Receipts Size of Firms for the United States: 2007 NAICS Code 517919" (issued Nov. 2010).

$10 million or more.[328] Consequently, we estimate that the majority of these firms are small entities that may be affected by rules adopted in this *Report and Order*.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

18. In this *Report and Order*, the Commission adopts rules establishing backup power obligations on all providers of any facilities-based, fixed voice service that is intended as residential service, including fixed applications of wireless service offered as a residential service, which is not line-powered. For such providers, the Commission requires they offer backup power either directly to their subscribers or indirectly through third parties. In addition, these providers must, at the option and expense of any subscriber, install the backup power under certain conditions. The Commission also adopts subscriber disclosure requirements and encourages community outreach. There are no reporting or recordkeeping requirements.

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

19. The RFA requires an agency to describe any significant alternatives that it has considered in developing its 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."

20. The Commission considered, and eventually adopted, various options in order to minimize the significant economic impact of the regulations adopted in the *Report and Order* on small entities. For instance, the Commission adopted a 120-day phase-in of the requirement to provide consumers with technical solution in order to have 8 hours of standby backup power, which will give carriers time to prepare and implement the process of meeting the rule. The Commission similarly adopted a 3-year phase-in of the requirement to offer a technical solution to provide consumers with 24 hours of backup power. This phase-in period affords service providers that do not already support 24-hour backup power with adequate time to develop a 24-hour technical solution. Moreover, providers are free to charge consumers for backup power, and to develop a technical solution that suits their business needs including, under certain circumstances, meeting the requirement by directing consumers to a third-party retailer.

21. Additionally, as noted above, we give smaller providers an additional 180 days (i.e., total of 300 days from the date of Federal Register publication) to comply with the backup power obligations adopted in the *Report and Order*. We believe this additional time will not only allow providers time to comply with the rule, but will also provide additional time for the market for backup power equipment to further develop and prevent possible shortages.

22. We also note that, for such consumer education component of the rule, the Commission had smaller companies in mind when allowing such notification to be made "by any means reasonably calculated to reach the consumer." This option affords providers flexibility to reach their subscribers in a manner consistent with their business practices and based upon their individual subscriber relationships. Whenever the provider has an online relationship with the subscriber, disclosures may be made by email or by online billing statement, thus reducing the cost to small entities. To further reduce the burden on smaller providers, we direct the PSHSB to work with CGB to develop such forms or other documents, prior to the implementation date of these rules for smaller providers, which they may use to communicate the required information to their subscribers, including subscribers with disabilities.

[328] *See id.*

23. Finally, we note that the Commission encourages, but does not require, providers to engage in tailored outreach to community/state/local/tribal agencies and community organizations. While such action may be beneficial to small entities, we understand the potential costs in requiring such action.

F. Federal Rules that Might Duplicate, Overlap, or Conflict with the Rules

24. Section 9.5(e)(1) of the Commission rules requires customer notifications for certain circumstances, like "loss of electrical power," "under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service."[329] The rule adopted in this *Report and Order* is not intended to replace or overlap with Section 9.5(e)(1), but rather supplements consumer education by providing information regarding backup power for facilities-based, fixed voice, residential services that are not line-powered by the provider, which includes interconnected VoIP and fixed applications of wireless service intended as "plain old telephone service" replacement. The rules adopted in this *Report and Order* would not cover non-facilities-based, fixed voice service, but, per Section 9.5(e) of the Commission's rules, all providers of interconnected VoIP services must continue to disclose and obtain written acknowledgement from each subscriber that the service will not work when there is a loss of electrical power and provide a label for the modem used by each subscriber describing this limitation.

G. Report to Congress

25. The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act. In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.

H. Report to Small Business Administration

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

[329] 47 C.F.R. § 9.5(e)(1); IP-Enabled Services E911 Requirements for IP-Enabled Service Providers, *First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 10245, 10272-73 ¶ 48, n. 154-155 (2005).

APPENDIX C

Final Rules

PART 12—RESILIENCY, REDUNDANCY AND RELIABILITY OF COMMUNICATIONS

Part 12 of the rules is amended by adding new section 12.5, to read as follows:

§ 12.5 Backup Power Obligations

(a) *Covered Service*. For purposes of this section, a Covered Service is 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.

(b) *Obligations of Providers of a Covered Service to Offer Backup Power.* Providers of a Covered Service shall, at the point of sale for a Covered Service, offer subscribers the option to purchase backup power for the Covered Service as follows:

(1) *Eight Hours.* Providers shall offer for sale at least one option with a minimum of eight hours of standby backup power.

