

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

In the Matter of	)	
	)	
Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications	)	PS Docket No. 15-80
	)	
Improving 911 Reliability	)	PS Docket No. 13-75
	)	
New Part 4 of the Commission’s Rules Concerning Disruptions to Communications	)	ET Docket No. 04-35
	)	

**THIRD NOTICE OF PROPOSED RULEMAKING**

**Adopted: April 22, 2021**

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**Comment Date: 30 days from the date of publication in Federal Register**

**Reply Comment Date: 60 days from the date of publication in Federal Register**

By the Commission: Acting Chairwoman Rosenworcel and Commissioner Starks issuing separate statements.

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## I. INTRODUCTION

1. In this Third Notice of Proposed Rulemaking (Notice), we propose to enhance our regulatory framework governing notifications of disruptions to 911 service by harmonizing our notification requirements, improving the usefulness of outage notification content,<sup>1</sup> requiring service providers to keep the public informed during periods of 911 unavailability, and ensuring the accuracy of Public Safety Answering Point (PSAP) contact information. We also seek comment on whether modifications to the associated reporting requirements would enhance public safety while reducing burdens on regulated entities. Section 1 of the Communications Act, as amended (Act), charges the Federal Communications Commission (FCC or Commission) with “promoting safety of life and property through the use of wire and radio communications.”<sup>2</sup> This statutory objective and statutory authorities, also cited below, support the Commission’s network outage reporting and 911 reliability rules, including the proposals here.<sup>3</sup> In adopting this Notice, we continue the Commission’s commitment to ensuring that our rules, including those governing covered 911 service providers, are sufficient, necessary, and technologically appropriate.<sup>4</sup>

## II. BACKGROUND

2. The Commission oversees the integrity of 911 communications infrastructure primarily through three complementary mechanisms: 911 call transmission requirements;<sup>5</sup> network outage reporting by service providers to both the Commission and potentially affected 911 special facilities,

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<sup>1</sup> See 47 CFR § 4.5(a) (defining an “outage” as “a significant degradation in the ability of an end user to establish and maintain a channel of communications as a result of failure or degradation in the performance of a communications provider’s network”); see also 47 CFR § 4.5(e) (defining an outage that potentially affects 911 as an outage that meets at least one of four criteria, as described in further detail below). In this Notice, we use the terms “911 outage” and “outages that potentially affect 911” interchangeably.

<sup>2</sup> 47 U.S.C. § 151.

<sup>3</sup> See *id.* §§ 154(i), 154(j), 154(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(r), 307, 309(a), 316, 332, 403, 615a-1, and 615c. See also *Mozilla Corp. v. FCC*, 940 F.3d 1, 59-60 (D.C. Cir. 2019); *Nuvio Corp. v. FCC*, 473 F.3d 301 (D.C. Cir. 2007) (Kavanaugh, J., concurring) (citing “broad public safety and 911 authority Congress has granted the FCC” and concluding that “adequate 911 service is vital to the personal security of American citizens and the homeland security of our Nation”).

<sup>4</sup> *Improving 911 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75 and 11-60, Report and Order, 28 FCC Rcd 17476, 1733, para. 159 (2013) (*911 Reliability Report and Order*).

<sup>5</sup> See 47 CFR § 9.10(b) (requiring Commercial Mobile Radio Service (CMRS) providers (i.e., wireless providers) to transmit all wireless 911 calls and provide certain location information to a PSAP); 47 CFR § 9.11(a)(2) (requiring interconnected VoIP providers to transmit all 911 calls and provide certain location information to a PSAP); 47 CFR § 9.18(a) (requiring providers of Mobile-Satellite Service to provide Emergency Call Center service, where the personnel must “determine the emergency caller’s phone number and location and then transfer or otherwise redirect the call to an appropriate public safety answering point); cf. 47 CFR § 9.4 (requiring telecommunications providers (i.e., wireline providers) to transmit all 911 calls to a PSAP, but not to transmit location information, because a physical address is associated with the originated 911 call).

which also include PSAPs when there is a loss of communications to PSAP(s), subject to specific conditions;<sup>6</sup> and 911 reliability and certification requirements.<sup>7</sup>

3. *911 Call Transmission Rules.* The Commission requires entities that offer the ability to originate 911 calls to transmit all such calls with required location information to PSAPs.<sup>8</sup> The Commission has long worked to ensure that first responders and PSAPs can find 911 callers quickly and accurately. For example, in 2007, the Commission required wireless providers to supply more accurate Phase II location information when transmitting calls.<sup>9</sup> In 2019, the Commission took action to ensure that users of multi-line telephone systems have the same access to 911 services as users of fixed telephony, mobile, and interconnected VoIP services.<sup>10</sup> And in 2020, the Commission continued its long-standing commitment to ensuring 911 caller location information accuracy.<sup>11</sup>

4. *Outage Reporting Rules.* The Commission requires originating service providers—i.e., cable, satellite, wireless, wireline, and interconnected VoIP providers that provide the capability for consumers to originate 911 calls<sup>12</sup>—as well as covered 911 service providers—i.e., providers that

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<sup>6</sup> The Commission monitors the reliability of 911 networks through mandatory outage reporting requirements that, among other things, enable statistical analysis of outage trends and inform the means to improve network reliability. When an outage potentially affects a PSAP, the Commission requires both originating and covered 911 service providers to notify the PSAP. 47 CFR §§ 4.5(e), 4.9(a), (c), (e), (f), (g), (h). The Disaster Information Reporting System (DIRS) also provides a means for service providers to voluntarily report to the Commission their communications infrastructure status and situational awareness information during times of crisis. *Public Safety and Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, DA 07-3871, Public Notice, 22 FCC Rcd 16757 (PSHSB 2007).

<sup>7</sup> 47 CFR § 9.19.

<sup>8</sup> See 47 CFR § 9.10(b) (requiring Commercial Mobile Radio Service (CMRS) providers (i.e., wireless providers) to transmit all wireless 911 calls and provide certain location information to a PSAP); 47 CFR § 9.11(a)(2) (requiring interconnected VoIP providers to transmit all 911 calls and provide certain location information to a PSAP); 47 CFR § 9.18(a) (requiring providers of Mobile Satellite Service to provide Emergency Call Center service, where the personnel must “determine the emergency caller’s phone number and location and then transfer or otherwise redirect the call to an appropriate public safety answering point); cf. 47 CFR § 9.4 (requiring telecommunications providers (i.e., wireline providers) to transmit all 911 calls to a PSAP, but not to transmit location information, because a physical address is associated with the originated 911 call).

<sup>9</sup> *Wireless E911 Location Accuracy Requirements; Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; 911 Requirements for IP-Enabled Service Providers*, PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196, First Report and Order, 22 FCC Rcd 20105 (2007).

<sup>10</sup> *Implementing Kari’s Law and Section 506 of RAY BAUM’S Act, 911 Access, Routing, and Location in Enterprise Communications Systems, Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules*, PS Docket Nos. 18-261, 17-239, GN Docket No. 11-117, Report and Order, 34 FCC Rcd 6607 (2019).

<sup>11</sup> *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Sixth Report and Order and Order on Reconsideration, 35 FCC Rcd 7752 (2020), corrected by Erratum (PSHSB Aug. 28, 2020) and Second Erratum (PSHSB Oct. 29, 2020).

<sup>12</sup> 47 CFR § 4.3(a), (d), (f), (g), (h). An originating service provider is an entity that “offers the capability to originate 911 calls where another service provider delivers those calls and associated number or location information to the appropriate PSAP.” 47 CFR § 9.19(a)(4)(ii)(B). We note that cable providers and interconnected VoIP providers often are also wireline communications providers. The references to providers of these types of services in this Notice correspond to references in the Part 4 outage reporting rules. 47 CFR § 4 *et seq.*

aggregate 911 traffic from originating service providers and deliver it to PSAPs<sup>13</sup>—to notify both the Commission and PSAPs when they experience an outage that potentially affects 911.<sup>14</sup>

5. The Commission has adopted four threshold criteria for reporting outages that potentially affect 911, any of which would trigger a notification requirement:

(1) There is a loss of communications to PSAP(s) potentially affecting at least 900,000 user-minutes and: The failure is neither at the PSAP(s) nor on the premises of the PSAP(s); no reroute for all end users was available; and the outage lasts 30 minutes or more; or

(2) There is a loss of 911 call processing capabilities in one or more E-911 tandems/selective routers for at least 30 minutes duration; or

(3) One or more end-office or [Mobile Switching Center (MSC)] . . . switches or host/remote clusters is isolated from 911 service for at least 30 minutes and potentially affects at least 900,000 user-minutes; or

(4) There is a loss of [Automatic Number Identification (ANI)/Automatic Location Information (ALI)] . . . and/or a failure of location determination equipment, including Phase II equipment, for at least 30 minutes and potentially affecting at least 900,000 user-minutes (provided that the ANI/ALI or location determination equipment was then currently deployed and in use, and the failure is neither at the PSAP(s) or on the premises of the PSAP(s)).<sup>15</sup>

6. The Commission currently has two different sets of requirements for the timing, content, means, and frequency of PSAP notification, depending on the nature of the provider. The first set of rules was originally adopted for common carriers in 1994, and was subsequently expanded to govern a broader set of communications providers called originating service providers.<sup>16</sup> The second set of rules, adopted

<sup>13</sup> 47 CFR § 9.19(a)(4) (defining a “covered 911 service provider as “[a]ny entity that [p]rovides 911, E911, or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), or the functional equivalent of those capabilities, directly to a . . . [PSAP], statewide default answering point, or appropriate local emergency authority . . . ; and/or [o]perates one or more central offices that directly serve a PSAP”); *911 Reliability Report and Order*, 28 FCC Rcd at 17488-91, paras. 36-43 (2013) (discussing the definition of a covered 911 service provider); *id.* at 17528-29, para. 147 (explicitly declining to apply covered 911 service providers’ obligations to originating service providers).

<sup>14</sup> 47 CFR § 4.9(a), (c), (e), (f), (g), (h).

<sup>15</sup> 47 CFR § 4.5(e); *see also New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Notice of Proposed Rulemaking, 19 FCC Rcd 3373, 3393, para. 40 (2014) (seeking comment on wireless providers’ 911 outage notification responsibilities because their provision of ALI/ANI denotes a special relationship to PSAPs); *New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 16830, 16835-36, para. 4 (2004) (*New Part 4 Report and Order*) (applying the PSAP notification requirement to wireline, satellite, and cable providers on which it had sought comment for wireless providers); 47 CFR § 4.9(a)(4), (c)(2)(iv), (e)(1)(v), (f)(4). ANI is “[i]nformation transmitted while providing E911 service that permits emergency service providers to identify the geographic location of the calling party.” 47 CFR § 9.3. ALI “[i]dentifies the calling party and may be used as the callback number.” *Id.*

<sup>16</sup> *Amendment of Part 63 of the Commission’s Rules to Provide for Notification by Common Carriers of Service Disruptions*, CC Docket No. 91-273, Second Report and Order, 9 FCC Rcd 3911, 3925-26, para. 35 (1994) (*Second Report and Order*) (establishing that a 911 outage is reportable to the Commission and PSAPs if more than 25% of lines to a PSAP are affected); *see also Amendment of Part 63 of the Commission’s Rules to Provide for Notification by Common Carriers of Service Disruptions*, CC Docket No. 91-273, Order on Reconsideration, 10 FCC Rcd 11764, 11770-71, paras. 19-21 (1995) (revising the reporting threshold for outages that potentially affect 911 to remove the reference to the percentage of lines because the line-based threshold resulted in over-reporting among rural PSAPs that serve fewer lines); *New Part 4 Report and Order*, 19 FCC Rcd at 16831, para. 4; *see generally Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting to Interconnected Voice Over*

(continued....)

in 2013, governs covered 911 service providers, the entities that, as the Commission reasoned at the time, are the “most likely to experience reportable outages affecting 911 service.”<sup>17</sup> Covered 911 service providers must notify PSAPs of outages that potentially affect them “as soon as possible, but no later than 30 minutes after discovering the outage,” whereas originating service providers are only required to notify PSAPs “as soon as possible.”<sup>18</sup> Covered 911 service providers must convey to PSAPs “all available information that may be useful in mitigating the effects of the outage, as well as the name, telephone number, and email address at which the service provider can be reached,” whereas originating service providers are only required to provide “all available information that may be useful to the management of the affected facility in mitigating the effects of the outage on callers to that facility.”<sup>19</sup> Covered 911 service providers must notify PSAPs “by telephone and in writing via electronic means in the absence of another method mutually agreed upon in advance by the 911 special facility and the covered 911 service provider,” whereas originating service providers are only required to notify PSAPs “by telephone or another electronic means.”<sup>20</sup> Finally, covered 911 service providers must follow up with the PSAPs within two hours of making the initial outage notification, providing “additional material information” that includes “the nature of the outage, its best-known cause, the geographic scope of the outage, the estimated time for repairs, and any other information that may be useful to the management of the affected facility,” whereas originating service providers are not required to follow up with PSAPs at all.<sup>21</sup> In adopting these broader requirements for covered 911 service providers in 2013, the Commission did “not seek to replace the existing [PSAP outage notification] scheme with a new, more onerous one, but rather, to clarify the timing and notification content with which certain service providers subject to section 4.9 must already comply.”<sup>22</sup>

7. *911 Reliability and Certification Rules.* In the wake of the devastating derecho that affected the Midwest and Mid-Atlantic states in 2012, the Commission adopted a series of 911 certification rules to improve 911 network reliability.<sup>23</sup> These rules require covered 911 service providers to take reasonable measures to provide reliable 911 service with respect to 911 circuit diversity, central office backup power, and diverse network monitoring.<sup>24</sup> To ensure that covered 911 service providers have taken these measures, covered 911 service providers must certify as to their compliance with each of these three requirements or to their implementation of reasonable alternative measures.<sup>25</sup>

8. When the Commission adopted rules for covered 911 service providers in 2013, it committed to reexamining the rules after five years to consider whether the rules were still

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*Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, 27 FCC Rcd 2650 (2012) (applying PSAP notification obligations to interconnected VoIP providers).

<sup>17</sup> 47 CFR § 4.9(h); *911 Reliability Report and Order*, 28 FCC Rcd at 17526, paras. 139-40; *see also id.* at 17528, para. 147.

<sup>18</sup> Compare 47 CFR § 4.9(h) with 47 CFR § 4.9 (a)(4), (c)(2)(iv), (e)(1)(v), (f)(4), (g)(1)(i).

<sup>19</sup> Compare 47 CFR § 4.9(h) with 47 CFR § 4.9(a)(4), (c)(2)(iv), (e)(1)(v); *see also* 47 CFR § 4.9(f)(4), (g)(1)(i) (requiring wireline and interconnected VoIP providers to give PSAPs information all available information that may be useful “in mitigating the effects of the outage on efforts to communicate with that facility”).

<sup>20</sup> Compare 47 CFR § 4.9(h) with 47 CFR § 4.9(a)(4), (c)(2)(iv), (e)(1)(v), (f)(4), (g)(1)(i).

<sup>21</sup> *Id.*

<sup>22</sup> *911 Reliability Report and Order*, 28 FCC Rcd at 17528, para. 146.

<sup>23</sup> *911 Reliability Report and Order*, 28 FCC Rcd at 17492-98, paras. 48-65.

<sup>24</sup> 47 CFR § 9.19(c); *see also Public Safety and Homeland Security Bureau Announces Effective Dates of 911 Reliability Certification and PSAP Outage Notification Requirements*, Public Notice, 29 FCC Rcd 13900, 13901 (PSHSB 2014).

<sup>25</sup> *See* 47 CFR § 9.19.

“technologically appropriate and both adequate and necessary.”<sup>26</sup> The Commission stated that review of the rules would consider, among other things, whether the rules should be revised to cover new best practices, including outage reporting trends, whether to adopt Next Generation 9-1-1 (NG911) capabilities on a nationwide basis, and whether the certification approach has yielded the necessary level of compliance, noting that a “persistence of preventable 911 outages could indicate a need for broader or more rigorous rules.”<sup>27</sup> Thus, in 2018, the Public Safety and Homeland Security Bureau (Bureau) issued a public notice seeking comment on the rules’ effectiveness, as well as on reducing affected parties’ regulatory burdens.<sup>28</sup> The Bureau received ten comments and six reply comments from entities representing industry, local government, and the public safety community, and it also hosted meetings with stakeholders to obtain additional information.

### III. DISCUSSION

9. In times of emergency, dialing 9-1-1 serves as a crucial life link for those in need of immediate help. In 2019 alone, those in crisis placed over 200 million emergency calls to 911.<sup>29</sup> More than 70% of these emergency calls originate from wireless phones.<sup>30</sup> Call takers in the nation’s approximately 5,700 PSAPs answer these calls and connect callers to emergency services that regularly save lives and safeguard property.<sup>31</sup> 911 systems, however, are susceptible to outages that can occur in the underlying communications network. Ensuring that 911 services are restored quickly following network outages is a top public safety priority for the Commission. Our rules, among other things, specify 911-related outage notification and 911 reliability certification requirements for providers.<sup>32</sup> Today, we propose specific rules to ensure that our 911 notification framework remains robust, reliable, and responsive. These proposals, discussed below, will enhance public safety by ensuring that PSAPs and the public are provided with timely notification of disruptions to 911.

