

**FCC FACT SHEET\***

**Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the  
Emergency Alert System**

Report and Order - PS Docket Nos. 15-91 and 15-94

**Background:** Ensuring that Wireless Emergency Alerts (WEAs) are accessible to as many people as possible is a Commission priority. This requires not only that the recipient understand the alerts they receive, but also that WEAs are effective and perform as expected. At present, WEA only supports the presentation of alert messages in English and Spanish.

This Report and Order would make WEA more accessible to people who do not speak English or Spanish as a primary language and to people with disabilities; provide the public with a better understanding of the alerts they receive through location-aware maps; enable alerting authorities to more easily and effectively conduct public-facing WEA performance and public awareness tests; and provide alerting authorities and the public with access to critical information regarding where and how WEA is available within their communities. Taken as a whole, these changes would provide the public with a better understanding of the alerts they receive so that they may take protective action during emergencies and would provide alerting authorities with a better understanding of how WEA will function in their local jurisdictions.

**What the Rules Would Do:**

- Require participating wireless providers to support multilingual WEA through the use of WEA messages translated into the 13 most commonly spoken languages in the United States in addition to English and American Sign Language (ASL). Participating wireless providers would support multilingual WEA by enabling mobile devices to display translated messages that would be pre-installed and stored on the mobile device itself.
- Help people to personalize the relevance of WEA messages through the inclusion of location-aware maps.
- Facilitate more effective WEA performance and public awareness testing by enabling alerting authorities to send two localized WEA tests per year that the public receives by default.
- Improve stakeholders' awareness of WEA availability by requiring wireless providers to provide information about their participation in WEA using a Commission-hosted WEA Database. Participating wireless providers would be required to identify, among other information, the geographic areas in which they offer WEA and the mobile devices they offer for sale that are WEA-capable.

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\* This document is being released as part of a "permit-but-disclose" proceeding. Any presentations or views on the subject expressed to the Commission or its staff, including by email, must be filed in PS Docket Nos. 15-94 and 15-91, which may be accessed via the Electronic Comment Filing System (<https://www.fcc.gov/ecfs/>). Before filing, participants should familiarize themselves with the Commission's *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission's meeting. See 47 CFR § 1.1200 *et seq.*

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

In the Matter of )
Wireless Emergency Alerts ) PS Docket No. 15-91
Amendments to Part 11 of the Commission’s Rules ) PS Docket No. 15-94
Regarding the Emergency Alert System )

THIRD REPORT AND ORDER

Adopted:

Released:

By the Commission:

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\* This document has been circulated for tentative consideration by the Commission at its October 19, 2023 open meeting. The issues referenced in this document and the Commission’s ultimate resolution of those issues remain under consideration and subject to change. This document does not constitute any official action by the Commission. However, the Chairwoman has determined that, in the interest of promoting the public’s ability to understand the nature and scope of issues under consideration, the public interest would be served by making this document publicly available. The FCC’s ex parte rules apply and presentations are subject to “permit-but-disclose” ex parte rules. See, e.g., 47 CFR §§ 1.1206, 1.1200(a). Participants in this proceeding should familiarize themselves with the Commission’s ex parte rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. See 47 CFR §§ 1.1200(a), 1.1203.

## I. INTRODUCTION

1. Since its launch in 2012,<sup>1</sup> Wireless Emergency Alerts (WEA) have become an integral part of the nation's emergency preparedness and response infrastructure. WEA has been used to issue over 84,000 emergency alerts, including severe weather warnings, evacuate and shelter-in place alerts, and America's Missing: Broadcast Emergency Response (AMBER) Alerts.<sup>2</sup> The Commission has steadily improved WEA over the years by increasing the maximum length of WEA messages from 90 to 360 characters, by continually refining the accuracy of WEA's geographic targeting, by enabling WEA messages to include tappable links, and by supporting Spanish-language versions of WEA messages.<sup>3</sup> Today, we take significant steps to make WEA even more effective by adopting requirements to make WEA messages available in the 13 most commonly spoken languages in the United States, in addition to English and American Sign Language (ASL). We also help alert recipients better understand and contextualize the information they receive by requiring that WEA-capable mobile devices support alerts that leverage the device's native mapping application to show where the recipients are located relative to the emergency. We enable alerting authorities to more easily and effectively conduct public-facing WEA performance and public awareness tests. Finally, we adopt requirements to provide alerting stakeholders – including alert originators and members of the public – with access to critical information about where and how WEA is available within their communities.