(2) *Twenty-Four Hours.* Within three years of the effective date of the obligation described in (b)(1) above, providers of a Covered Service shall offer for sale also at least one option that provides a minimum of twenty-four hours of standby backup power.

(3) At the provider's discretion, the above options may be either (i) a complete solution including battery or other power source or (ii) installation by the provider of a component that accepts or enables the use of a battery or other backup power source that the subscriber obtains separately. If the provider does not offer a complete solution, the provider shall install a compatible battery or other power source if the subscriber makes it available at the time of installation and so requests.

After service has been initiated, the provider may, but is not required to, offer to sell any such options directly to subscribers.

(c) *Backup power required*. The backup power offered for purchase under paragraph (b) must include power for all provider-furnished equipment and devices installed and operated on the customer premises that must remain powered in order for the service to provide 911 access.

(d) *Subscriber Disclosure*.

(1) The provider of a Covered Service shall disclose to each new subscriber at the point of sale and to all subscribers to a Covered Service annually thereafter:

i. Capability of the service to accept backup power, and if so, the availability of at least one backup power solution available directly from the provider, or after the initiation of service, available from either the provider or a third party. After the obligation to offer for purchase a solution for twenty-four hours of standby backup power becomes effective, providers must disclose this information also for the twenty-four-hour solution.
ii. Service limitations with and without backup power;
iii. Purchase and replacement information, including cost;
iv. Expected backup power duration;
v. Proper usage and storage conditions, including the impact on duration of failing to adhere to proper usage and storage;
vi. Subscriber backup power self-testing and –monitoring instructions; and
vii. Backup power warranty details, if any.

(2) *Disclosure Reasonably Calculated to Reach Each Subscriber.* A provider of a Covered Service shall make disclosures required by this rule in a manner reasonably calculated to reach individual subscribers, with due consideration for subscriber preferences. Information

posted on a provider's public website and/or within a subscriber portal accessed by logging through the provider's website are not sufficient to comply with these requirements.

(3) The disclosures required under this paragraph are in addition to, but may be combined with, any disclosures required under Section 9.5(e).

(e) *Obligation With Respect to Existing Subscribers.* Providers are not obligated to offer for sale backup power options to or retrofit equipment for those who are subscribers as of the effective date of the obligations in (b)(1) above, but shall provide such subscribers with the annual disclosures required by (d) above.

(f) Effective Dates of Obligations.

(1) Except as noted in sections (b)(2) and (f)(2), the obligations under section (b) above are effective 120 days after publication of this rule in the Federal Register, and the obligations under section (d) above are effective 120 days after the Commission announces approval from the Office of Management and Budget.

(2) For a provider of a Covered Service that (together with any entities under common control with such provider) has fewer than 100,000 domestic retail subscriber lines, the obligations in section (b)(1) above are effective 300 days after publication of this rule in the Federal Register, the obligations in (b)(2) are effective as prescribed therein, and the obligations under section (d) above are effective 300 days after the Commission announces approval from the Office of Management and Budget.

(g) *Sunset Date*. The requirements of this section shall no longer be in effect as of September 1, 2025.

STATEMENT OF
CHAIRMAN TOM WHEELER

Re: Ensuring Continuity of 911 Communications, PS Docket No. 14-174, Report and Order

When we talk about core values that must be preserved as we transition to next-generation fiber- and Internet Protocol (IP)-based networks, public safety is at the top of the list. Today, we're taking action to expand the availability of back-up power and make sure consumers will reliably be able to reach 911 during emergencies in an IP world.

Public safety offers a vivid example of how the network technology transitions are concurrently creating both new opportunities and new challenges. For example, IP-based networks enable 911 call centers to receive a greater range of information – such as text and video – so they can better support first responders in an emergency.

However, these innovative voice services are more vulnerable to outages during emergencies than their copper predecessors. While traditional, copper-based landline home phone service typically works during electric outages because they carry their own power, new services, often delivered over fiber or using IP-based technologies, usually require an independent source of power. This means they need backup power to keep operating in the event of a power outage.

Today we take action to see that consumers are informed about the need for back-up power when using these voice services, and can get such backup power, should they so choose.

The new rules will require providers to offer consumers the option to buy backup power so they can use their phones during power outages. These providers would be required to ensure that a technical solution for 8 hours of standby backup power is available for consumers to purchase, either directly or from a third-party retailer, at the point of sale. And, within three years, providers will also be required to offer an option for 24 hours of standby backup power.

A safe consumer begins with an informed consumer. That's why the rules will also require providers to inform both current and new customers about service limitations during electric outages and the steps they can take to address those risks through backup power, including how to keep their service operational during a multi-day power outage.