#### A. Improving PSAP Outage Notification

##### 1. Harmonizing PSAP Outage Notification Requirements

10. When the Commission adopted the more specific notification requirements for covered 911 service providers in 2013, it stated that it would “defer for future consideration” whether originating service providers should be subject to those requirements, reasoning that covered 911 service providers

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<sup>26</sup> *911 Reliability Report and Order*, 28 FCC Rcd at 17533, para. 159.

<sup>27</sup> *Id.* at 17533, para. 159.

<sup>28</sup> *Public Safety and Homeland Security Bureau Seeks Comment on 911 Network Reliability Rules*, PS Docket No. 13-75, Public Notice, 33 FCC Rcd 5987, 5988-90 (PSHSB 2018) (*2018 911 Reliability Public Notice*).

<sup>29</sup> FCC, Twelfth Annual Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges, 12-14, para. 11, Table 3 (2020), <https://www.fcc.gov/files/12thannual911feereport2020pdf>.

<sup>30</sup> *Id.* at para. 11.

<sup>31</sup> *9-1-1 Statistics*, National Emergency Number Association (NENA), <https://www.nena.org/page/911Statistics> (last visited Feb. 10, 2021). Under the Communications Act, a PSAP is “a facility that has been designated to receive 9-1-1 calls and route them to emergency service personnel.” 47 U.S.C. § 615b(3); *see also* 47 U.S.C. § 222(h)(4) (defining the term “public safety answering point” to mean a facility that has been designated to receive emergency calls and route them to emergency service personnel). Public safety entities may refer to PSAPs as Public Safety Answering Centers (PSACs), default answering points, 911 call centers and Emergency Call Centers. The Commission’s Part 4 rules also uses the terms “PSAP,” “911 special facility,” and “911 facility” in its rules. *See, e.g.*, 47 CFR §§ 4.5(e), 4.9(a). We use the term “PSAP” in this Notice for clarity and consistency.

<sup>32</sup> *See, e.g.*, 47 CFR part 4, Appendix A (establishing the rules and procedures for the Telecommunications Services Priority program which directs telecommunications service providers to give preferential treatment to users enrolled in the program, such as PSAPs, when those users need to add new lines or have existing lines restored following a disruption of service).

are the entities most likely to experience reportable outages affecting 911 service.<sup>33</sup> While our outage reporting rules already require both originating service providers and covered 911 service providers to notify PSAPs of outages that potentially affect 911, our experiences since adoption of the PSAP notification rules for covered 911 service providers in 2013 demonstrate that having different reporting obligations for originating service providers and covered 911 service providers is neither practicable nor in the public interest. For example, in at least two instances following a nationwide 911 outage, the Commission (through its Enforcement Bureau) found that the affected originating service providers had not taken adequate steps to notify PSAPs in a manner that would have allowed the affected PSAPs to ensure the public's access to critical emergency services.<sup>34</sup>

11. In August 2014, T-Mobile experienced two network outages that, taken together, resulted in 50,000,000 subscribers nationwide being unable to reach 911 call takers for a three-hour period.<sup>35</sup> During that time, PSAPs were not informed of the outage and consequently could not promptly notify the public of alternative means to reach emergency services.<sup>36</sup> And, in March 2017, AT&T Mobility experienced a network outage that resulted in 135,000,000 subscribers nationwide being unable to reach 911 call takers for a five-hour period.<sup>37</sup> PSAPs did not receive information about the AT&T Mobility outage until “approximately three and a half hours after the outage began and approximately two and a half hours after AT&T Mobility sent internal mass notifications to company executives and senior staff about the event.”<sup>38</sup>

12. We now propose to require that originating service providers and covered 911 service providers notify PSAPs about all such outages within the same timeframe, by the same means, and with the same frequency. We specifically propose to require originating service providers to notify potentially affected 911 special facilities of an outage within the same time frame required for covered 911 service providers. As noted above, that time frame is as soon as possible but no later than 30 minutes after discovering the outage. We also seek comment on whether this timeframe is adequate for PSAPs. We seek comment on whether and how to improve this proposal to shorten this timeframe for either or both sets of providers and/or adjust the reporting criteria to ensure more rapid and effective notification to PSAPs. For example, would automatic PSAP notification, triggered upon detection of an outage, be possible, provide value to PSAPs, and be in the public interest? We also propose that originating service providers transmit such notification, as presently required for covered 911 service providers, by telephone and in writing via electronic means and that they communicate additional material information as that information becomes available, but no later than two hours after the initial notification. We seek comment on our proposed means for PSAP notification. Are these means—by telephone and in writing

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<sup>33</sup> *911 Reliability Report and Order*, 28 FCC Rcd at 17528-29, para. 147.

<sup>34</sup> See, e.g., *T-Mobile USA, Inc.*, File No. EB-SED-15-00018025, Order, 30 FCC Rcd 7247, 7247, para. 2 (EB 2015) (*T-Mobile Order*) (describing the nationwide T-Mobile outage in August 2014); *AT&T Mobility, LLC*, File No. EB-SED-17-00024532, Order, 33 FCC Rcd 6144, 6145, para. 2 (EB 2018) (describing the nationwide AT&T Mobility outage in March 2017).

<sup>35</sup> See *T-Mobile Order*, 30 FCC Rcd at 7247, para. 2.

<sup>36</sup> See *id.*

<sup>37</sup> PSHSB, March 8, 2017 AT&T VoLTE 911 Outage Report and Recommendations, PS Docket No. 17-68, at 3, n.1 (2017), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-344941A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-344941A1.pdf) (*AT&T VoLTE 911 Outage Report*).

<sup>38</sup> *AT&T Mobility, LLC*, File No. EB-SED-17-00024532, Consent Decree, 33 FCC Rcd 6144, 6145, para. 2 (EB 2018); *AT&T VoLTE 911 Outage Report* at 10, para. 19; *id.* at 13, para. 24 (stating that “approximately 12,600 unique users attempted to call 911, but were unable to reach emergency services through the traditional 911 network”); Letter from Karima Holmes, Director, District of Columbia Office of Unified Communications (OUC), to PSHSB, PS Docket No. 17-68, at 1-2 (Mar. 31, 2017) (Washington, DC OUC *Ex Parte* Letter) (detailing how her office was left to coordinate with other PSAPs to determine whether AT&T Mobility’s 2017 nationwide 911 outage was affecting the Washington DC PSAP because of “the lack of initial notification by the carrier to the affected area”).

via electronic means—adequate for notifications from originating service providers? Are they adequate for notifications from covered 911 service providers? Are there alternative methods of notification that PSAPs would prefer? We also seek comment on the proposed frequency of updating PSAPs with material outage information. Is this proposed frequency sufficient for PSAPs? During an extended outage, when material information may not change for many hours, how should we require originating and covered 911 service providers keep PSAPs informed?

13. We anticipate that such changes will enhance PSAP situational awareness of outages generally and will ensure that PSAPs receive critical information in a timely manner by providing a uniform set of expectations for those providers with whom they interface. This in turn will enhance PSAPs' abilities to direct scarce resources toward mitigating outages rather than seeking out information and will further streamline the ability of the Commission to administer the rules and the ability of providers to fulfill their obligations. This view was underscored by the Association of Public-Safety Communications Officials (APCO),<sup>39</sup> and comments from other public safety stakeholders during the Bureau's 2017 workshop on best practices and recommendations to improve situational awareness during 911 outages.<sup>40</sup> Public safety officials stated that the critical information contained in these notifications enables them to be more efficient.<sup>41</sup> One participant, Dave Mulholland of Arlington County 9-1-1, stated that prompt communication of this critical information would save "a lot of time, energy, and effort" by preventing PSAPs from needing to reach out to neighboring PSAPs to determine the breadth of an outage.<sup>42</sup> Evelyn Bailey of the National Association of State 911 Administrators (NASNA) continued, stating that "[PSAPs] need to know as much specific [outage] information as possible."<sup>43</sup> Public safety representatives requested that PSAPs receive equivalent outage notifications regardless of where in the network an outage occurs.<sup>44</sup> In other words, according to the public safety representatives speaking during the webcast, PSAP notifications should not differ depending on whether the outage is caused by a disruption in an originating service provider's network versus a covered 911 service provider's network. As we discuss below, PSAPs that receive actionable 911 outage notifications use the information in these notifications to facilitate reliable and timely public access to emergency services.

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<sup>39</sup> See APCO May 31, 2016 Comments, PS Docket Nos. 13-239 and 11-60, at 4 (rec. May 31, 2016), <https://ecfsapi.fcc.gov/file/60002084987.pdf>; APCO July 16, 2018 Comments, PS Docket No. 11-60, at 2-3 (rec. July 16, 2018), <https://ecfsapi.fcc.gov/file/107161589106704/APCO%20comments%20Wireless%20Resiliency%20Framework%20July2018.pdf>; APCO July 16, 2018 Comments, PS Docket No. 11-60, at 2 (rec. July 16, 2018), <https://ecfsapi.fcc.gov/file/107161589106704/APCO%20comments%20Wireless%20Resiliency%20Framework%20July2018.pdf>; APCO Reply, PS Docket No. 11-60, at 3-4 (rec. May 20, 2019), <https://ecfsapi.fcc.gov/file/1052005119665/APCO%20comments%20Wireless%20Resiliency%20PN%20May%202019%20Final.pdf>; Letter from Jeffrey Cohen, Chief Counsel, APCO International, to Marlene Dortch, Secretary, FCC, PS Docket No. 11-60 (filed Aug. 7, 2019).

<sup>40</sup> See *Public Safety and Homeland Security Bureau Announces Agenda for Workshop on Improving Situational Awareness During 911 Outages*, PS Docket No. 17-68, Public Notice (PSHSB 2017); PSHSB, *Improving Situational Awareness During 911 Outages* (Sep. 11, 2017) (*PSHSB 911 Workshop Webcast*) at 108:30, <https://www.fcc.gov/news-events/events/2017/09/improving-situational-awareness-during-911-outages>; *Public Safety and Homeland Security Bureau Shares Recommended Practices from September 11, 2017 911 Workshop*, PS Docket No. 17-68, Public Notice (PSHSB 2018).

<sup>41</sup> See *PSHSB 911 Workshop Webcast* at 22:52, 24:27.

<sup>42</sup> See *PSHSB 911 Workshop Webcast* at 22:52 (Dave Mulholland, Administrator, Arlington County Emergency Communications Center).

<sup>43</sup> See *PSHSB 911 Workshop Webcast* at 24:27 (Evelyn Bailey, Executive Director, NASNA).

<sup>44</sup> See *PSHSB 911 Workshop Webcast*, at 108:30 (Evelyn Bailey, Executive Director, NASNA stating that a notification would be helpful whether an outage occurs in an originating service provider's network or a covered 911 service provider's network).

14. We seek comment on our proposal to harmonize the timing, means, and frequency of PSAP notification for originating service providers and covered 911 service providers. While we observe that the AT&T Mobility and T-Mobile outages referenced above provide examples of inadequate PSAP notifications by originating service providers in the context of outages that only affect 911 calls, we note that both originating and covered 911 service providers have notice obligations. Both must include any required information in a notification to a PSAP only to the extent that it is available, both at the time of the initial notification and at the time of subsequent updates, regardless of whether the outage is a 911 outage or a general network outage that prevents all calls, insofar as either the outage disrupts or prevents communications to a PSAP or has the potential to do so.<sup>45</sup> We seek comment on any alternative requirements we should consider to minimize potential burdens, if any, on PSAPs and service providers.

15. Under our proposed rules, if adopted, originating service providers would be under greater time pressure to notify PSAPs; would need to provide contact information so that the PSAP can reach them for follow up; would need to provide notification by two means (e.g., phone call and e-mail) instead of one; and would need to provide follow-up notification. We seek comment on the extent to which these changes would increase the burden of PSAP notification for originating service providers. For example, we seek comment on whether originating service providers would need to transmit multiple, regional PSAP notifications under our proposed rules when 911 outages affect areas monitored by more than one Network Operations Center (NOC) and the local NOC is the best point of contact for PSAPs' outage-related inquiries, whereas our current rules would only require them to transmit one.

16. We note that in certain circumstances, PSAPs may find that there are benefits to learning of outages or network disruptions that potentially affect 911 but do not meet our current reporting thresholds.<sup>46</sup> Are our thresholds for PSAP notification too high? Should we modify our notification requirements so that originating and covered 911 service providers are required to notify PSAPs of network disruptions that potentially affect 911 service but do not meet the thresholds necessary to report to the Commission? What would be the appropriate outage reporting threshold requiring PSAP notification? We seek comment on the utility to PSAPs and benefits to public safety of any consequent increased situational awareness of network outages potentially affecting 911. We also seek comment on the costs of lowering these thresholds in light of the expected increase in notifications to PSAPs. We seek comment on how many additional outages beyond the estimated 37,000 outages that potentially affect 911 each year would be reportable to PSAPs.<sup>47</sup>

17. We seek comment on the cost and benefits of originating service providers notifying PSAPs about 911 outages within the same timeframe, by the same means, and with the same frequency that covered 911 service providers currently do. We note that our cost estimates below are incremental to the costs that originating service providers already incur to notify PSAPs of outages that potentially affect them pursuant to the Commission's rules.<sup>48</sup> We seek comment on those estimates. Additionally, the actual cost that originating service providers would incur to comply with this requirement may be substantially lower than our estimate.<sup>49</sup> For example, Verizon suggests that some service providers may have automated their PSAP outage notification processes.<sup>50</sup> For originating service providers that have

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<sup>45</sup> See 47 CFR § 4.9 (a)(4), (c)(2)(iv), (e)(1)(v), (f)(4), (g)(1)(i), (h).

<sup>46</sup> Letter from Mark Reddish, Senior Counsel, APCO, to Marlene Dortch, Secretary, FCC, PS Docket Nos. 13-75, ET Docket No. 04-35, at 1 (Apr. 15, 2021) (APCO *Ex Parte* Letter).

<sup>47</sup> Our estimate of 37,000 outages that potentially affect 911 each year is based on the incidence of outages that potentially affect 911 in NORS reports during 2020.

<sup>48</sup> See *infra* note 118.

<sup>49</sup> 47 CFR § 4.9 (a)(4), (c)(2)(iv), (e)(1)(v), (f)(4), (g)(1)(i).

<sup>50</sup> See Verizon July 16, 2018 Comments at 4 (“Originating service providers can periodically double-check their notification triggers to minimize the instances in which they are inadvertently notifying PSAPs of outages for which the PSAPs’ covered 911 service providers are responsible.”).

automated PSAP notification, we anticipate that our proposed changes to the notification process would not result in recurring costs.<sup>51</sup> We seek comment on this premise, as well as on the extent to which service providers have set up automated triggers for PSAP notification. We expect that the costs of PSAP outage notifications will fall as service providers transition to an automated PSAP outage notification process. We seek comment on the extent to which service providers expect to transition to an automated notification process and the timeframe for any such transition.

## 2. Ensuring PSAPs Receive Actionable Information about 911 Outages

18. Since the adoption of the PSAP notification rules, PSAPs have reported that notifications they receive often are confusing or uninformative, and have emphasized the need for clear and actionable information regarding 911 outages so 911 authorities can inform the public about alternative means to contact emergency services.<sup>52</sup> Commenters representing public safety and industry agree that uniform information elements in PSAP notifications can help minimize confusion at PSAPs.<sup>53</sup> We also have observed that when PSAPs receive actionable 911 outage notifications, they are empowered to use reverse 911, post on social media platforms, work with local media to run on-screen text crawls, and use other tools at their disposal to notify the public of alternative means to reach their emergency services.<sup>54</sup> During AT&T Mobility's nationwide 911 outage, for example, when AT&T notified PSAPs in Orange County, Florida several hours after it discovered the outage, Orange County PSAPs were able to take measures to notify the public of their alternative 10-digit phone numbers as a means to reach their

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<sup>51</sup> Service providers that have automated PSAP notification would still incur costs independent of the notification process to maintain up to date PSAP contact information, as discussed in further detail below.