2. WEA has helped keep many people safe during disasters and crises, but more can be done to communicate with those who are the most vulnerable.<sup>4</sup> The approximately 26 million people living in the United States who do not primarily speak English or Spanish and the estimated one-in-four adults in the United States that have some form of disability remain at risk for not being able to receive and understand the potentially life-saving information conveyed by WEA messages in an accessible language and format.<sup>5</sup> Under our current rules, WEAs are only available in English or Spanish, and many

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<sup>1</sup> *Public Safety and Homeland Security Bureau Announces Timetable for Commercial Mobile Service Providers Electing Not to Transmit Commercial Mobile Alert System (CMAS) Alerts to Notify Existing and Potential Customers*, PS Docket No. 07-287, Public Notice, 27 FCC Rcd 2622 (Mar. 16, 2012); *see also* Communications Security, Reliability, and Interoperability Council VIII, Report on WEA Application Programming Interface, at 3 (2023) (CSRIC VIII API Report) (“The Wireless Emergency Alert (WEA) system serves a critical function, disseminating important and often life-saving information”).

<sup>2</sup> Email from Mark Lucero, Chief Engineers, IPAWS, FEMA, to Keith St. Claire, FEMA (rec. Sep. 5, 2023) (on file with author); *see also* *Wireless Emergency Alerts (WEA)* (Apr. 20, 2023), <https://www.fcc.gov/consumers/guides/wireless-emergency-alerts-wea>.

<sup>3</sup> *See generally* *Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, Second Report and Order and Second Order on Reconsideration, PS Docket Nos. 15-91 and 15-94, 33 FCC Rcd 1320 (2018); *Wireless Emergency Alerts Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 11112 (2016) (2016 WEA R&O and FNPRM).

<sup>4</sup> *See* Alley L. Biniarz, *How Natural Disasters Disproportionately Affect Vulnerable Communities* (Mar. 31, 2021), <https://www.environment911.org/How-Natural-Disasters-Disproportionately-Affect-Vulnerable-Communities> (showing that those with lower incomes often live in higher risk areas and that those with disabilities do not always receive warnings in a way they can act on); *Reaching At-Risk populations in an Emergency* (Apr. 4, 2018) (providing resources for emergency managers to help them identify and plan to reach at-risk groups in their communities), <https://emergency.cdc.gov/workbook/index.asp>; *see also* Sharona Hoffman, *Preparing for Disaster: Protecting the Most Vulnerable in Emergencies*, 1494 (2009) (noting that, of the 1,800 individuals who died during Hurricane Katrina, members of vulnerable populations were the most likely to die), [https://lawreview.law.ucdavis.edu/issues/42/5/articles/42-5\\_Hoffman.pdf](https://lawreview.law.ucdavis.edu/issues/42/5/articles/42-5_Hoffman.pdf).

<sup>5</sup> U.S. Census Bureau, *DP02 | Selected Social Characteristics in the United States* (2021), <https://data.census.gov/cedsci/table?q=DP02#>. Sandy Dietrich and Erik Hernandez, *Language Use in the United States: 2019*, pages 8, 14-15 (2022),

(continued....)

devices on which people with disabilities rely do not support WEA.<sup>6</sup> Further, our nation’s alerting authorities do not have effective access to information about where WEA is *and is not* available within their communities and how WEA performs within their jurisdictions. This knowledge gap can leave alerting authorities ill equipped to plan for reliable communications during disasters.

3. It is essential that the public be able to receive in accessible language and format WEA Messages that are intended for them. It is also important that those who initiate these messages and those who rely upon them can access information about WEA’s availability and performance. Through the requirements we adopt today, we intend to help the millions of people with access and functional needs, including people who primarily speak a language other than English or Spanish and those with disabilities, better understand and take protective actions in response to WEA messages; improve people’s ability to understand and quickly take protective actions in response to WEAs that they receive; and provide the nation’s alerting authorities with the information they need to plan for resilient communications during disasters and use WEA with confidence and foreknowledge. These requirements will meaningfully improve WEA. We also recognize that even more can be done. Accordingly, we identify next steps to further improve WEA’s accessibility and availability.<sup>7</sup>

## II. BACKGROUND

4. The WEA system is a tool for authorized federal, state and local government entities to geographically target alerts and warnings to the WEA-capable mobile devices of participating commercial mobile service providers’ subscribers. The Warning Alert and Response Network (WARN) Act<sup>8</sup> establishes WEA as a voluntary system in which CMS Providers may elect to participate and gives the Commission authority to adopt “relevant technical standards, protocols, procedures and other technical requirements . . . necessary to enable commercial mobile service alerting capability for commercial