With this item, the Commission is empowering consumers to make informed choices and support their need for 911 service during emergencies. We are helping to maximize the benefits of new networks for public safety, while minimizing the challenges.

STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN

Re: Ensuring Continuity of 911 Communications, PS Docket No. 14-174, Report and Order

For decades, traditional landline telephones provided customers with the requisite electrical power over copper wire needed for reliable voice service. With a plug in jack, and an aqua-green princess rotary phone, I never doubted for a moment that when I picked up the receiver I would hear a dial tone, even if the lights were out.

Millions no longer live in that world. Power grid failure for them will mean an interruption in landline service in a matter of hours. About 40% of Americans rely solely on mobile devices. There are those who have landline service, but rarely use it. Scores have transitioned to voice service that no longer relies on copper wires, through cable, fiber or a fixed wireless broadband provider that does not transmit electrical power through the line. And the changes that all of these transitions bring must be made clear to them.

One of the main challenges of these technology transitions is not just that people adopt at different speeds, but that they may be unaware of the limitations of these technologies, especially in the early stages of use. Often these limitations come in the form of small annoyances like a promising new feature that does not work exactly as advertised. But, when the limitation of a new technology jeopardizes something as fundamental and essential as the ability to contact 911 in case of an emergency, we must act.

With the long history of electrical power supplied through a phone line, customers might reasonably – but incorrectly – expect their landline service will be functional during an electric power outage. And for all of the convenience and features these services may offer, even the most enlightened customer might forget to ask about power backups when they transition to a new service.

That is why today's action is so important. It provides information and options to consumers that will help them make decisions in line with their particular needs. It requires providers to offer eight hours of battery backup as an option for new customers, and in three years, it mandates that providers supply them with a 24-hour backup solution. It also requires providers to disclose information about backup power options at the point of sale to new subscribers, and annually thereafter to all subscribers. This will allow a customer, at the moment she is thinking about transitioning to a new service, the means to consider options in the event of a commercial power outage and choose an optimal solution in case of an emergency.

To be clear: many providers currently provide backup power information and effective solutions that allow customers to reach emergency services during a commercial power outage. Today's actions merely give providers additional flexibility to find backup power solutions that should work for all customers, particularly in a time of crisis. I commend Chairman Wheeler for raising the profile of this issue and the Public Safety Bureau for their presentation and for finding a solution that strikes an appropriate balance between cost and public safety.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL

Re: Ensuring Continuity of 911 Communications, PS Docket No. 14-174, Report and Order

Two-hundred and forty million 911 calls are placed each year. If you've never had to dial this number, consider yourself lucky. But one day when the unthinkable occurs, you just might. And before any police radio crackles, fire engine blares, or ambulance races—you will need to reach a 911 operator. That is one call you need to go through.

In the past, 911 calls reached our nation's emergency call centers through traditional copper telephone lines. Because copper lines are served by an independent electrical source, they work—even when commercial power systems fail.

But today, the ways we reach out in emergency are more diverse than ever before. Calls to 911 come tumbling in from a variety of communications technologies. We have wired and wireless services, voice calls and texts. Our networks are evolving. And one of the biggest changes taking place entails consumers swapping out old copper lines for new IP services—services that are dependent on commercial power.

There is a lot to gain from this evolution of technology and explosion of IP services. But we need to be mindful that these new IP services require planning for when the electricity goes out. Because in the course of all this network change we cannot sacrifice our most basic values. Public safety matters—and when you call 911 that call needs to go through—no matter the time, place, or technology you use to place your call. That is why I support what we do here today.

This Report and Order makes clear that service providers must offer backup power to their customers so that they can maintain service when the lights go dark and commercial power fails. It also requires providers to educate consumers by providing meaningful information about backup power offerings.

This is progress, because it promotes both public safety and the evolution of network infrastructure. But going forward, vigilance is required—in three areas. First, we need to ensure that consumers understand their new networks so that they prepare for outages. Second, we need to watch marketplace developments so that basic safety needs are not compromised by unjustifiable new fees. Third, we need to support the development of systems with longer back-up capabilities—and over time find ways to expand their availability in our most vulnerable places.

Thank you to the dedicated staff of the Public Safety and Homeland Security Bureau for this Report and Order—and for their unwavering commitment to improving the reliability of 911.

STATEMENT OF
COMMISSIONER AJIT PAI

Re: *Ensuring Continuity of 911 Communications*, PS Docket No. 14-174.