<sup>52</sup> See, e.g., Letter from Dana Wahlberg, State of Minnesota 9-1-1 Program Manager, to Marlene Dortch, Secretary, FCC, PS Docket No. 17-68, at 1 (Apr. 20, 2017) (State of Minnesota *Ex Parte* Letter) (reporting that PSAPs find the current notifications confusing and unhelpful because they are “extremely vague” and that “[Minnesota] PSAPs are extremely hesitant to provide public notification . . . without having succinct information as to the scope of the outage”); Washington, DC OUC *Ex Parte* Letter at 1 (reporting that the Washington, DC PSAP found certain 911 notifications it received “very broad and did not give a geographical scope of the outage”); Letter from Daryl Branson, Senior Telecom Analyst, Colorado Public Utilities Commission (COPUC), to Marlene Dortch, Secretary, FCC, PS Docket No. 17-68, at 3 (Apr. 3, 2017) (explaining how difficult it is for PSAPs to understand whether and how outages are affecting them); Texas 9-1-1 Alliance, the Texas Commission on State Emergency Communications, and the Municipal Emergency Communications Districts Association July 16, 2018 Comments at 3 (Texas 9-1-1 Entities July 16, 2018) (“a lack of specificity in outage notifications in the past has created confusion.”); Letter from Tanessa Cabe, Telecommunications Counsel, NYC Information Technology and Telecommunications, to Marlene Dortch, Secretary, Federal Communications Commission, PS Docket No. 17-68, at 1-2 (Mar. 31, 2017) (requesting direct, immediate granular information regarding 911 outages that they had not received); *PSSHB 911 Workshop Webcast* at 87:21 (Evelyn Bailey, Executive Director, NASNA, remarking that PSAPs having reliable information is critical for notifying the public); *PSSHB 911 Workshop Webcast* at 69:00 (David Mulholland, Administrator, Arlington County, VA, Emergency Communications Center, remarking that if even a small part of the county has difficulty placing a 911 call, then PSAPs must still inform those citizens of the outage as quickly and accurately as possible).

<sup>53</sup> See ATIS July 16, 2018 Comments at 5; INdigital Comments at 6-7; Texas 9-1-1 Entities July 16, 2018 Comments at 2-3.

<sup>54</sup> *PSSHB 911 Workshop Webcast* at 144:51 (David Mulholland, Administrator, Arlington County, VA, Emergency Communications Center, on PSAPs' use of reverse 911); *id.* at 84:00 (John Haynes, Deputy Director, Chester County, Pennsylvania Emergency Service, on PSAPs' use of social media); *id.* at 87:21 (Evelyn Bailey, Executive Director, NASNA, on PSAPs' use of local media); *AT&T VoLTE 911 Outage Report* at 12-13, para. 23 (stating that PSAP's leveraged their alternative 10-digit number to receive calls for emergency service during the 911 outage, relied on text-to-911, and mass notification tools); see also *Workshop Recommended Practices Public Notice*, 33 FCC Rcd at 11-13 (recommending that PSAPs become authorized to use Wireless Emergency Alerts and ensure that their notifications to the public are “accessible to all consumers, including those with hearing or other disabilities and those with limited English proficiency”).

emergency services.<sup>55</sup> Once Orange County PSAPs provided their alternative 10-digit phone numbers to the public, they received 172 calls to those numbers during the one and a half hours until AT&T Mobility resolved the outage.<sup>56</sup> The Bureau has credited these measures as being critical to maintaining the public's continued access to emergency services during several widespread 911 outages.<sup>57</sup>

19. We thus propose to require originating service providers and covered 911 service providers to include "all available material information" in their PSAP outage notifications.<sup>58</sup> We believe this proposal will help ensure that PSAPs receive relevant, actionable information to better understand 911 outages and to promote continuity of 911 service, while minimizing superfluous or vague information. In addition to the specific information elements articulated for covered 911 service providers in the current rules, we propose that material information should also include the following for both originating service providers and covered 911 service providers, where available:

- The name of the service provider offering the notification;
- The name of the service provider(s) experiencing the outage;
- The date and time when the incident began (including a notation of the relevant time zone);
- The type of communications service(s) affected;
- The geographic area affected by the outage;
- A statement of the notifying service provider's expectations for how the outage will affect the PSAP (e.g., dropped calls or missing metadata);<sup>59</sup>
- The expected date and time of restoration, including a notation of the relevant time zone;
- The best-known cause of the outage; and
- A statement of whether the message is the notifying service provider's initial notification to the PSAP, an update to an initial notification, or a message intended to be the notifying service provider's final assessment of the outage.

20. These proposed outage notifications elements follow the template developed by the Alliance for Telecommunications Industry Solutions' (ATIS) Network Reliability Steering Committee (NRSC) Situational Awareness for 9-1-1 Outages Task Force Subcommittee (NRSC Task Force), working together with public safety stakeholders, minus the NRSC Task Force's inclusion of an incident identifier.<sup>60</sup> In the *2018 911 Reliability Public Notice*, the Bureau sought comment on whether the NRSC Task Force's template should serve as a model for standardization,<sup>61</sup> and commenters support the NRSC

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<sup>55</sup> *AT&T VoLTE 911 Outage Report* at 12-13, para. 23.

<sup>56</sup> *Id.*

<sup>57</sup> See *AT&T VoLTE 911 Outage Report* at 7-8, paras. 10-11; see also *T-Mobile Order*, 30 FCC Rcd at 7247; PSHSB, December 27, 2018 CenturyLink Network Outage Report (2019), <https://www.fcc.gov/document/fcc-report-centurylink-network-outage/>; Verizon, File Nos. EB-SED-14-00017189, EB-SED-14-00017676, EB-SED-14-00017373, Order, 30 FCC Rcd 2185 (EB 2015) (*Verizon Order*).

<sup>58</sup> See Appendix A.

<sup>59</sup> Missing metadata could include an intermittent, partial, or complete loss of ALI or ANI, the absence of which could prevent a PSAP from timely deploying first responders to the caller's location.

<sup>60</sup> ATIS, NRSC Task Force, Service Providers: Outage Reporting Structure and Potential Types of 911 Outages at 3 (2018), [https://access.atis.org/apps/group\\_public/download.php/44352/ATIS-0100066.zip](https://access.atis.org/apps/group_public/download.php/44352/ATIS-0100066.zip) (*ATIS NRSC Task Force Outage Reporting Report and Template*). We note that the NRSC Task Force also included an incident identifier among the various pieces of information that a service provider should convey to a PSAP during an outage. Several public safety organizations were included in NRSC's collaborative effort, including APCO, NASNA, and NENA. See *ATIS, Network Reliability Steering Committee*, [http://www.atis.org/01\\_committ\\_forums/nrsc/](http://www.atis.org/01_committ_forums/nrsc/) (last visited Mar. 12, 2020). The NRSC Task Force's template is intended to serve as a model for "all types of service providers that report service impacting outages to the PSAP community." Letter from Thomas Goode, ATIS General Counsel, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 13-75, at 1 (filed June 29, 2018).

<sup>61</sup> *2018 911 Reliability Public Notice* at 4.

Task Force's work.<sup>62</sup> For example, the National Emergency Number Association (NENA) suggests that the elements of the NRSC Task Force's template "will aid PSAPs and 9-1-1 authorities in quickly understanding the nature of a service degradation or network downtime."<sup>63</sup>

21. We seek comment on whether these baseline elements would provide useful and actionable information to PSAPs. Will ensuring that PSAPs receive the same information regardless of where a 911 outage originates promote situational awareness for PSAPs in a manner that aids in emergency response? Are there additional informational elements that should be added, or should any elements listed be removed or revised? We note that the NRSC Task Force's template recommends the inclusion of a unique identifier associated with the outage. Would this help PSAPs organize and access information related to a particular outage? APCO suggests covered 911 service providers should also offer PSAPs graphical interface data describing the geographic area potentially affected by outages, such as "coordinate boundaries for the outage area, GIS files, or text information from the covered [911] service providers' internal reporting systems," because such information could help first responders understand which areas could be affected by an outage.<sup>64</sup> To what extent do originating and covered 911 service providers have this information available within the timeframe that they would be required to notify PSAPs? We seek comment on what steps service providers would need to take to include graphical information in providing actionable information to PSAPs. We ask commenters to describe in detail how PSAPs would use such data to benefit the public, including how such data could be used to reduce first responder response times. Would requiring them to provide this information to PSAPs impose a significant burden or divert resources, thereby delaying service restoration? To the extent service providers are unable to provide data for visualizing outages and disruptions, what are the costs of developing this capability, especially for smaller providers?

22. We note that, under both the existing and proposed rules, service providers must include any outage information in their PSAP notifications only to the extent that it is available, both at the time that they transmit the initial notification and at the time that they transmit any subsequent notifications. We seek comment on how this approach has worked in practice. We further seek comment on whether requiring service providers to include additional, specific information elements in their PSAP notifications would allow PSAP personnel to comprehend outage information more quickly and whether such information would improve PSAPs' ability to respond when the public cannot reach 911 or when 911 services otherwise do not work as intended.<sup>65</sup> Conversely, we seek comment on whether this additional

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<sup>62</sup> See, e.g., West Safety Comments at 2 (stating that West Safety "strongly supports" ATIS' efforts to "recommend best practices that standardize content and delivery of 9-1-1 outage notifications to PSAPs"); West Safety Comments at 7 ("As a co-chair of the ATIS Network Reliability Steering Committee (NRSC) Situational Awareness Task Force (NSA-TF), West Safety proudly endorses the efforts of the joint task force to provide actionable information about 9-1-1 outages to PSAPs in a consistent manner and format."); Verizon July 16, 2018 Comments at 4 ("The ATIS NRSC's ongoing project to establish a standard format for 911 outage reporting—which Verizon helped develop and supports—could also help minimize PSAPs' confusion during incidents for which they receive multiple notifications."); INdigital Comments at 6-7 (stating that "INdigital supports the ATIS templates and methods proposed" and that the NRSC Task Force's template will decrease confusion by limiting conflicting information formatting and clearly stating the source of the transmitted information); NASNA Reply at 2; Texas 911 Entities July 16, 2018 Comments at 2-3 (stating that the "the approach suggested in the ATIS Technical Report and Template seem to be positive steps in the right direction" because a "a lack of specificity in outage notifications in the past has created confusion").

<sup>63</sup> NENA July 16, 2018 Comments at 3; see also NASNA Reply at 2.

<sup>64</sup> APCO Reply at 3-4; see also APCO *Ex Parte* Letter at 1-2.

<sup>65</sup> See *PSHSB 911 Workshop Webcast* at 26:07 (David Jones, Senior Vice President, Mission Critical Partners, Public Policy Committee Member, Industry Council for Emergency Response Technology, stating that PSAPs need certain informational elements to inform the public how it can "best access emergency services"); *PSHSB 911 Workshop Webcast* at 68:58 (David Mulholland, Administrator, Arlington County, VA, Emergency Communications Center, stating that these informational elements reflect crucial information that would be useful to PSAPs in achieving better outcomes for those who require aid).

information could have negative consequences for emergency response, such as overburdening PSAPs with too much information, thereby, potentially delaying response times. If so, how could we revise our proposal to minimize the possibility of notification fatigue?

23. We do not propose to require information to be provided in a particular format (e.g., by mandating use of the NRSC Task Force's template). Instead, we propose an approach that establishes a baseline expectation of shared information while otherwise preserving flexibility for originating service providers and covered 911 service providers.<sup>66</sup> We seek comment on this approach, or on whether we should prescribe such a format, and if so the terms thereof. Considering the diverse, localized nature of 911 networks in the United States, and the extent to which notifications already may be informed by originating service providers' and covered 911 service providers' agreements with state and local 911 authorities, we specifically seek comment on whether this approach would allow originating service providers and covered 911 service providers to better meet individual PSAPs' distinct needs. We would anticipate that service providers' notification processes may go beyond those proposed in this Notice in some circumstances, such as by mutual agreement of the parties.

24. In March, we adopted a Report and Order that established an outage information sharing framework to provide state and federal agencies with access to outage information to improve their situational awareness, enhance their ability to respond more quickly to outages impacting their communities, and help save lives, while safeguarding the confidentiality of this data.<sup>67</sup> We acknowledge that disclosing specific outage information to PSAPs may make that information available to other parties and therefore seek comment on whether we should supply similar safeguards as adopted in the NORS Information Sharing Report and Order.<sup>68</sup> We seek to balance PSAPs' need for actionable information with providers' need for confidentiality. We seek comment on how the Commission might address this balance. For example, is there a subset of information that would prove as useful for PSAPs that could be disclosed without overly burdening the presumption of confidentiality afforded reported outage information? Could PSAPs obtain access to this same outage information from state or other agencies more rapidly and efficiently than directly from service providers?

25. We seek comment on the cost and benefits of originating service providers and covered 911 service providers to report the same specific, actionable content in their PSAP outage notifications. We anticipate the actual cost may be substantially lower than our estimate below because our estimated number of service providers that would be required to comply is conservatively broad. Further, we expect that the additional information that we propose to require originating service providers and covered 911 service providers to report to PSAPs already is available to them at the time of notification, and that the example of the NRSC Task Force's template would help to streamline compliance timelines and reduce costs.<sup>69</sup> We seek comment on whether standardization and streamlining could reduce the compliance costs for originating service providers that also act as covered 911 service providers in other contexts, or for originating service providers that are already offering notifications to PSAPs, but doing so with limited guidance on what information to provide. We also note that the NRSC has already created and shared a tutorial for PSAPs to facilitate the sharing of PSAP contact information with originating service

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<sup>66</sup> *Workshop Recommended Practices Public Notice*, 33 FCC Rcd at 12 (stating that “[s]ervice providers should coordinate with state 911 authorities in advance about 911 notification approaches that work best for their respective areas”); *PSSB 911 Workshop Webcast* at 46:20 (Mark Longstaff, Vice President of Service, Safety & Security Technologies Division, Comtech Telecommunications Corporation, remarking that coordinating with states on who receives certain notifications could help determine a notification's audience).

<sup>67</sup> *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Second Report and Order, FCC 21-34 (rel. Mar. 18, 2021).

<sup>68</sup> *Id.*

<sup>69</sup> See generally *ATIS NRSC Task Force Outage Reporting Report and Template*.

providers and covered 911 service providers.<sup>70</sup> The NRSC stated that it “expects that both service providers and PSAPs can benefit from this tutorial.”<sup>71</sup> To the extent that commenters advocate a different approach, we ask for costs and benefits of such alternatives.

### 3. Updating and Maintaining Accurate Contact Information for Officials Designated to Receive Outage Notifications at Each PSAP

26. The Commission’s current outage reporting rules require originating service providers and covered 911 service providers to transmit PSAP outage notifications to any official who has been designated by the management of the affected PSAP as the provider’s contact person for communications outages at that facility.<sup>72</sup> To ensure that PSAPs receive the information they need about 911 outages, we propose to require originating service providers and covered 911 service providers to develop and implement procedures for gathering, maintaining, and updating PSAP contact information. Because time is of the essence when a 911 outage occurs, originating service providers and covered 911 service providers must notify the right contacts at PSAPs so that the PSAPs can take prompt measures to help the public continue to reach emergency services.

27. We propose to amend section 4.9(h) of our rules to require both originating service providers and covered 911 service providers to identify the PSAPs they serve and to maintain up-to-date contact information for those PSAPs. In particular, we propose to require that originating and covered 911 service providers develop and implement standard procedures to: (1) maintain current contact information for officials designated to receive outage notifications at each PSAP in areas that they serve; and (2) on a routine basis, at least annually, review and update their PSAP contact information to ensure it remains current.<sup>73</sup> We seek comment on this proposal. We also seek comment on whether to require originating service providers and covered 911 service providers to offer contact information reciprocally to PSAPs. We do not, however, propose to specify the procedures that service providers must develop or follow to elicit PSAP contact information to retain flexibility in this regard. We seek comment on this approach.

28. We seek comment on the cost and benefits of originating service providers and covered 911 service providers to maintain up-to-date contact information for PSAPs in areas they serve. We anticipate that the actual costs that originating service providers and covered 911 service providers would incur to comply with this requirement may be substantially lower than our estimate below because the

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<sup>70</sup> Press Release, ATIS, ATIS Tutorial Educates Public Safety Answering Points on Outage Contact Information Data Collection Policies (Oct. 7, 2020), <https://www.atis.org/press-releases/atis-tutorial-educates-public-safety-answering-points-on-outage-contact-information-data-collection-policies/>.

<sup>71</sup> *Id.*

<sup>72</sup> 47 CFR § 4.9(a)(4), (c)(2)(iv), (e)(1)(v), (f)(4), (g)(i), (h).

<sup>73</sup> We note that there are other sources of PSAP contact information, but these sources may not be appropriate for all service providers to rely upon for purposes of PSAP outage notification. For example, as mentioned above, our rules currently require notifications to officials designated by a PSAP, and as mentioned below, certain commercial mobile service providers have voluntarily committed to provide relevant up-to-date contact information for a carrier/911 special facility contact database. Furthermore, consent decrees with service providers that have experienced 911 service outages require those entities to develop and implement procedures to maintain current contact information for officials designated to receive outage notifications at each PSAP that they serve, and to annually review and update their list of PSAP contact information. *Verizon Order*, 30 FCC Rcd at 2190-91, para. 12; *CenturyLink, Inc.*, File No. EB-SED-14-00017187, Order, 30 FCC Rcd 2848, 2853-54, para. 11 (2015); *T-Mobile USA, Inc.*, File No. EB-SED-15-00018025, Consent Decree, 30 FCC Rcd at 7249, 7252, para. 11(b)(v) (EB 2015) (*T-Mobile Consent Decree*). But the extent to which service providers can all access the same information and should rely on it for purposes of outage information is not uniform for these data sets. We encourage PSAPs to provide contact information specifically for outage notification purposes, rather than a general contact, and to ensure that the contact is reasonably durable through staff turnover and unforeseen events. However, in any event, under our proposal, we would require the responsibility of compiling and updating PSAP contact information to rest with the appropriate service provider, as outlined herein.