"Be prepared." Although the Boy Scouts made that simple motto famous, the American people have shown that there's more than one way to interpret it. Some households stock gallons of fresh water and canned goods and keep a transistor radio or a charged cellphone ready just in case. Others own a generator so that when the power goes out their lights stay on. Yet still others—perhaps terrified of becoming the next Deputy Rick Grimes and awakening to a world overrun by zombies[330]—have built underground bunkers complete with a year's supply of food and gas masks for the whole family.[331] In short, many Americans are already preparing for disasters and are doing so in their own ways.

That's why, when we commenced this proceeding nine months ago, I proposed a "simple alternative to more invasive battery backup mandates"—namely, letting consumers make decisions for themselves.[332] After all, "now that most consumers have mobile phones, I doubt all of them will want to pay the cost of a new carrier-installed battery backup for their landline."[333]

I support this *Order* because it adopts that consumer-driven approach and recognizes that no one-size-fits-all solution will work when it comes to disaster preparedness. As the *Order* puts it, "consumers may desire different amounts of backup power—or none at all—depending on their individual circumstances."[334] That's exactly right. Enabling consumers to make their own choices allows them to do what's best for them and their families.[335]

I look forward to collaborating with the staff of the Public Safety and Homeland Security Bureau and my colleagues as we continue to help consumers prepare for disasters.

[330] *See* AMC, *The Walking Dead* (Season 1, Episode 1: "Days Gone By").

[331] *See* National Geographic Channel, *Doomsday Preppers*, http://on.natgeo.com/1IopL0E (including option to explore a "Zombie Outbreak Simulator"); *see also* Elizabeth Barber, "Kansas Will Be Prepared for the Zombie Apocalypse," *Time* (Sept. 24, 2014), *available at* http://ti.me/1qyH9FP.

[332] *Ensuring Customer Premises Equipment Backup Power for Continuity of Communications et al.*, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593, Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd 14968, 15038 (2014) (Statement of Commissioner Ajit Pai).

[333] *Id.*

[334] *Order* at para. 44.

[335] This approach also enables the Commission to avoid difficult questions of legal authority that attend more prescriptive government mandates in this area. *Cf. CTIA—The Wireless Ass'n v. FCC*, 530 F.3d 984 (D.C. Cir. 2008).

CONCURRING STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY

Re: *Ensuring Continuity of 911 Communications,* PS Docket No. 14-174, Report and Order

Consumers should make plans to communicate during power outages, as part of their overall emergency preparedness efforts, including understanding the benefits and limitations of their communications services and devices. At the same time, the Commission should be careful not to place undue burdens on providers to offer backup power solutions that provide little real benefit, based on how the market is already developing.

The record in this proceeding highlights the transitions that are already well underway in the communications market. One commenter emphasized that, "among telephone households during 2013, more than 90 percent had wireless service and 43 percent used only wireless telephones for voice service."[336] Of the remaining households, "30 percent were using non-traditional services such as VoIP via broadband" meaning that "only 27 percent of telephone households were using traditional landlines as of year-end 2013."[337] These trends will continue apace. In particular, the percentage of households that have "cut the cord" is expected to top 50 percent by the end of this year.[338] And such consumer adoption of new technology happened without a new FCC backup power regime.

Even amongst households that continue to subscribe to a landline voice service, however, "it is likely that the vast majority utilize a cordless phone that requires the availability of power in the first instance."[339] Indeed, one commenter estimated that "less than one percent of households are traditional telephone subscribers with line power service, a corded telephone, and no mobile wireless service."[340]

It is not too surprising that when consumers are offered a backup power option, most choose not to avail themselves of it. Several commenters attributed the lack of consumer demand for backup power to the fact that "customers rely on alternative means of communicating (i.e., mobile devices and services) if the voice equipment in their home is not working."[341] As one commenter noted, "consumers mainly rely on wireless communication during emergencies, and a large portion of this is texting. In addition, use of social media is becoming more prominent, since it enables members of communities to communicate quickly and provide assistance more immediately."[342] Even CSRIC, the FCC's own advisory committee, noted that "the need for back-up power is evolving, as consumers increasingly rely on their cell phones and other portable devices for emergency communications during a commercial power outage."[343]

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[336] Comments of The United States Telecom Association, PS Docket No. 14-174 et al., at 3 (filed Feb. 5, 2015).

[337] *Id*.

[338] *Id*. at 4.

[339] Letter from NTCA–The Rural Broadband Association, GVNW Consulting, Inc., and Vantage Point Solutions to Marlene Dortch, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 2 (filed July 22, 2015).

[340] Letter from Fiber to the Home Council Americas to Marlene Dortch, FCC, PS Docket No. 14-174, at 2 (filed May 7, 2015).

[341] *See, e.g.*, Letter from National Cable & Telecommunications Association to Marlene Dortch, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 2 (filed May 18, 2015) (NCTA Ex Parte).