Commission's rules already require these service providers to notify PSAPs of 911 outages and, as such, they should already have accurate PSAP outage contact information on hand. Insofar as service providers already have up to date PSAP contact information, we do not anticipate that compliance with this proposed requirement would present an incremental cost.

29. We also note that in November 2019, the NRSC Task Force approved standard operating procedures for updating PSAP contact information in a centralized PSAP contact database.<sup>74</sup> In that document, the Task Force suggested that a centralized database would potentially relieve service providers of the need to maintain their own internal processes and responsibilities to work independently with each 911 authority.<sup>75</sup> Subsequently, in October 2020, the NRSC noted efforts by public safety organizations such as NENA to develop a PSAP contact database.<sup>76</sup> The NRSC stated that to encourage broad use of a PSAP contact information database, it “would need to be made available at little or no cost” for service providers.<sup>77</sup> The NRSC also expressed concerns regarding data integrity and who would be responsible for updating contact information.<sup>78</sup> As such, the NRSC argued that industry adoption of such a database could prove challenging due to “the potential for liability associated with reliance on the database.”<sup>79</sup>

30. The Bureau sought comment on the NRSC letter in December 2020.<sup>80</sup> In response, USTelecom called a PSAP contact information database “critically important for industry and PSAP coordination during emergencies.”<sup>81</sup> NENA, which operates a voluntary PSAP registry service, stated that there is an “immediate need for an authoritative service that can provide contact information for PSAPs during emergencies.”<sup>82</sup> APCO continued its support of a PSAP contact information database and urged the Commission to require service providers to establish and maintain a secure two-way contact information database.<sup>83</sup> These comments indicate strong interest in a PSAP contact information database to facilitate reliable and rapid communication between service providers and PSAPs in an emergency.<sup>84</sup>

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<sup>74</sup> See ATIS, NRSC Task Force, Standard Operating Procedures (SOP) for Updating Public Safety Answering Point (PSAP) Outage Contact Information at ii (2019), available at [https://access.atis.org/apps/group\\_public/download.php/50322/ATIS-0100068\(2019-11\).pdf](https://access.atis.org/apps/group_public/download.php/50322/ATIS-0100068(2019-11).pdf) (NRSC Task Force SOPs). The NRSC Task Force members include industry, 911 associations, and PSAP representatives, with the goal of providing actionable information to PSAPs and originating service providers and covered 911 service providers in the case of a 911 outage. See NRSC Task Force SOPs at ii.

<sup>75</sup> *Id.* at 3.

<sup>76</sup> See Letter from Thomas Goode, General Counsel, ATIS, to Marlene Dortch, Secretary, FCC, PS Docket Nos. 11-60, 13-75 (filed Dec. 7, 2020).

<sup>77</sup> *Id.*

<sup>78</sup> The Commission also maintains a voluntary PSAP registry, intended to aid the Commission in evaluating the state of PSAP readiness and E911 deployment. It is updated periodically, but does not have recurring deadlines for PSAPs to submit updates. As such, the Commission does not believe this resource would be appropriate for the purposes proposed here. See FCC, 911 Master PSAP Registry, <https://www.fcc.gov/general/9-1-1-master-psap-registry>.

<sup>79</sup> *Id.*

<sup>80</sup> *Public Safety and Homeland Security Bureau Seeks Comment on a National 911 Call Center Contact Information Database*, DA 20-1519, Public Notice, 35 FCC Rcd 14686 (PSHSB 2020).

<sup>81</sup> USTelecom – The Broadband Association, Comments, PS Docket Nos. 11-60 and 13-75, 1 (USTelecom Comments).

<sup>82</sup> NENA, Comments, PS Docket Nos. 11-60 and 13-75, 2 (NENA Comments).

<sup>83</sup> APCO International, Comments, PS Docket Nos. 11-60 and 13-75, 1 (APCO Comments).

<sup>84</sup> APCO Comments at 1; NENA Comments at 2. *Contra* T-Mobile, Comments, PS Docket Nos. 11-60 and 13-75, 2 (T-Mobile Comments) (“[a] national database is unnecessary because many covered entities already have made

(continued....)

31. Therefore, we seek comment on whether a mandatory PSAP contact information database accessible to and updated by originating and covered 911 service providers, as well as PSAPs, would warrant the Commission adopting alternative requirements other than those proposed above. We seek comment on the contours of such a database.

32. As a threshold question, we ask how such a database would be administered. Should we, as APCO International suggests, require service providers to host and operate the database?<sup>85</sup> Are originating service providers and covered 911 service providers already participating in the development of a centralized PSAP contact database? We note the efforts of wireless carriers previously to establish the National Emergency Address Database (NEAD) to facilitate provision of 911 dispatchable location information for wireless callers.<sup>86</sup> However, wireless carriers notified the Commission that they had abandoned the NEAD after failing to secure necessary agreements with other entities.<sup>87</sup> We note further the commitment of several wireless provider signatories to the Wireless Resiliency Cooperative Framework (Framework) to “establish[] a provider/PSAP contact database” to enhance coordination during an emergency, the existence of which may mitigate the costs of creating a PSAP contact information database, particularly for those wireless provider signatories.<sup>88</sup> What particular lessons learned may be relevant for a similar service provider-operated PSAP contact information database? We seek comment on the utility of a database developed, owned, and operated by both originating and covered 911 service providers.

33. We also seek comment on how such a database would be funded and how such a funding mechanism would impact smaller service providers. As we note below, charging PSAPs and public safety entities for access to the database could inhibit PSAP participation in the database, which would be inconsistent with our stated goal of enhancing public safety. What funding mechanisms would work for such a database? How much would the creation and maintenance of such a PSAP contact information database cost for initial setup? Given that many service providers already maintain updated PSAP contact information, we seek comment on the ease and costs of transitioning from many independent databases to a unified database.<sup>89</sup> What would the recurring costs of maintaining and updating a PSAP contact information database be? While such a database would appear to provide certain informational benefits, how significant would these benefits be in practice? We also ask commenters to describe these (or any other) potential benefits with specificity.

34. The Commission is especially interested in how a PSAP contact information database would best be kept current and accurate, as well as where the responsibility for updating and maintaining the database would lie. We note that the utility of a PSAP contact information database is dependent upon the accuracy of the information it contains. We consequently seek comment on how best to ensure the reliability and integrity of the data contained therein. For example, NENA’s PSAP registry is free of

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substantial investments to create PSAP contact databases to comply with the Commission’s rules.”); *cf.* Lumen, Comments, PS Docket Nos. 11-60 and 13-75, 1 (Lumen Comments) (Lumen argues that the database should be voluntary).

<sup>85</sup> APCO Comments at 1.

<sup>86</sup> *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Report and Order, 30 FCC Rcd 1259 (2015).

<sup>87</sup> See Letter from Thomas C. Power, Secretary, and Thomas K. Sawanobori, Vice President, NEAD, to Marlene Dortch, Secretary, FCC, PS Docket No. 07-114 (Feb. 14, 2020) (explaining the decommissioning of the NEAD); Letter from Matthew Gerst, Vice President, Regulatory Affairs, CTIA, to Marlene Dortch, Secretary, FCC, PS Docket No. 07-114 (Apr. 26, 2019).

<sup>88</sup> *Improving the Resiliency of Mobile Wireless Communications Networks; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 11-60, 13-239, Order, 31 FCC Rcd 13745, 13748, para. 5 (2016).

<sup>89</sup> T-Mobile Comments at 3.

charge for PSAPs.<sup>90</sup> We seek comment on whether allowing PSAPs to participate free of charge will enhance the accuracy of PSAP contact information in the database. Furthermore, we seek comment on whether users and creators of a PSAP contact information database should be prohibited from using that information for any other purpose not related to public safety or maintenance of the database.<sup>91</sup> We seek comment on whether and how frequently service providers and PSAPs would update their own information in the database. Would the operator of the database need to regularly validate this information on a monthly or annual basis? We seek comment on the frequency of data validation necessary to ensure the integrity and accuracy of the database.

35. If service providers elect to have a third party operate the PSAP contact information database, we seek comment on what possible liability issues could arise from such a third-party database. If the failure of a service provider to notify a PSAP of an outage were due to inaccurate information in the database, who would the potential liable parties be? Several commenters argue that service providers should be shielded from liability for reliance upon information provided by the PSAP contact information database.<sup>92</sup> We seek comment on whether such a safe harbor would encourage or inhibit use of the PSAP contact information database. Would such an effort help to reduce the costs of compliance with this proposal? Further, rather than establishing a safe harbor rule, would service provider liability concerns be more appropriately addressed through a requirement that service providers contracting with third party database operators require those operators to implement measures to ensure the accuracy of the third-party database that are at least as stringent as the measures that the service providers employ for their internal databases?

#### **B. Customer Notification of 911 Outages**

36. When an outage affects 911 service, dialing “9-1-1” may not always connect someone in need of emergency services with a PSAP, which may lead to devastating effects.<sup>93</sup> However, those in need of emergency services often do not know when 911 services are down, only that their emergency calls remain unanswered. Therefore, to increase public awareness of 911 availability and to help protect the public’s safety when 911 services are disrupted, we propose to require service providers to notify their customers of 911 outages within 60 minutes of determining there is an outage by providing material information on their websites and Internet-related applications.

37. *Notification Breadth.* We propose that cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers notify their customers when there is an outage that affects the availability of 911 voice or text-to-911 services for their customers. This includes both originating service providers and covered services providers, as they each provide an essential link in the chain to ensure completion of a 911 call.<sup>94</sup> Because 911 unavailability due to an outage on a covered 911 service provider’s network affects originating service providers as well, we propose to require both originating service providers and covered 911 service providers supply public notification of 911 unavailability to their customers. We seek comment on this proposal.

38. *Notification Threshold.* We propose that service providers notify their customers of a 911 outage that meets the NORS reporting thresholds and also prevents emergency callers on their

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<sup>90</sup> NENA Comments at 2, 5.

<sup>91</sup> APCO *Ex Parte* Letter at 2.

<sup>92</sup> See Lumen Comments at 3; T-Mobile Comments at 4; USTelecom Comments at 2.

<sup>93</sup> See, e.g., Louis Aguirre & Todd Tongen, *Family says Broward County 911 system failure caused Davie man’s death*, Local 10 (Apr. 30, 2018), <https://www.local10.com/news/2018/04/30/family-says-broward-county-911-system-failure-caused-davie-mans-death/> (showing that the family and neighbors of a man experiencing a fatal medical emergency did not know that 911 calls were failing to transmit to PSAPs).

<sup>94</sup> We note that some covered 911 service providers also operate as originating service providers, though other covered 911 service providers have only originating service providers as their customers who would be in need of public notification during a period of 911 unavailability.

networks from reaching a PSAP by dialing or texting 9-1-1.<sup>95</sup> We believe that such a threshold would minimize potential confusion about 911 availability and ensure that the public is only notified of outages that materially affect emergency callers. We seek comment on this public notification threshold. For example, if 911 calls are delivered but without audio for one of the parties (either caller or 911 call taker), should this be considered 911 unavailability? If callers cannot reach emergency services by dialing 9-1-1 but text-to-911 still operates, should this constitute 911 unavailability? And should a situation where text-to-911 is unavailable due to a network disruption but traditional voice calls to 911 are possible constitute 911 unavailability? As consumers with disabilities may be more likely to text rather than call 911, are there additional considerations in determining 911 unavailability? We seek comment on whether this threshold is too narrow, and if so, which additional types of disruptions to 911 services should trigger public notification. For example, should a loss of transmission of ALI or ANI prompt public notification? We also seek comment on whether this threshold is too broad.

39. *Notification Timing and Frequency.* The utility of notifications is inextricably tied to the service provider's ability to deliver timely and accurate notifications. We propose a similar arrangement for public notifications as presented in section 4.9(h) of our rules for PSAPs: we propose that customer notifications commence within 60 minutes of the service provider discovering that the outage has resulted in the unavailability of 911 service.<sup>96</sup> With this proposal, we seek to balance the import of providing the public with the timely ability to access emergency services with the necessity of providing accurate outage information. We understand that when 9-1-1 is unavailable, both service providers and PSAPs are working diligently to make sure the public can reach emergency services. We seek comment on our proposal. We maintain that such an initial notification of 911 unavailability will increase the likelihood that those in need will understand that 9-1-1 is unavailable and attempt other methods to receive necessary emergency assistance. In addition, similar to our proposal regarding PSAP notification timing discussed above, we propose that service providers update public notices with material information regarding the estimated time of 911 restoration as soon as possible. The provision of updates to the public will help redirect emergency callers back to 9-1-1 and ensure that PSAPs may return to normal call-taking status. We seek comment on this proposal. Is 60 minutes the appropriate threshold? Will this timing obligation interfere with service providers' ability to provide notice and support to PSAPs? Are there other burdens that this timing proposal creates? How can they be mitigated? Conversely, is this timeframe too lengthy to provide meaningful information to the public?

40. *Notification Content.* We propose to require that service providers create public notifications that include the following: (1) a statement that there is an outage affecting 911 availability, (2) a description of the geographic area where 911 callers may face 911 unavailability, (3) an estimated time that 911 service became unavailable, and (4) an estimate of when 911 services will be restored. We further propose that service providers be required to include alternative means to reach emergency services, such as alternative contact information, at the request of the PSAP, on a per outage basis. We propose that a service provider should contact the PSAP(s) affected by 911 unavailability as soon as possible after discovery of an outage, but no later than 30 minutes after discovery to determine what, if any, alternative means of contact the PSAP would like made publicly available for the duration of the incident. We propose these elements to ensure that public notices are accurate and easily understood by end-users and are accessible for individuals with disabilities. We believe these elements also will reduce potential confusion and avoid inadvertently increasing burdens on PSAPs. In this respect, a description of the geographic scope of 911 unavailability, for example, will ensure that only those affected by 911 unavailability use alternate means other than 911 to contact emergency services. For the same reasons, including the time at which 911 first became unavailable and the estimated time of restoration in notices

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<sup>95</sup> See, e.g., 47 CFR § 4.5(e) (defining an outage that potentially affects 911 as an outage that meets at least one of four criteria).

<sup>96</sup> 47 CFR § 4.9(h). We note that our proposal for 60 minutes for customer notification allows service providers to confer with PSAPs to determine what information the PSAP wishes to share while also providing part of the required PSAP notification of the outage. See *infra* para. 40.

will ensure end-users know when they should seek alternatives, updating consumers regarding restoration time will help redirect emergency callers back to 9-1-1, which in turn will help PSAPs return to normal operations. We seek comment on our proposal. Are we including the right elements for effective public notification? Will those seeking emergency services find this information pertinent in their time of need? We also seek comment on best practices for describing geographic boundaries of affected areas. For example, a state's borders are frequently known but an outage affecting a smaller area, or an area spanning state borders, may be more difficult to accurately describe. At what fidelity and how should this information be conveyed? We also seek comment on the potential costs and benefits of this proposal.

41. We also seek comment on our proposal in light of the currently presumptively confidential treatment of outage reports and our recent adoption of a Report and Order that provides direct access to NORS and DIRS filings by certain public safety and emergency management agencies of the 50 states, the District of Columbia, Tribal nations, territories, and federal government, provided that they follow safeguards adopted by the Commission.<sup>97</sup> Information reported to the Commission under our part 4 reporting rules is presumed confidential due to its sensitive nature to both national security and commercial competitiveness. We propose that a subset of this outage report information be made publicly available, and at a less granular level than what it provided to the Commission on a confidential basis, in order to advise PSAPs and consumers when 911 service is unavailable and to arrange for alternate methods for consumers to contact PSAPs. We believe that this approach would save lives and improve emergency outcomes involving, for example, illness and injury, and that the benefits of disclosure far outweigh the increase in the risk of national security or commercial competitiveness harms. We seek comment on the relationship between the need for the confidentiality afforded reported part 4 outage information and the public's interest in 911 availability in times of critical need.<sup>98</sup> Is there specific information that would be conveyed under our public notification proposal that could implicate national security or commercial competitiveness? How might the Commission modify the parameters of the proposed customer notification to address such concerns?

42. Given that network disruptions sometimes vary in duration, geographic scope, and intensity, we seek comment on whether and to what extent service providers can develop public notification content in partnership with PSAPs in advance of unplanned outages. We also note that PSAPs are best positioned to determine what contact information to disseminate to the public during a 911 outage and that PSAPs may wish to coordinate the message delivered by service providers with their own outreach via social media or other avenues. We understand that in an outage affecting multiple PSAPs, any public notification will also need to include a geographic description of where callers may not be able to reach emergency services by dialing 9-1-1 to prevent possible caller confusion and misdirected emergency calls. As such, we seek comment on how PSAPs and service providers collectively can best develop public notification information in advance of 911 unavailability.

43. *Notification Medium.* We propose to require service providers to post public notification of 911 outages prominently on their websites and Internet-based applications, such as provider-specific apps for mobile devices. This information should be quickly accessible, with one click, from the main page of a service provider's website (e.g., T-Mobile.com or Verizon.com), and be accessible for individuals with disabilities. We believe that this will allow those seeking critical information on 911 unavailability during an emergency to obtain the information necessary to determine their next steps in procuring emergency services quickly without being inundated with information regarding 911 unavailability. Public notification in this manner may also avoid creating competing messaging with PSAPs that may choose to use affirmative outreach methods such as reverse 911 or other public notification systems to notify the public of a 911 outage. Because these require the consumer to take action, public notifications conveyed over websites and through mobile device apps do not actively alert

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<sup>97</sup> See *NORS Information Sharing Report and Order*.

<sup>98</sup> See, e.g., *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Further Notice of Proposed Rulemaking, 35 FCC Rcd 2239, 2240 at para. 1 (2020).

the consumer like wireless emergency alerts and thus do not contribute to alerting fatigue, and may complement those active measures that may be utilized by local PSAPs.<sup>99</sup>

44. We acknowledge that there are many other methods to effectuate public notifications of disruptions to 911 availability: text messages, emails, phone calls, social media, and posting on service provider websites and applications all provide near-real-time opportunities to update the public on how best to reach emergency services. Each has its pluses and minuses. For example, while they do not require affirmative action by the consumer, text messages are undeliverable to traditional wireline numbers and service providers may not have email addresses for customers. In addition, we are concerned that methods of public notification requiring broadcasting 911 unavailability broadly may engender a lack of confidence in the ability to reach emergency services by dialing 9-1-1. We believe that public confidence in 911 is critical; indeed, the Commission has long sought to buttress the public's confidence in 911.<sup>100</sup> Consequently, we believe that our proposal will best allow those seeking emergency assistance to determine alternative means to reach emergency services. We seek comment on this assessment. Would public confidence in 911 decrease in the face of too many alerts regarding 911 unavailability? Conversely, would greater transparency alleviate concerns that 911 services may be unavailable without the public's knowledge? Are there benefits to other means of notification, such as text messaging, automated phone calls, or email, that we have overlooked and that merit their inclusion? Would other means of notification more effectively reach communities where there is limited internet connectivity, for example, on some Tribal lands? Further, in areas where a significant portion of the population does not speak English as a primary language, should we require service providers to include multiple language options for the public notification?

45. In addition to accessible public notification on originating and covered 911 service provider websites, we envision that those seeking additional information would be able to input their location by address into their provider's website (or similar mobile app) and in turn receive more specific information on the geographic scope of the outage. We note that Verizon already provides "Network Notifications" in the My Verizon App, which provide Verizon Wireless customers with information on network disruptions and when restoration is expected.<sup>101</sup> We seek comment on this proposal for how customers might obtain additional information and how it might be implemented in a way that preserves confidence in 9-1-1, provides value to those in need, and is minimally burdensome on originating and covered 911 service providers.

46. Finally, we seek comment on the costs and benefits of this proposal. Is there an affordable alternative method of public notification that balances the needs of the public to know whether dialing 9-1-1 will reach emergency services with the Commission's commitment to preserving public confidence in 911? To what extent have service providers already implemented a notification framework for other alerts and important announcements that would reduce any website development costs associated with our proposal? Alternatively, are there other methods of public notifications, such as using text messages or automated phone calls, which would be likely to reach a larger proportion of service providers' customers and those customers who may have limited internet connectivity? We seek comment on the benefits and costs of implementing these alternatives.

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<sup>99</sup>Alerting fatigue may be the result of successive alerts and text messages, causing the public to become desensitized to the alerts and leading people to ignore potentially critical information about 911 unavailability and alternative means to contact emergency services during the period of unavailability.

<sup>100</sup> See, e.g., *Ensuring Continuity of 911 Communications*, PS Docket No. 14-174, Report and Order, 30 FCC Rcd 8677, 8678, para. 1 (2015) (the Commission took steps to "ensure public confidence in the availability of 911 service"); *911 Governance and Accountability; Improving 911 Reliability*, PS Docket Nos. 14-193 and 13-75, Policy Statement and Notice of Proposed Rulemaking, 29 FCC Rcd 14208, 14231, para. 57 (2014) (the Commission cited "public confidence in 911" as a reason to clarify certain obligations).

<sup>101</sup> Verizon Wireless, *My Verizon, My Verizon App, My Verizon Rewards*, <https://www.verizon.com/solutions-and-services/my-verizon-mobile/> (last visited Mar. 9, 2021).

### C. Updating the Commission's 911 Network Reliability Framework

47. Covered 911 service providers must certify annually to the Commission that they perform three reasonable measures to promote the reliability of their networks: ensure circuit diversity, maintain backup power at central offices, and diversify network monitoring.<sup>102</sup> In 2018, the Bureau asked commenters to address these 911 reliability rules' effectiveness and whether they "remain technologically appropriate, and both adequate and necessary to ensure the reliability and resiliency of 911 networks."<sup>103</sup> The record contains widespread support for the 911 reliability rules, with commenters stating that our three reasonable measures are appropriate and strengthen 911 network reliability and resiliency.<sup>104</sup> Accordingly, we find that our 911 reliability rules continue to be technologically appropriate and both adequate and necessary, and we do not intend in this proceeding to revisit or reopen those requirements, except as to the timing of the certification as noted herein.<sup>105</sup>

48. On this point, commenters differ regarding the appropriate frequency for filing the required certification. Some commenters state that the current, annual certification remains necessary to promote awareness of 911 reliability issues for covered 911 service providers' senior management and employees.<sup>106</sup> Others state that less frequent certification could make the provision of reliable 911 service more cost-effective by decreasing the burden on providers without affecting 911 network resiliency.<sup>107</sup> We seek comment on whether, as some commenters suggest, less frequent certification would be an

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<sup>102</sup> 47 CFR § 9.19(b) (providing that covered 911 service providers that cannot certify that they perform a given element may instead certify to their performance of alternative measures reasonably sufficient to mitigate the risk of failure, or that an element of certification is inapplicable to their network).

<sup>103</sup> *2018 911 Reliability Public Notice*, 33 FCC Rcd at 5987.

<sup>104</sup> *See, e.g.*, Verizon July 16, 2018 Comments at 1 ("The Commission's existing reliability requirements for covered 911 service providers have been effective in mitigating the frequency, scope, and impact of preventable 911 network outages."); CenturyLink August 13, 2018 Reply at 2 ("Based on CenturyLink's experience, the rules have improved 911 reliability and resiliency and generally work well."); USTelecom July 16, 2018 Comments at 3 (stating that "USTelecom believes the underlying 911 reliability rules remain functional and useful in ensuring network reliability and resiliency").

<sup>105</sup> *See supra* note 22 (regarding re-examining the 911 reliability rules to ensure they continue to be technologically appropriate and both adequate and necessary). We also note that the Bureau is taking measures to improve the data we receive in connection with the Commission's 911 reliability certification program, in order to ensure the Commission can effectively evaluate whether covered 911 service providers are taking appropriate steps to facilitate 911 reliability and are in compliance with the Commission's 911 reliability certification rules. *See Public Safety and Homeland Security Bureau Seeks Comment on Modifications to Network Outage Reporting System and 911 Reliability Certification System*, PS Docket Nos. 15-80, 13-75, 11-60, Public Notice, 35 FCC Rcd 4409, 4414-5 (PSHSB 2020).

<sup>106</sup> *See* NASNA Reply at 1 (favoring annual certification "because significant changes to 911 networks can occur in a year" and, even if significant changes do not occur, "the annual cycle ensures that employees remain trained and resources remain available to perform the work needed for the audit."); CenturyLink August 13, 2018 Reply at 8; Motorola July 16, 2018 Comments at 4 (stating that annual certification helps ensure that covered 911 service providers' senior management remains involved in, and aware of, important 911 network issues like vulnerabilities, design, and maintenance); Daryl Branson Reply at 2 (filed on behalf of COPUC) (noting that corporate officer involvement in certification process promotes reporting accuracy).

<sup>107</sup> *See* Alaska Communications July 16, 2018 Comments at 5; AT&T August 13, 2018 Reply at 2-3; ATIS July 16, 2018 Comment at 4 (stating that ATIS would favor eliminating or modifying "this requirement, noting that there is no evidence that this requirement has had any significant impact to network reliability or resiliency"); INdigital Comments at 4 (supporting biennial certification because it would lower the cost of providing reliable 911 service); USTelecom July 16, 2018 Comments at 3-4 (stating that annual submissions are an inefficient use of provider resources because very little of the data submitted changes from year to year).

effective means of reducing compliance burdens, without sacrificing its benefits.<sup>108</sup> We emphasize that we would not be making any changes to the fundamental obligations underlying network reliability certifications—namely, the requirements to ensure circuit diversity, maintain backup power at central offices, and diversify network monitoring. Would increasing the time between 911 network reliability certifications—such as requiring only biennial certifications—affect public safety outcomes? If so, could we offset any potential risk that less frequent certification would affect public safety by requiring covered 911 service providers to submit certifications when they perform a “material network change” during the preceding year?<sup>109</sup> If so, how should we define a “material network change?” For those advocating less frequent certifications, what would the cost savings be? We also ask for costs and benefits of any offered alternatives.

49. We also propose to require covered 911 service providers that have ceased to operate as such—i.e., they no longer provide covered 911 services, or no longer operate one or more central offices that directly serve a PSAP—to notify the Commission via an affidavit<sup>110</sup> in which the service provider would explain the basis for its change in status. We propose that, should a service provider no longer provide covered 911 services, the service provider file an affidavit through the Commission’s online portal during the timeframe when the portal is open for annual reliability certifications. We note that, in 2020, the Commission opened the 911 reliability portal for certification filing from July 30 through October 15.<sup>111</sup> We seek comment on the appropriateness of linking the timeframe to file such an affidavit with the period that the portal is open. Is the 911 Reliability System the correct place for filing? We propose these measures to ensure that the Commission does not expend time and resources to investigate why a covered 911 service provider has failed to file its 911 certification in a timely manner, when the reason is simply because the provider is no longer a covered 911 service provider and is therefore no longer required to file the required certifications. We expect few companies to end their covered 911 service operations from year to year and expect such filing costs would be minimal. We believe that the benefits, however, will be much greater. First, the Commission will be able to more quickly determine whether a service provider is a covered 911 service provider before engaging in an investigation. Second, any service provider that has ceased its qualifying covered 911 operations and filed with the Commission that it has done so will not have to encounter an investigation into whether the service provider failed to file its 911 reliability certifications. We seek comment on these proposals, their costs and benefits, as well as on potential alternatives for service providers to supply this information to the Commission.

#### **D. Administrative Line Definition**

50. The Commission defines a covered 911 service provider in part as an entity that “operates one or more central offices that directly serve a PSAP. For purposes of this section, a central office directly serves a PSAP if it . . . is the last service-provider facility through which a 911 trunk or administrative line passes before coming to a PSAP.”<sup>112</sup> Under our current rules, a service provider that provides phone service to a PSAP but does not provide specific 911-related services to the PSAP is considered a covered 911 service provider due to its provision of an “administrative line.” Neither the Commission’s rules nor its precedent presently define the term “administrative line” for purposes of the

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<sup>108</sup> See USTelecom July 16, 2018 Comments at 3 (stating that “the Commission could achieve its same reliability goals and lessen the burdens on reporting entities”); ATIS July 16, 2018 Comments at 4 (stating that requiring less frequent certifications would “reduce the burdens associated with the Commission’s reliability rules, while still providing appropriate assurances that industry is aware of and in compliance with these regulations”).

<sup>109</sup> See INdigital Comments at 4 (supporting biennial certification, which would “lower the cost of compliance,” unless providers make material changes to their networks).

<sup>110</sup> 47 CFR § 9.19(a)(4)(i).

<sup>111</sup> See *Public Safety and Homeland Security Bureau Announces Availability of 911 Reliability Certification System for Annual Reliability Certifications*, PS Docket Nos. 13-75 and 11-60, Public Notice, 35 FCC Rcd 8082 (PSHSB 2020).

<sup>112</sup> 47 CFR § 9.19(a)(4)(i)(B).

Commission's 911 reliability rules. We propose to define "administrative line" for the purpose of our 911 reliability framework as a business line or line group that connects to a PSAP but is not used as the default or primary route over which 911 calls are transmitted to the PSAP. We seek comment on this proposed definition. We anticipate that this clarification will simplify service providers' determination of whether they are an originating service provider or a covered 911 service provider. We believe that this, in turn, will reduce the potential that a service provider fails to file required 911 reliability certifications. This proposal appears to only accrue benefits, but we nevertheless seek comment on its potential benefits and costs. We seek comment on this analysis and ask whether there are any potential ramifications from this proposal of which we are not aware. Commenters suggesting alternatives to our proposal should also include comment on anticipated costs and benefits.

#### **E. Codifying Adopted Rules**

51. In 2016, the Commission adopted a Report and Order that modernized the Commission's network outage reporting rules.<sup>113</sup> One of those requirements, however, was not at the time codified in the Code of Federal Regulations. The Part 4 rules exempt satellite and terrestrial wireless providers from reporting outages that potentially affect airports,<sup>114</sup> and the 2016 Part 4 Order "extend[ed] that exemption to all special offices and facilities,"<sup>115</sup> and "extend[ed] the wireless exemption for satellite and terrestrial wireless carriers to all special offices and facilities."<sup>116</sup> We propose to codify these changes to our rules in the Code of Federal Regulations, and seek comment on this proposal.

#### **F. Compliance Timeframes**

52. We propose to require originating service providers and covered 911 service providers to comply with any adopted rules that we have proposed to harmonize PSAP outage notification requirements and ensure the receipt by PSAPs of more actionable 911 outage information by April 1, 2022. We believe that the revisions proposed today constitute only minor changes to existing procedures and therefore believe that the time between adoption of the rules, as well as subsequent OMB approval, and the compliance date would be sufficient. We seek comment on this assessment. We seek comment on whether allowing additional time for small- and medium-sized businesses to comply with the requirements we propose today would serve the public interest.

53. We propose to require originating service providers and covered 911 service providers to update and maintain accurate contact information for officials designated to receive outage notifications at each PSAP in areas they serve no later than April 1, 2022. While we expect that many originating service providers and covered 911 service providers will already have accurate contact information on hand for most if not all of the PSAPs in their service areas, we seek to allow sufficient time for them to further develop and implement those procedures pursuant to the requirements that we propose today (for example, by developing and transmitting an e-mail survey to their the best-known PSAP e-mail address(es), following up as appropriate, and identifying and remedying any gaps in their PSAP contact lists).<sup>117</sup> We seek comment on this approach.

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<sup>113</sup> *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications; The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket Nos. 18-80 and 11-82, ET Docket No. 04-35, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Rcd 5817 (2016) (*2016 Part 4 Order*).

<sup>114</sup> See 47 C.F.R. §§ 4.9(c)(2)(iii), (e)(1)(iv).

<sup>115</sup> *2016 Part 4 Order* at 5849, para. 80.

<sup>116</sup> *Id.* at 5902, para. 216.

<sup>117</sup> *NRSC Task Force SOPs* at 3 (recommending that the collection occur via e-mail or secure web portal).

54. In addition, we propose that our 911 unavailability public notification framework, which would require originating and covered 911 service providers to provide their customers with notification of certain disruptions to 911 service that result in the unavailability of 911 to reach emergency services, take effect no later than June 1, 2022. Our proposal regarding contact information, discussed above, will give service providers the opportunity to further coordinate with PSAPs to determine, in advance of disruptions to 911 availability, any alternative contact information that the PSAPs wish to convey to the public. We anticipate that service providers may need more time to develop a location-based webpage to provide public notification of 911 unavailability than in developing systems to update and maintain accurate contact information for official designated to receive outage notifications. We seek comment on this proposal.

**G. Benefits and Costs**

55. For all foregoing proposals, we estimate the costs that our rules would impose on all service providers of approximately a \$2,398,000 one-time cost and a \$4,557,000 annually recurring cost. We tentatively conclude that the benefits of PSAP outage notification will be well in excess of these costs. Public safety benefits, however, are difficult to quantify. This difficulty in quantification, however, does not diminish in any way the benefits of providing outage information to PSAPs. We find that the benefits attributable to outage notification are substantial and may have significant positive effects on the abilities of PSAPs to safeguard the health and safety of residents during outages that threaten residents' ability to reach 911. In particular, we expect that both the PSAP notification proposals and the customer notification proposals will provide the information necessary to allow consumers to reach emergency services more quickly during an outage potentially affecting 911, thus reducing first responder times and improving public health and safety. We urge commenters to supply detailed examples of likely benefits and estimates of their value where possible.