[342] Letter from Fiber to the Home Council Americas to Marlene Dortch, FCC, GN Docket No. 13-5, PS Docket No. 14-174, at 2 (filed May 13, 2015).

[343] CSRIC Working Group 10 Report at 19 (September 2014), http://transition.fcc.gov/pshs/advisory/csric4/CSRIC%20WG10%20CPE%20Powering%20Best%20Practices%20Final%20Draft%20v2%20082014.pdf.

The order acknowledges that "many" providers already offer backup power solutions to their customers. Yet, as one association stated, "an exceedingly small percentage of cable voice customers purchase batteries for their CPE when offered and that there is no demonstrable increase in demand for batteries following extended power outages."[344] The same experience rings true among telephone companies. For example, one provider that tried to promote its voice service by advertising the availability of backup power in the wake of a hurricane that caused significant outages "saw little to no uptick as a result and landline losses continued at a steady pace despite the lack of backup power with alternative services."[345]

Given these facts, efforts to impose backup power requirements on providers should face heightened scrutiny to ensure that the costs are truly justified. Once again, however, the FCC tries to bypass the required analysis by trotting out the same old stale statistic that each life saved is worth x millions of dollars. Even if that figure made sense in this setting, that is still no excuse for refusing my request to do the work needed to estimate the costs imposed by this Order. Why does the agency continuously refuse to conduct a true cost-benefit analysis? If this item is truly of value, then the data will support it. Without that critical information, I must make my own best estimate based on input from stakeholders. This is quite a challenge when they know little about the requirements set forth in the order—not an ideal situation.

My general sense is that, while the order is largely unnecessary, the adjustments that have been made since last year's proposal better align the costs imposed by the FCC with the benefits. In particular, the providers are given flexibility to decide how to meet the requirement to offer customers the option to purchase a backup power solution for 8 hours in the near-term and 24 hours in 3 years. Moreover, while companies must provide information about the solution at the point of sale and annually thereafter, they also have some flexibility to decide how best to communicate with their customers. For example, if a customer has requested to receive information from a provider by email, then these requirements can be met by providing the information by email. In addition, the item condenses the minimum requirements. Moreover, the rules include a sunset—something that I have advocated for across FCC proceedings—albeit after 10 years, which is a longer timeframe than needed.

That is not to say that I am satisfied with the order. I do not understand the hesitancy to make clear that states cannot regulate interconnected VoIP by adopting their own backup power requirements. The Commission previously declared that "this Commission, not the state commissions, has the responsibility and obligation to decide whether certain regulations apply to [VoIP] and other IP-enabled services having the same capabilities."[346] While some of my colleagues may want states to play a greater role, it is disingenuous for the item to imply that states have a larger role than what is actually permitted under long-standing Commission precedent. They do not and no state should read our actions today suggesting otherwise.

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[344] NCTA Ex Parte at 2.

[345] Comments of Cincinnati Bell, PS Docket No. 14-174, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593, at 7 (filed Feb. 5, 2015).

[346] Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minnesota Pub. Util. Commn., Order, 19 FCC Rcd 22404, 22405, para. 1 (2004), aff'd, *Minnesota Pub. Util. Comm'n. v. FCC*, 483 F.3d 570 (8th Cir. Mar. 21, 2007). The Commission further stated that "[f]or such services" state regulation must "yield to important federal objectives", thereby confining the state role to "protecting consumers from fraud, enforcing fair business practices, for example, in advertising and billing, and generally responding to consumer inquiries and complaints" and enforcement of "general laws governing entities conducting business within the state, such as laws concerning taxation; fraud; general commercial dealings; and marketing, advertising, and other business practices." *Id*. This reasoning was used in a series of orders setting forth federal obligations for interconnected VoIP service.

Moreover, there is no pre-emption of state regulation of other types of voice service. It does no good for the FCC to try to tailor the burdens on providers only to leave a gaping loophole for 56 states and territories to apply different standards, potentially increasing the costs of compliance. For example, I asked staff whether states could require providers to offer 30 days of backup power and the answer was shockingly "yes". What a horrible answer. I am unwilling to write a blank check for backup power burdens that are barely justified in the first place.

I am also concerned that, here again, we are giving the Enforcement Bureau undue power to second guess whether providers' materials were "reasonably calculated" to reach their customers. My request to narrow that discretion was rejected.

Overall, today's Order represents an improvement over what was proposed and discussed in past months. I continue to have concerns that the rules will impose undue costs and a number of key issues that I tried to work out with Commission leadership were ultimately rejected. Therefore, I concur.