56. Our one-time cost estimate of \$2,398,000 consists of \$50,000 to create an e-mail survey to biannually solicit PSAP contact information,<sup>118</sup> \$99,000 to update PSAP outage notification templates,<sup>119</sup> and \$2,249,000 to implement a website-based framework that companies can use to notify their customers about outages.<sup>120</sup> Our annually recurring costs of \$4,557,000 consist of \$1,258,000 for notifying PSAPs of outages that potentially affect them pursuant to the standards that we propose today,<sup>121</sup> \$197,000 for identifying PSAPs that could potentially be affected by a service outage,<sup>122</sup> \$197,000 for soliciting from

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<sup>118</sup> To create an e-mail survey, we estimate that for each of 2,890 providers, one worker earning \$34/hour would spend ½ hour for a total of \$50,000 [ $\$34/\text{hour} \times \frac{1}{2} \text{ hour} \times 2,890 = 49,130$ , rounded up to \$50,000]. See, e.g., Anthony Smith, *How to Create a Survey in Outlook*, <https://www.techwalla.com/articles/how-to-create-a-survey-in-outlook> (last visited Mar. 12, 2020) (requiring five steps to create an e-mail survey). We believe that ATIS' *Standard Operating Procedures for Updating PSAP Contact Information* will save these employees significant time and effort because it defines relevant informational fields.

We use the job category of “Communications Equipment Operators, All Other” in this and other estimates, to avoid under-estimating labor costs for tasks that are likely performed by lower-paid workers. See Economic News Release, Bureau of Labor Statistics, National employment and wage data from the Occupational Employment Statistics survey by occupation, May 2019 (May 2019) <https://www.bls.gov/news.release/ocwage.t01.htm>. We begin with the average hourly wage [\$22.14] and multiply by 1.5 to account for benefits [\$33.21] then round up to \$34. According to Bureau of Labor Statistics, benefits (including paid leave, supplementary pay, insurance, retirement and savings, and legally required benefits) add approximately 50% to compensation in the information industry as a whole. See Bureau of Labor Statistics, Economic News Release, Private industry workers by occupational and industry group (2020).

We estimate that there are 2,890 cable, satellite, wireless, wireline, and interconnected VoIP providers in the United States. This consists of five satellite providers, 967 wireline providers, 461 wireless providers, and 1,457 interconnected VoIP-related entities. Our satellite figure consists only of those service providers that offer service that could potentially affect 911. See generally, *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102 (including five satellite providers' 911 Post-Implementation Status Report filings in the Commission's Electronic Comment Filing System regarding the deployment of 911 call center service and the forwarding of 911 calls to PSAPs). Our wireless figure is calculated based on staff analysis of 2019 Form 499 data, consisting of holding companies and affiliated entities who report end-user mobile telecommunication revenue. See *Wireline Competition Bureau Releases the 2020 Telecommunications Reporting Worksheets and Accompanying Instructions*, WC Docket No. 06-122, Public Notice, 35 FCC Rcd 1350 (2020). Our wireline and interconnected VoIP-related figures are calculated from the December 2019 Form 477. See also FCC, *Voice Telephone Services Report*, <https://www.fcc.gov/voice-telephone-services-report> (last visited Mar. 3, 2021). Because cable providers generally rely on either (wireline) switched access or interconnected VoIP to provide 911-related services, these providers are already subsumed by our other estimates.

<sup>119</sup> Our estimate of \$99,000 consists of the hourly rate of \$34/hour x 1 hour x 2,890 = \$98,260, rounded up to \$99,000.

<sup>120</sup> To implement a website framework, for each of the 2,890 providers, we estimate it would take a web developer, earning \$60/hour 10 hours, and an operations manager, earning \$89/hour 2 hours. [ $\$60/\text{hour} \times 10 \text{ hours} + \$89/\text{hour} \times 2 \text{ hours}$ ] x 2,890 = \$2,248,420 rounded up to \$2,249,000]. See Economic News Release, Bureau of Labor Statistics, National employment and wage data from the Occupational Employment Statistics survey by occupation, May 2019 (May 2019) <https://www.bls.gov/news.release/ocwage.t01.htm>. All rates include 50% overhead.

<sup>121</sup> To notify PSAPs, we propose that a communications equipment operator, earning \$34/hour, would spend a total of one hour per outage to send out two notifications for each of an estimated 37,000 outages, for a total of \$1,258,000 [ $\$34/\text{hour} \times 1 \text{ hour} \times 37,000$ ]. Our estimate of 37,000 outages is based on the incidence of outages that potentially affected 911 in NORS reports during 2020.

<sup>122</sup> To identify PSAPs, we estimate that for each of the 2,890 affected carriers, one worker, earning \$34/hour would annually spend at most two hours updating PSAP identification, for a total of \$197,000 [ $\$34/\text{hour} \times 2 \text{ hours} \times 2,890 = \$196,520$ , rounded up to \$197,000].

PSAPs appropriate contact information for outage notification,<sup>123</sup> and \$2,905,000 to publicly notify customers of 911 unavailability on company websites.<sup>124</sup> We seek comment on all these estimates. At this time, we are unaware of alternative approaches with lower costs that would still ensure that PSAPs receive timely information about outages that impact their service areas and ask commenters to provide detailed cost estimates. We are interested in possible alternatives from commenters, however, and seek comment. Any suggestions of alternative approaches should include both cost and benefit estimates.

#### IV. PROCEDURAL MATTERS

57. *Ex Parte Presentations.* The proceedings shall be treated as “permit-but-disclose” proceedings in accordance with the Commission’s *ex parte* rules.<sup>125</sup> Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g. .doc, .xml, .ppt, searchable .pdf). Participants in the proceeding should familiarize themselves with the Commission’s *ex parte* rules.

58. *Comment Filing Procedures.* Pursuant to the Commission’s rules,<sup>126</sup> interested parties may file comments and reply comments on or before the dates indicated on this Notice of Proposed Rulemaking. Comments and reply comments may be filed using the Commission’s Electronic Comment Filing System (ECFS).<sup>127</sup>

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS. <http://apps.fcc.gov/ecfs>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

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<sup>123</sup> To transmit an e-mail survey, we estimate that for each of the 2,890 affected carriers, one worker, earning \$34/hour, at most two hours each year to e-mail the survey of contact information to the PSAPs that they serve, and to follow up with those PSAPs if needed, for a total of \$197,000 [ $\$34/\text{hour} \times 2 \text{ hours} \times 2,890 = \$196,520$ , rounded up to \$197,000].

<sup>124</sup> To post consumer information on websites, we estimate that a worker earning \$34/hour, would spend up to 1 hour posting and revising information for each of an estimated 37,000 annual outages, under the supervision of a general manager, earning \$89/hour for ½ hour per outage, for a total of \$2,905,000 [ $[\$34/\text{hour} \times 1 \text{ hour} + \$89/\text{hour} \times 1/2 \text{ hour}] \times 37,000 = \$2,904,500$  rounded up to \$2,905,000].

<sup>125</sup> 47 CFR § 1.1200 *et seq.*

<sup>126</sup> 47 CFR §§ 1.415, 1.419.

<sup>127</sup> See *Electronic Filing of Documents in Rulemaking Proceedings*, OGC Docket No. 97-113, Report and Order, 13 FCC Red 11322 (1998).

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12<sup>th</sup> St. SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12<sup>th</sup> St. SW, Washington DC 20554.

59. *People with Disabilities.* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an email to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), or 202-418-0432 (tty).

60. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA),<sup>128</sup> requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”<sup>129</sup> Accordingly, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning the possible significant economic impact on small entities of the policies and rules contained in this Notice of Proposed Rulemaking.<sup>130</sup> The IRFA is set forth in Appendix B.

61. *Initial Paperwork Reduction Act Analysis.* This Notice of Proposed Rulemaking may contain proposed new and modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public OMB to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995 (PRA).<sup>131</sup> In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4), we seek specific comment on how we might “further reduce the information collection burden for small business concerns with fewer than 25 employees.”

62. *Further Information.* For further information, contact Beau Finley, Attorney-Advisor, Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau, at 202-418-7835, or via e-mail at [Robert.Finley@fcc.gov](mailto:Robert.Finley@fcc.gov).

## V. ORDERING CLAUSES

63. Accordingly, IT IS ORDERED pursuant to sections 1, 4(i), 4(j), 4(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(r), 307, 309(a), 316, 332, 403, 615a-1, and 615c of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 154(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(r), 307, 309(a), 316, 332, 403, 615a-1, and 615c, that this Notice of Proposed Rulemaking in PS Docket No. 13-75 IS ADOPTED.

<sup>128</sup> *See* 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-12, was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>129</sup> 5 U.S.C. § 605(b).

<sup>130</sup> 5 U.S.C. § 603(b)(3).

<sup>131</sup> *See* Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 109 Stat. 163-85 (1995).

64. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

## APPENDIX A—Proposed Rules

The Federal Communications Commission proposes to amend chapter I of title 47 of the Code of Federal Regulations as follows:

### PART 4 – DISRUPTIONS TO COMMUNICATIONS

1. The authority citation for part 4 continues to read as follows: [TO BE INSERTED PRIOR TO FEDERAL REGISTER SUMMARY PUBLICATION]

**Section 4.9 is amended by revising paragraphs (a)(4), (c)(2)(iv), (e)(1)(iv), (f)(4), (g)(1)(i) and (h) to read as follows:**

#### § 4.9 – Outage reporting requirements - threshold criteria.

(a) *Cable.*

\* \* \*

(4) Potentially affects a 911 special facility (as defined in paragraph (e) of §4.5), in which case they also shall notify the affected 911 facility in the manner described in Section 4.9(h). Not later than 72 hours after discovering the outage, the provider shall submit electronically an Initial Communications Outage Report to the Commission. Not later than 30 days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission. The Notification and the Initial and Final reports shall comply with all of the requirements of §4.11.

\* \* \* \* \*

(c) *Satellite.*

\* \* \*

(2)

\* \* \*

(iii) [deleted.]

\* \* \*

~~(iv)~~ (iii) Potentially affecting a 911 special facility (as defined in (e) of §4.5) the affected 911 facility in the manner described in Section 4.9(h).

\* \* \* \* \*

(e)(1) *Wireless.*

\* \* \*

(iv) [deleted.]

\* \* \*

~~(iv)~~ (iv) That potentially affects a 911 special facility (as defined in paragraph (e) of §4.5), in which case they also shall notify the affected 911 facility in the manner described in Section 4.9(h).

\* \* \* \* \*

(f) *Wireline.*

\* \* \*

(4) Potentially affects a 911 special facility (as defined in paragraph (e) of §4.5), in which case they also shall notify-the affected 911 facility in the manner described in Section 4.9(h). Not later than 72 hours after discovering the outage, the provider shall submit electronically an Initial Communications Outage

Report to the Commission. Not later than 30 days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission. The Notification and the Initial and Final reports shall comply with all of the requirements of §4.11.

(g) *Interconnected VoIP Service Providers.* (1) All interconnected VoIP service providers shall submit electronically a Notification to the Commission:

(i) Within 240 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration that potentially affects a 911 special facility (as defined in (e) of §4.5), in which case they also shall notify the affected 911 facility in the manner described in Section 4.9(h); or

\* \* \*

(h) *911 Special Facility Outage Notification.* All cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers (as defined in Section 9.19(a)(4)) shall notify a 911 special facility any official who has been designated by the affected 911 special facility as the provider's contact person(s) for communications outages at the facility of any outage that potentially affects that 911 special facility (as defined in Section 4.5(e)) in the following manner.

(1) *Appropriate Contact Information.* Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall annually identify and maintain up-to-date contact information appropriate for 911 outage notification for each 911 special facility that serves areas that the service providers serve.

(2) *Timing of Notification.* Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall provide a 911 outage notification to a potentially affected 911 special facility as soon as possible, but no later than within 30 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage that potentially affects a 911 special facility, as defined in Section 4.5(e).

(3) *Means of Notification.* Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers' 911 outage notifications must be transmitted by telephone and in writing via electronic means in the absence of another method mutually agreed upon in advance by the 911 special facility and the covered 911 service provider.

(4) *Content of Notification.* Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers' 911 outage notifications must convey all available material information about the outage. For the purpose of Sections 4.9(h), "material information" includes the following, where available:

(A) The name of the cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider offering the notification;

(B) The name of the cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider(s) experiencing the outage;

(C) The date and time when the incident began (including a notation of the relevant time zone);

(D) The types of communications service(s) affected;

(E) Geographic area affected by the outage;

(F) A statement of the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider's expectations for how the outage may affect the 911 special facility (e.g., dropped calls or missing metadata);

(G) Expected date and time of restoration, including a notation of the relevant time zone;

(H) The best-known cause of the outage;

(I) A name, telephone number, and email address at which the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider can be reached for follow-up; and

(J) A statement of whether the message is the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider's initial notification to the 911 special facility, an update to an initial notification, or a message intended to be the service provider's final assessment of the outage.

(5) *Follow-up Notification.* Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall communicate additional material information to potentially affected 911 special facilities in notifications subsequent to the initial notification as that information becomes available, but cable, satellite, wireless, wireline and interconnected VoIP providers shall send the first follow-up notification to potentially affected 911 special facilities no later than two hours after the initial contact.

**Section 4.10 is added to read as follows:**

**§ 4.10 – Public Notification of 911 Outages.**

(a) *Notification breadth.* All cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers (as defined in Section 9.19(a)(4)) shall notify potentially affected customers of 911 unavailability (as defined in Section 4.10(b)).

(b) *Notification threshold.* For the purposes of this section, 911 unavailability shall be defined as the continuous or intermittent inability of a customer to reach emergency services by dialing or texting 9-1-1 due to an outage that potentially affects a 911 special facility as defined by Section 4.5(e)(1).

(c) *Notification timing and frequency.*

(1) Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service provider shall contact the PSAP(s) affected by 911 unavailability (as defined in Section 4.10(b)) as soon as possible after discovery of an outage but no later than 30 minutes after discovery to determine what, if any, alternative means of contact the PSAP would like made publicly available for the duration of the incident.

(2) Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service provider with customers experiencing 911 unavailability (as defined in Section 4.10(b)) shall provide notification to potentially affected customers as soon as possible, but no later than within 60 minutes of discovering that 911 is unavailable. The provider shall provide any subsequent material updates regarding the estimated time of 911 restoration to its potentially affected customers as soon as possible.

(d) *Notification content.* Notifications of 911 unavailability shall include:

(1) a statement that there is an outage affecting 911 availability;

(2) alternative contact information to reach emergency services at the request of the affected PSAP(s), should such information be available;

(3) the time 911 service became unavailable;

(4) the time the affected service provider estimates that 911 service will become available; and

(5) the locations where customers are or are expected to be experiencing 911 unavailability.

(e) *Notification Medium.* Each affected cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers (as defined in Section 9.19(a)(4)) shall prominently post the notification of 911 unavailability on it the main page of it website and on any Internet- or web-based applications.

**PART 9 – 911 REQUIREMENTS**

1. The authority citation for part 9 continues to read as follows: [TO BE INSERTED PRIOR TO FEDERAL REGISTER SUMMARY PUBLICATION]

**Section 9.19(a)(4)(i)(B) is amended to read as follows:**

**§ 9.19 – Reliability of covered 911 service providers.**

(a) *Definitions.*

\* \* \*

(4) *Covered 911 service provider.*

\* \* \*

(i)

\* \* \*

(B) Operates one or more central offices that directly serve a PSAP. For purposes of this section, a central office directly serves a PSAP if it hosts a selective router or ALI/ANI database, provides equivalent NG911 capabilities, or is the last service-provider facility through which a 911 trunk or administrative line (i.e., a business line or line group that connects to a PSAP but is not used as the default or primary route over which 911 calls are transmitted to the PSAP) passes before connecting to a PSAP.

**APPENDIX B****Initial Regulatory Flexibility Analysis**

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> the Commission has prepared this 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 Notice of Proposed Rulemaking (Notice). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>2</sup> In addition, the Notice and IRFA (or summaries thereof) will be published in the *Federal Register*.<sup>3</sup>

**A. Need for, and Objectives of, the Proposed Rules**

2. In this proceeding, the Commission takes steps to improve the reliability and resiliency of telecommunications networks nationwide and 911 networks specifically so that the American public can continue to reach emergency services without undue delay or disruption. In particular, the Notice proposes and seeks comment on measures to harmonize the Commission's Public Safety Answering Points (PSAP) outage notification rules such that all service providers must notify all potentially affected PSAPs of outages in the same manner and with more specific information.<sup>4</sup> Furthermore, the Notice seeks comments on requirements that originating service providers and covered 911 service providers inform their customers when 911 is unavailable to them due to disruptions to provider networks. These proposals would apply to all originating cable, satellite, wireless, wireline, interconnected VoIP service providers ("originating service providers") as well as to all covered 911 service providers and should make the nation's 911 service more reliable and the public safer, while striking an appropriate balance between costs and benefits of such regulation.<sup>5</sup> The Notice also proposes to codify rules adopted in 2016 extending the exemption of satellite and terrestrial wireless providers from reporting outages potentially affecting special offices and facilities.<sup>6</sup>

**B. Legal Basis**

3. The proposed action is authorized pursuant sections 1, 4(i), 4(j), 4(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(r), 307, 309(a), 316, 332, 403, 615a-1, and 615c of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j) 154(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(r), 307, 309(a), 316, 332, 403, 615a-1, and 615c.

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-12, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See 5 U.S.C. § 603(a).

<sup>3</sup> *Id.*

<sup>4</sup> The Commission's current rules for PSAP outage reporting differentiates between "covered 911 service providers" that provide service directly to PSAPs and "originating service providers" that only provide the capability for consumers to originate 911 calls.

<sup>5</sup> We note that cable providers and interconnected VoIP providers often are also wireline providers. The references to providers of these types of services in this Notice correspond to references in the Part 4 outage reporting rules. 47 CFR § 4 *et seq.*

<sup>6</sup> *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications; The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket Nos. 18-80 and 11-82, ET Docket No. 04-35, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Red 5817, 5902, para. 216 (2016).

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

4. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>7</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>8</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>9</sup> 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 SBA.<sup>10</sup>

5. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.<sup>11</sup> First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.<sup>12</sup> These types of small businesses represent 99.9% of all businesses in the United States which translates to 30.7 million businesses.<sup>13</sup>

6. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>14</sup> The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.<sup>15</sup> Nationwide, for tax year 2018, there were approximately 571,709 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.<sup>16</sup>

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<sup>7</sup> 5 U.S.C. § 603(b)(3).

<sup>8</sup> 5 U.S.C. § 601(6).

<sup>9</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

<sup>10</sup> 15 U.S.C. § 632.

<sup>11</sup> See 5 U.S.C. § 601(3)-(6).

<sup>12</sup> See SBA, Office of Advocacy, “What’s New With Small Business,” <https://cdn.advocacy.sba.gov/wp-content/uploads/2019/09/23172859/Whats-New-With-Small-Business-2019.pdf> (Sept. 2019).

<sup>13</sup> *Id.*

<sup>14</sup> 5 U.S.C. § 601(4).

<sup>15</sup> The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C. § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number small organizations in this small entity description. See Annual Electronic Filing Requirement for Small Exempt Organizations — Form 990-N (e-Postcard), “Who must file.”

<https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard>. We note that the IRS data does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

<sup>16</sup> See Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-EO-BMF>. The IRS’s EO BMF provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for Region 1-Northeast Area (76,886), Region 2-Mid-

(continued....)

7. Finally, the small entity described as a “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.”<sup>17</sup> U.S. Census Bureau data from the 2017 Census of Governments<sup>18</sup> indicates that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.<sup>19</sup> Of this number there were 36,931 general purpose governments (county<sup>20</sup>, municipal and town or township<sup>21</sup>) with populations of less than 50,000 and 12,040 special purpose governments - independent school districts<sup>22</sup> with enrollment populations of less than 50,000.<sup>23</sup> Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”<sup>24</sup>

8. *Cable and Other Subscription Programming.* The U.S. Census Bureau defines this industry as “establishments primarily engaged in operating studios and facilities for the broadcasting of programs on a subscription or fee basis. The broadcast programming is typically narrowcast in nature (e.g., limited format, such as news, sports, education, or youth-oriented). These establishments produce programming in their own facilities or acquire programming from external sources. The programming material is usually delivered to a third party, such as cable systems or direct-to-home satellite systems, for transmission to viewers.”<sup>25</sup> The SBA size standard for this industry establishes as small any company in

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Atlantic and Great Lakes Areas (221,121), and Region 3-Gulf Coast and Pacific Coast Areas (273,702) which includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

<sup>17</sup> 5 U.S.C. § 601(5).

<sup>18</sup> See 13 U.S.C. § 161. The Census of Government is conducted every five years compiling data for years ending with “2” and “7”. See also Census of Government, <https://www.census.gov/programs-surveys/cog/about.html>.

<sup>19</sup> See U.S. Census Bureau, 2017 Census of Governments – Organization Table 2, Local Governments by Type and State: 2017 [CG1700ORG02], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also Table 2. CG1700ORG02 Table Notes\_Local Governments by Type and State\_2017.

<sup>20</sup> See *id.* at Table 5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

<sup>21</sup> See *id.* at Table 6. Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

<sup>22</sup> See *id.* at Table 10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also Table 4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes\_Special Purpose Local Governments by State\_Census Years 1942 to 2017.

<sup>23</sup> While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

<sup>24</sup> This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations Tables 5, 6, and 10.

<sup>25</sup> See U.S. Census Bureau, 2017 NAICS Definition, “515210 Cable and Other Subscription Programming,” <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=515210&search=2017%20NAICS%20Search>.

this category with annual receipts less than \$41.5 million.<sup>26</sup> Based on U.S. Census Bureau data for 2012, 367 firms operated for the entire year.<sup>27</sup> Of that number, 319 firms operated with revenues less than \$25 million a year and 48 firms operated with revenues of \$25 million or more.<sup>28</sup> Based on this data, the Commission estimates that a majority of firms in this industry are small.

9. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”<sup>29</sup> As of 2019, there were approximately 48,646,056 basic cable video subscribers in the United States.<sup>30</sup> Accordingly, an operator serving fewer than 486,460 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.<sup>31</sup> Based on available data, we find that all but five incumbent cable operators are small entities under this size standard.<sup>32</sup> We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million.<sup>33</sup> Therefore we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

10. *Incumbent Local Exchange Carriers*. Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The closest applicable NAICS Code category is Wired Telecommunications Carriers.<sup>34</sup> Under the applicable SBA size standard, such a business is small if it has 1,500 or fewer employees.<sup>35</sup> U.S. Census Bureau data indicate that 3,117 firms operated the entire year.<sup>36</sup> Of this total, 3,083 operated with fewer than 1,000

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<sup>26</sup> 13 CFR § 121.201, NAICS Code 515210.

<sup>27</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ4, *Information: Subject Series - Estab & Firm Size: Receipts Size of Firms for the U.S.: 2012*, NAICS Code 515210, <https://data.census.gov/cedsci/table?text=EC1251SSSZ4&n=515210&tid=ECNSIZE2012.EC1251SSSZ4&hidePreview=false>.

<sup>28</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>29</sup> 47 U.S.C. § 543(m)(2); see 47 CFR § 76.901(e).

<sup>30</sup> S&P Global Market Intelligence, *U.S. Cable Subscriber Highlights, Basic Subscribers(actual) 2019, U.S. Cable MSO Industry Total*; see also *U.S. Multichannel Industry Benchmarks, U.S. Cable Industry Benchmarks, Basic Subscribers 2019Y*, <https://platform.marketintelligence.spglobal.com>.

<sup>31</sup> 47 CFR § 76.901(e).

<sup>32</sup> S&P Global Market Intelligence, *Top Cable MSOs as of 12/2019*, <https://platform.marketintelligence.spglobal.com/>. The five cable operators all had more than 486,460 basic cable subscribers.

<sup>33</sup> The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(e) of the Commission’s rules. See 47 CFR § 76.910(b).

<sup>34</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “517311 Wired Telecommunications Carriers,” <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017>.

<sup>35</sup> See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

<sup>36</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517110, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

employees.<sup>37</sup> Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by our actions. According to Commission data, 1,307 Incumbent Local Exchange Carriers reported that they were incumbent local exchange service providers.<sup>38</sup> Of this total, an estimated 1,006 have 1,500 or fewer employees.<sup>39</sup> Thus using the SBA's size standard the majority of incumbent LECs can be considered small entities.

11. *Local Exchange Carriers.* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. The closest applicable NAICS Code category is Wired Telecommunications Carriers.<sup>40</sup> Under the applicable SBA size standard, such a business is small if it has 1,500 or fewer employees.<sup>41</sup> U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated for the entire year.<sup>42</sup> Of that total, 3,083 operated with fewer than 1,000 employees.<sup>43</sup> Thus under this category and the associated size standard, the Commission estimates that the majority of local exchange carriers are small entities.

12. *All Other Telecommunications.* The "All Other Telecommunications" category is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.<sup>44</sup> 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.<sup>45</sup> Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.<sup>46</sup> The SBA has developed a small business size standard for All Other Telecommunications, which consists of all such firms with annual receipts of \$35 million or less.<sup>47</sup> For this category, U.S. Census Bureau data for 2012 shows that there were 1,442 firms that operated for the entire year.<sup>48</sup> Of those firms, a total of 1,400 had annual receipts less than \$25 million and 15 firms had

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<sup>37</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>38</sup> See *Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

<sup>39</sup> *Id.*

<sup>40</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017>.

<sup>41</sup> See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

<sup>42</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517110, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

<sup>43</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>44</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517919 All Other Telecommunications," <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517919&search=2017+NAICS+Search&search=2017>.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> See 13 CFR § 121.201, NAICS Code 517919.

<sup>48</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the U.S.: 2012*, NAICS Code 517919, <https://data.census.gov/cedsci/table?text=EC1251SSSZ4&n=517919&tid=ECNSIZE2012.EC1251SSSZ4&hidePreview=false>.

annual receipts of \$25 million to \$49,999,999.<sup>49</sup> Thus, the Commission estimates that the majority of “All Other Telecommunications” firms potentially affected by our action can be considered small.

13. *Satellite Telecommunications.* This industry comprises establishments “primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.”<sup>50</sup> Satellite telecommunications service providers include satellite and earth station operators. The category has a small business size standard of \$35 million or less in average annual receipts, under SBA rules.<sup>51</sup> For this category, U.S. Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire year.<sup>52</sup> Of this total, 299 firms had annual receipts of less than \$25 million.<sup>53</sup> Consequently, we estimate that the majority of satellite telecommunications firms are small entities.

14. *Telecommunications Resellers.* The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.<sup>54</sup> The SBA has developed a small business size standard for the category of Telecommunications Resellers.<sup>55</sup> Under that size standard, such a business is small if it has 1,500 or fewer employees.<sup>56</sup> U.S. Census Bureau data for 2012 show that 1,341 firms provided resale services during that year.<sup>57</sup> Of that number, 1,341 operated with fewer than 1,000 employees.<sup>58</sup> Thus, under this category and the associated small business size standard, the majority of these resellers can be considered small entities.

15. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as “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

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<sup>49</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>50</sup> See U.S. Census Bureau, *2017 NAICS Definition, “517410 Satellite Telecommunications,”* <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517410&search=2017+NAICS+Search&search=2017>.

<sup>51</sup> See 13 CFR § 121.201, NAICS Code 517410.

<sup>52</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ4, *Information: Subject Series – Estab & Firm Size: Receipts Size of Firms for the U.S.: 2012*, NAICS Code 517410, <https://data.census.gov/cedsci/table?text=EC1251SSSZ4&n=517410&tid=ECNSIZE2012.EC1251SSSZ4&hidePreview=false&vintage=2012>.

<sup>53</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>54</sup> See U.S. Census Bureau, *2017 NAICS Definition, “517911 Telecommunications Resellers,”* <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517911&search=2017%20NAICS%20Search>.

<sup>55</sup> See 13 CFR § 121.201, NAICS Code 517911.

<sup>56</sup> *Id.*

<sup>57</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series – Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517911, [https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517911&tid=ECNSIZE2012.EC1251SSSZ5&hidePrevview=false](https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517911&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false).

<sup>58</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services; wired (cable) audio and video programming distribution; and wired broadband Internet services. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.”<sup>59</sup> The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all companies having 1,500 or fewer employees.<sup>60</sup> U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated the entire year.<sup>61</sup> Of this total, 3,083 had fewer than 1,000 employees and 34 had more than 1,000 employees.<sup>62</sup> Thus under this size standard, the majority of firms in this industry can be considered small.

16. *Wireless Communications Services.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission defined “small business” for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a “very small business” as an entity with average gross revenues of \$15 million for each of the three preceding years.<sup>63</sup> The SBA has approved these small business size standards.<sup>64</sup> In the Commission’s auction for geographic area licenses in the WCS there were seven winning bidders that qualified as “very small business” entities, and one that qualified as a “small business” entity.<sup>65</sup>

17. *Wireless Telecommunications Carriers (except Satellite).* This industry comprises establishments primarily 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.<sup>66</sup> The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.<sup>67</sup> For this industry, U.S. Census Bureau data for 2012 show that there were 967 firms that operated for the entire year.<sup>68</sup> Of this total, 955 firms employed

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<sup>59</sup> See U.S. Census Bureau, *2017 NAICS Definition, “517311 Wired Telecommunications Carriers,”* <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017%20NAICS%20Search>.

<sup>60</sup> See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

<sup>61</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517110, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

<sup>62</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>63</sup> *Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (WCS)*, GN Docket No. 96-228, Report and Order, 12 FCC Rcd 10785, 10879, para. 194 (1997).

<sup>64</sup> See Letter from Aida Alvarez, Administrator, SBA, to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (filed Dec. 2, 1998) (*Alvarez Letter 1998*).

<sup>65</sup> *WCS Auction Closes; Winning Bidders in the Auction of 128 Wireless Communications Licenses; FCC Form 600s Due May 12, 1997*, 12 FCC Rcd 21653, DA-97-886, Report No. AUC-997-14-E (Auction No.14) (Apr. 28, 1997).

<sup>66</sup> See U.S. Census Bureau, *2017 NAICS Definition, “517312 Wireless Telecommunications Carriers (except Satellite),”* <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517312&search=2017+NAICS+Search&search=2017>.

<sup>67</sup> See 13 CFR § 121.201, NAICS Code 517312 (previously coded 517210).

<sup>68</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517210, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517210&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false&vintage=2012>.

fewer than 1,000 employees and 12 firms employed 1,000 employees or more.<sup>69</sup> Thus, under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities.

18. *Wireless Telephony.* Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite).<sup>70</sup> Under the SBA small business size standard, a business is small if it has 1,500 or fewer employees.<sup>71</sup> For this industry, U.S. Census Bureau data for 2012 show that there were 967 firms that operated for the entire year.<sup>72</sup> Of this total, 955 firms had fewer than 1,000 employees and 12 firms had 1000 employees or more.<sup>73</sup> Thus under this category and the associated size standard, the Commission estimates that a majority of these entities can be considered small. According to Commission data, 413 carriers reported that they were engaged in wireless telephony.<sup>74</sup> Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.<sup>75</sup> Therefore, more than half of these entities can be considered small.

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

19. The Notice primarily proposes revisions to PSAP outage notification requirements that may impose new or additional reporting, recordkeeping, and/or other compliance requirements on small entities and entities of all sizes that provide 911 services. Specifically, the Notice proposes (1) to harmonize the rules under which originating service providers and covered 911 service providers notify PSAPs of outages; (2) to require originating service providers and covered 911 service providers to provide more specific and uniform material information to PSAPs in outage notifications as defined in Section 4.9(h)(6) of the Commission's rules, as we propose to revise them; (3) to require originating service and covered 911 service providers to annually identify the PSAPs that they serve and to elicit outage contact information from them; (4) to require said providers to supply the public with timely notification of 911 unavailability; and (5) to require covered 911 service providers notify the Commission within an announced timeframe that they no longer provide covered 911 services to PSAPs. The Notice also proposes the codification of an amendment to a rule that the Commission adopted in 2016. Specifically, the Notice proposes codify the extension of the exemption of satellite and terrestrial wireless providers from reporting outages potentially affecting special offices and facilities.<sup>76</sup>

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<sup>69</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>70</sup> See U.S. Census Bureau, *2017 NAICS Definition, "517312 Wireless Telecommunications Carriers (Except Satellite),"* <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517312&search=2017%20NAICS%20Search>.

<sup>71</sup> See 13 CFR § 121.201, NAICS Code 517312 (previously 517210).

<sup>72</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517210, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517210&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false&vintage=2012>.

<sup>73</sup> *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

<sup>74</sup> See Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, Trends in Telephone Service at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>75</sup> *Id.*

<sup>76</sup> *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications; The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers*

(continued...)

20. The Commission is not currently in a position to determine whether, if adopted, the proposed rules in the Notice will require small entities to hire attorneys, engineers, consultants, or other professionals. We note, however, that service providers already perform measures that contribute to their ability to comply with these requirements, and thus would likely ease the burden of compliance with these proposals, if adopted. For example, some service providers may already offer PSAPs follow-up notifications if additional material information becomes available. In addition, many service providers are likely to already have documented procedures for notifying PSAPs of outages that potentially affect them, and for those that do not, Alliance for Telecommunications Industry Solutions (ATIS) Network Reliability Steering Committee (NRSC) Task Force documents can serve as a useful guide. Furthermore, many service providers already regularly elicit PSAP outage contact information.

21. As discussed in the Notice, we estimate the timeframe and incremental cost for originating service providers to notify potentially affected PSAPs about 911 outages within the same timeframe, by the same means, and with the same frequency that covered 911 service providers would be 30 minutes at a rate of \$34 per hour per notification (initial and follow-up) per outage. The actual cost that originating service providers would incur to comply with this requirement may be substantially lower than our estimate because, among other things, some originating service providers service providers may have automated their PSAP outage notification processes.<sup>77</sup> Similarly, we estimate the one-time cost for originating service providers and covered 911 service providers to report the same specific, actionable content in their PSAP outage notifications as requiring 60 minutes at a one-time cost of \$34 per hour per provider. This activity would allow a provider to incorporate additional informational elements into their existing mechanisms for gathering, approving, and transmitting information about 911 outages to PSAPs.<sup>78</sup> Likewise, we anticipate the actual cost that originating service providers and covered 911 service providers would incur to comply with this proposal, if adopted, may be substantially lower than our estimate because our estimated number of service providers that would be required to comply is conservatively broad.<sup>79</sup> In the Notice, we consider whether originating and covered 911 service providers

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*and Broadband Internet Service Providers*, PS Docket Nos. 18-80, 11-82, ET Docket No. 04-35, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Rcd 5817, 5902, para. 216 (2016).

<sup>77</sup> See, e.g., Verizon July 16, 2018 Comments at 4.

<sup>78</sup> We estimate that there are 2,890 cable, satellite, wireless, wireline, and interconnected VoIP providers in the United States. This consists of five satellite providers, 967 wireline providers, 461 wireless providers, and 1,457 interconnected VoIP-related entities. Our satellite figure consists only of those service providers that offer service that could potentially affect 911. See generally, *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102 (including five satellite providers' 911 Post-Implementation Status Report filings in the Commission's Electronic Comment Filing System regarding the deployment of 911 call center service and the forwarding of 911 calls to PSAPs). Our wireless figure is calculated based on staff analysis of 2019 Form 499 data, consisting of holding companies and affiliated entities who report end-user mobile telecommunication revenue. See *Wireline Competition Bureau Releases the 2020 Telecommunications Reporting Worksheets and Accompanying Instructions*, WC Docket No. 06-122, Public Notice, 35 FCC Rcd 1350 (2020). Our wireline and interconnected VoIP-related figures are calculated from the December 2019 Form 477. See also FCC, *Voice Telephone Services Report*, <https://www.fcc.gov/voice-telephone-services-report> (last visited Mar. 3, 2021). Because cable providers generally rely on either (wireline) switched access or interconnected VoIP to provide 911-related services, these providers are already subsumed by our other estimates. Similarly, as noted above, the overwhelming majority of covered 911 service providers are considered to be wireline providers.

<sup>79</sup> Our estimate of the number of wireless providers includes resellers who do not operate their own facilities; our estimate of interconnected VoIP providers includes entities that have worked together or contracted-out services to meet the Commission's regulatory requirements. As a result, we have previously estimated that 12 organizations in total serve this purpose for thousands of interconnected VoIP service providers. See *Implementing Kari's Law; Section 506 of Ray Baum's Act*, PS Docket Nos. 18-261 and 17-239, Notice of Proposed Rulemaking, 33 FCC Rcd 8984, 9019, para. 99, n.161 (2018). Also, our estimate may double-count entities that derive revenue or report subscribers from more than one service that potentially affects 911. For example, based on the December 2019

(continued....)

also should offer PSAPs graphical interface data describing the geographic area potentially affected by outages. In addition, we consider whether to require originating and covered 911 service providers to notify PSAPs of outages that do not meet the Commission's reporting thresholds but could potentially affect 911 service.<sup>80</sup> We anticipate that the record will reflect variation in geographical interface capabilities and proposed PSAP notification thresholds, and thus anticipate that the estimated costs to service providers will also vary.

22. In the Notice, we also discuss the timeframe and costs for originating service providers and covered 911 service providers to develop and implement procedures for gathering, maintaining, and updating PSAP contact information. We estimate that the cost for originating service providers and covered 911 service providers to maintain up-to-date contact information for PSAPs in areas they serve would take 30 minutes with a one-time cost of \$34 per hour per provider to develop a mechanism to elicit PSAP contact information.<sup>81</sup> Working internally and with other network operators to identify PSAPs that could potentially be affected by an outage would take an estimated 120 minutes with an annual recurring rate of \$34 per hour per provider.<sup>82</sup> Likewise, eliciting the appropriate contact information for outage notification using the service provider's chosen PSAP contact information collection mechanism would take an estimated 120 minutes with an annual recurring cost of \$34 per provider.<sup>83</sup> Compliance with this proposed requirement may be substantially lower than our estimates because the Commission's rules already require these service providers to notify PSAPs of 911 outages and, as such, they should already have accurate PSAP outage contact information. As we discussed in the Notice, standard operating procedures for updating PSAP contact information in a centralized PSAP contact database was approved by the NRSC Task Force in November 2019. To the extent that service providers already have up to date PSAP contact information, we do not anticipate that compliance with this proposed requirement would impose any incremental costs.

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Form 477, there were a total of 2,022 service providers who provided (wireline) switched access telephone service, interconnected VoIP, or both, whereas our sum of switched access telephone service and interconnected VoIP providers equals 2,424.

<sup>80</sup> 47 CFR § 4.5(e).

<sup>81</sup> While we do not propose to require originating service providers and covered 911 service providers to use a specific method to elicit PSAP contact information, we estimate the one-time cost for developing a mechanism to collect PSAP contact information as the cost of developing an e-mail survey using common e-mail clients. *See, e.g.,* Anthony Smith, *How to Create a Survey in Outlook*, <https://www.techwalla.com/articles/how-to-create-a-survey-in-outlook> (last visited Mar. 12, 2020) (requiring five steps to create an e-mail survey). We estimate that it would take a communications equipment operator 30 minutes to design this survey. We believe that ATIS' *Standard Operating Procedures for Updating PSAP Contact Information* will save these employees significant time and effort because it defines relevant informational fields. Thus, our estimate of \$50,000 consists of the hourly rate of \$34 multiplied by 0.5 (or a half hour) multiplied by 2,890, which yields \$49,130.

<sup>82</sup> We estimate that one communications equipment operator would annually spend two hours reviewing existing service agreements and collaborating with the operators of other networks, confirming the identity of the PSAPs that could be potentially affected by outages on the service provider's network and making any necessary changes to the service provider's network. Thus, our annual estimate of \$197,000 consists of the hourly rate of \$34 multiplied by 2 (hours) multiplied by 2,890, which yields \$196,520. We recognize that for certain nationwide or large regional service providers, 2 hours may be an underestimate, but also emphasize that the substantial majority of service providers we have included in our calculation offer services at the local level and could be anticipated to need fewer than 2 hours due to the limited number of PSAPs that they would need to contact.

<sup>83</sup> We estimate that it would take a communications equipment operator an additional 2 hours, each year, to transmit the e-mail survey of contact information to the e-mail contacts of the PSAPs that they serve using bulk e-mails, and to follow up with those PSAPs as appropriate if the first attempt is not successful. Thus, our annual estimate of \$173,000 consists of the hourly rate of \$34 multiplied by 2 (hours) multiplied by 2,701, which yields \$172,864. We round up to \$173,000 to avoid the false appearance of precision.

23. The estimated costs for service providers to notify their customers about 911 outages by providing material information on their websites consist of a one-time cost of \$778 per provider to implement a website-based outage notification framework and an annually recurring expected cost of \$1,005 per provider to notify customers of outages that materially affect 911 using that framework. The one-time cost consists of the sum of a web developer's hourly rate (\$60) multiplied by 10 hours to set up an outage notification framework and a general and operations manager's hourly rate (\$89)<sup>84</sup> multiplied by 2 hours for project oversight.<sup>85</sup> In calculating the one-time cost, we are aware that certain nationwide or large regional service providers may have more sophisticated websites with multiple brands that would require more time to implement an outage notification framework. We also note however that most of these providers will have already implemented a notification framework for other alerts and important announcements that would reduce website development costs.

24. Small entities are also likely to already have an alert notification framework in place and would likewise have lower costs than we have estimated herein. Similarly, we believe that small entities' annual recurring costs to notify customers of outages that materially affect 911 will likely be less than our estimates since affected service providers need only report outages that materially affect 911. Additionally, small entities will also incur lower costs where the hourly rates for web developers, and general and operations managers are lower than those used in our estimates. In the Notice we seek comments on our estimates and on alternative affordable methods of public notification that balance the needs of the public to know whether dialing 9-1-1 will reach emergency services with the Commission's commitment to preserving public confidence in 911.

25. Based on the above discussion, we do not believe that the costs and/or administrative burdens associated with any of the proposal rule changes will unduly burden small entities. Furthermore, we believe the value of the public safety benefits generated by our PSAP notification proposals outweigh the estimated costs. We anticipate the proposed rule changes will enable PSAPs to accelerate the public's ability to reach 911 call takers during an outage, reducing the probability of lives lost during any such outage. We also believe that these proposals could generate an additional, incremental benefit by helping people reach 911 call takers more quickly and by reducing first responder response times.

26. Notwithstanding the foregoing, to the extent that service providers do not already elicit and refresh contact information for individuals designated by the PSAP to receive outage notifications, we seek to allow sufficient time for them to develop procedures for doing so, including, for example, by developing an e-mail survey to transmit to their the best-known PSAP e-mail address(es) or a secure web portal. In our discussion of the proposals in the Notice, we have also sought comments from the parties in the proceeding and requested cost and benefit information which may help the Commission identify and evaluate relevant matters for small entities.

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

27. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the

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<sup>84</sup> See Economic News Release, Bureau of Labor Statistics, National employment and wage data from the Occupational Employment Statistics survey by occupation, May 2019 (May 2019) <https://www.bls.gov/news.release/ocwage.t01.htm>. The average hourly wage of a web developer and digital interface designer is \$39.60. The average hourly wage of a general and operations manager is \$59.15. When adding overhead, these becomes, respectively, \$59.40 and \$88.73 which we round to the next highest dollar to avoid the false appearance of precision.

<sup>85</sup> Our cost estimates comprise of the cost to develop or update an existing interface which securely provides relevant staff access to update the company's customer facing website with outage notifications. The estimates factor in the need to supervise development of a system that directly impacts the company's public image.

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.”<sup>86</sup>

28. In the Notice, the Commission continues to facilitate the reliability of the 911 system and meet its public safety obligations for oversight of the integrity of the 911 communications infrastructure by proposing measures to ensure that PSAPs can expect consistent and timely outage notifications whenever there is an outage that potentially affects 911 service. While doing so, the Commission is mindful that small entities and other 911 service providers may incur costs should the proposals we make, and the alternatives upon which we seek comment in the Notice, be adopted.

29. The Commission has taken several steps that could reduce the economic impact for small entities. First, the elements for PSAP outage notifications that we propose largely track the NRSC Task Force’s template. Therefore, to the extent small entities have or will implement the ATIS NRSC Task Force’s template, compliance with our proposals should not impose significant additional costs. Next, we propose an approach that establishes a baseline expectation of shared information while otherwise preserving flexibility for service providers to determine the means by which they present this information to PSAPs and seek comment on the cost this flexible approach. Similarly, we do not specify the particular procedures that service providers must develop or follow to elicit PSAP contact information. We seek comment on the costs and benefit of implementing and maintaining these procedures.

30. To increase public awareness of 911 availability and to help protect the public’s safety when 911 services are disrupted, in the Notice we propose to require service providers to notify their customers of 911 outages at the request of affected PSAPs within 60 minutes of determining there is an outage by prominently posting notification of material information on the main page of their websites and internet-related applications. While we recognize that other alternatives such as text messages, email messages, and phone calls, can all provide near-real-time methods to update the public on how best to reach emergency services, we believe requiring posting of notification via websites and internet-related applications will minimize the potential for consumer confusion and alerting fatigue and is therefore in the public interest. We also believe this means of communication will not be a very resource intensive or costly method for small entities and other service providers to provide notice to its customers as compared to for example, text messages which are not deliverable to traditional wireline numbers, and email addresses which service providers may not have for their customers. We seek comment in the Notice on this approach and requiring other methods of notification.

31. To strike an appropriate balance between maintaining 911 network reliability and public awareness of 911 unavailability as well as associated paperwork burdens, we seek comment on whether we should change the frequency with which covered 911 service providers are required to file 911 reliability certifications. We also seek comment on any steps that we have not already proposed that we can take to prevent the costs of our proposals from becoming unduly burdensome for small and medium-sized businesses. Specifically, the Notice seeks comment on whether it would serve the public interest to allow additional time for small and medium-sized businesses to comply with the requirements we propose today.

32. In response to our request for comments in the Notice, we invite parties to propose alternatives to the extent that our proposals will impose new obligations on small entities. Specifically, we would like to see comments address whether small entities would benefit from different reporting requirements or timetables that take into account their limited resources; simplification or consolidation of reporting requirements for small entities; or an exemption from a requirement. We invite commenters to (1) identify which proposed requirements are particularly difficult or costly for small entities and how different, simplified, or consolidated requirements would address those difficulties, and (2) if any

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<sup>86</sup> 5 U.S.C. § 603(c)(1)-(4).

modifications or exemptions from requirements are sought, discuss what would be the effect on public safety and the reliability of 911 operations.

**33.** The Commission expects to consider more fully the economic impact on small entities following its review of comments filed in response to the Notice, including the costs and benefits information. The Commission's evaluation of the comments filed in this proceeding will shape the final alternatives it considers, the final conclusions it reaches, and any final actions it ultimately takes in this proceeding to minimize any significant economic impact that may occur on small entities.

**F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules**

34. None.

**STATEMENT OF  
ACTING CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Improving 911 Reliability*, PS Docket No. 13-75; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Third Notice of Proposed Rulemaking (April 22, 2021)

In April of 2014 we had a major 911 failure in the United States. More than 6,000 emergency calls went unanswered because of a multistate system outage that affected more than 11 million people across seven states—Washington, North Carolina, South Carolina, Minnesota, California, Florida, and Pennsylvania. In a report investigating what caused the outage, the Federal Communications Commission had chilling words. It concluded: “[This] could have been prevented. But it was not.”

Those are words you never want to see twice in a report about public safety. But here’s the most striking part. According to the report, the outage was caused by a software coding error that the FCC found could have been fixed almost as soon as the outage began. But because the problems were not identified quickly, the outage went on and on . . . for six hours.

This month marks the seventh anniversary of this 911 failure that spanned seven states. In the intervening years, 911 outages have become far too common. A nationwide outage of more than 12 hours last summer resulted in more than 23,000 calls to 911 not reaching emergency call centers. Last fall, 911 services went down again in 14 states, some for as long as an hour and a half. To make matters worse, these kinds of outages have outsized consequences during the public health crisis caused by COVID-19.

Seven years is too long. So today we continue FCC efforts to update public safety protocols for the COVID-19 era by improving our ability to learn about 911 outages, identify their causes, and hold parties accountable. We propose updates to our rules so that we no longer have different reporting requirements for different providers offering 911 services. That’s because it doesn’t matter if you are on the calling or receiving end of an emergency call, an outage is a problem that needs to be fixed.

In addition to harmonizing reporting, this rulemaking proposes standardizing the information that carriers share with 911 call centers, to provide certainty and clarity when public safety needs it most. It also proposes that carriers take steps to notify their customers when there is an outage affecting the availability of 911 services.

This is important because when it comes to 911, acting quickly matters. Getting information in a fast and consistent fashion can help restore services, save lives, and prevent outages in the future. These proposals are especially important now, because we are on the cusp of change with Next Generation 911, which will provide new ways of interacting with emergency services and engineering the network that delivers 911 calls. As this transition takes place having consistency and transparency in 911 outage reporting nationwide is essential.

A big thank you to the staff that worked on this rulemaking. They include Jay Bennett, Emily Caditz, Rochelle Cohen, John Evanoff, Beau Finley, David Furth, Jennifer Holtz, Kathleen Hom, Bill Kang, Nikki McGinnis, Erika Olsen, Austin Randazzo, Avery Roselle, Jerry Stanshine, Julia Tu, and James Wiley from the Public Safety and Homeland Security Bureau; Patrick Brogan, Ginny Matello, Kate Matraves, Chuck Needy, Emily Talaga, and Aleks Yankelevich from the Office of Economics and Analytics; David Horowitz, Joel Rabinovitz, Bill Richardson, and Anjali Singh from the Office of General Counsel; Chris Killion, Joann Lucanik, Jeremy Marcus, Elizabeth Mumaw, and Ashley Tyson from the Enforcement Bureau; Aaron Garza, David Sieradzki, and Mark Stone from the Consumer and Governmental Affairs Bureau; and Chana Wilkerson and Sanford Williams from the Office of Communications Business Opportunities.

**STATEMENT OF  
COMMISSIONER GEOFFREY STARKS**

Re: *Improving 911 Reliability*, PS Docket No. 13-75; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Third Notice of Proposed Rulemaking (April 22, 2021)

Because 911 plays an essential role in protecting Americans, network failures that prevent calls from reaching public safety answering points can prevent lifesaving services from reaching people in need. This is not simply a theoretical issue, and the real-world consequences can be extremely serious. For example, a single five-hour outage in 2017 resulted in the failure of 911 calls from about 12,600 callers. Preventing these failures—which can be catastrophic for people experiencing an emergency—is an important carrier responsibility. When outages do occur, timely notification can help mitigate the harm to callers by allowing PSAPs and other emergency responders to inform the public of alternative ways to contact emergency services.

Today's Notice of Proposed Rulemaking proposes to harmonize the Commission's rules for the timing, means, and frequency of network outage notifications that originating and covered 911 service providers are required to provide PSAPs. The Notice of Proposed Rulemaking also proposes timely and direct consumer notifications of all material information regarding an outage, and it proposes that service providers include alternative means to reach emergency services, at the request of the PSAP. Speeding notification to PSAPs and to impacted customers during a 911 outage can change the outcome of an emergency, and I am pleased to approve this NPRM advancing those efforts. I thank the Public Safety and Homeland Security Bureau for its hard work on this issue.