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<https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf>; see also US Census Bureau, *The 2020 Census Speaks More Languages* (Mar. 9, 2020), <https://www.census.gov/newsroom/press-releases/2020/languages.html>; Press Release, Attorney General James Urges FCC and the U.S. Wireless Industry to Expand Language Accessibility for Severe Weather Warnings (Oct. 27, 2022), <https://ag.ny.gov/press-release/2022/attorney-general-james-urges-fcc-and-us-wireless-industry-expand-language>; Ashley Wong, *Push for Language Access After Ida Highlights a Greater Need in N.Y.*, (Mar. 3, 2022), <https://www.nytimes.com/2022/03/03/nyregion/severe-weather-alerts-languages-ida.html>; *How the 2017 fires helped reveal Sonoma County’s problems with equity*, <https://socoemergency.org/recover/2017-tubbs-nuns-fire/looking-back-at-2017-wildfires/how-the-2017-fires-helped-reveal-sonoma-countys-problems-with-equity/> (last visited on Feb. 21, 2023); Kate Yoder, *During wildfires and hurricanes, a language gap can be deadly*, (Jun. 15, 2021), <https://grist.org/language/wildfires-hurricanes-translation-language-gap/>; Centers for Disease Control and Prevention, Press Release, CDC: 1 in 4 adults live with a disability (Aug. 16, 2018), <https://www.cdc.gov/media/releases/2018/p0816-disability.html>.

<sup>6</sup> 47 CFR § 10.10(j); 47 CFR § 10.480. See American Foundation for the Blind, American Council of the Blind, National Disability Rights Network Comments, PS Docket Nos. 15-91 and 15-94, at 5 (Jul. 21, 2023) (Advocacy Groups for the Blind Comments); see also Telecommunications for the Deaf and Hard of Hearing, Inc., Communication Service for the Deaf, Hearing Loss Association of America, National Association of the Deaf, Coalition on Inclusive Emergency Planning, Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, and Gallaudet University Comments, PS Docket Nos. 15-91 and 15-94, at 9 (Jul. 21, 2023) (Advocacy Groups for the Deaf and Hard of Hearing Comments); see also Richard Ray, Reply, PS Docket Nos. 15-91 and 15-94 at 3 (rec. Sept. 15, 2023) (“Emergency alerting systems must be accessible to individuals with disabilities”).

<sup>7</sup> Improving the accessibility and effectiveness of the nation’s alerting systems is a priority for the Commission. In this regard, we will consider improvements for the Emergency Alert System (EAS) – to include support for multilingual EAS – in a forthcoming item.

<sup>8</sup> Warning, Alert and Response Network (WARN) Act, Title VI of the Security and Accountability for Every Port Act of 2006, 120 Stat. 1884, 1936 (codified at 47 U.S.C. § 1201 *et seq.*)

mobile service providers that voluntarily elect to transmit emergency alerts.”<sup>9</sup> Pursuant to this authority, the Commission has adopted requirements to prescribe WEA capabilities, WEA testing, and WEA election procedures. While participation by wireless providers is voluntary, those commercial mobile service providers that choose to offer the service (Participating CMS Providers) must adhere to the technical and operational requirements established by the Commission.

5. WEA works as follows: an alerting authority sends a WEA message<sup>10</sup> using Federal Emergency Management Agency (FEMA)-approved alert origination software in the Common Alerting Protocol (CAP) to the FEMA-operated alert aggregator, the Integrated Public Alert and Warning System (IPAWS).<sup>11</sup> There, it is authenticated, validated and delivered to FEMA’s Alert Gateway for dissemination to Participating CMS Providers’ Alert Gateways.<sup>12</sup> While the Commission’s WEA rules are technologically neutral, most Participating CMS Providers use cell broadcast technology to transmit WEA messages to their subscribers.<sup>13</sup> When the Alert Message is received by a WEA-capable mobile device,<sup>14</sup> it is prominently presented to the subscriber as long as the subscriber has not opted out of receiving Alert Messages of that type.<sup>15</sup>

6. Under the WARN Act, CMS Providers can participate in WEA in-whole or in-part.<sup>16</sup> In-whole participation means the CMS Provider has agreed to transmit WEAs in a manner consistent with the technical standards, protocols, procedures, and other technical requirements adopted by the Commission in the entirety of their geographic service area and on all devices offered at the point of sale. In-part participation means that the CMS Provider will comply with our requirements, but either not in the entirety of their geographic service area, not on all devices they offer for sale, or both.<sup>17</sup> The

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<sup>9</sup> 47 U.S.C. § 1201(a); 47 CFR § 10.10(d) (defining as CMS Provider as an “FCC licensee providing commercial mobile service as defined in section 332(d)(1) of the Communications Act of 1934.”). Section 332(d)(1) defines the term commercial mobile service as any mobile service (as defined in 47 U.S.C. 153) that is provided for profit and makes interconnected service available to the public or to such classes of eligible users as to be effectively available to a substantial portion of the public, as specified by regulation by the Commission. *See* 47 U.S.C. § 332(d)(1).

<sup>10</sup> *See* 47 CFR § 10.10(a) (defining an “Alert Message” as “a message that is intended to provide the recipient information regarding an emergency, and that meets the requirements for transmission by a Participating Commercial Mobile Service Provider under this part”).

<sup>11</sup> CAP is an open, interoperable, XML-based standard that can include multimedia such as streaming audio or video. *See* OASIS CAP v1.2 (IPAWS Profile for the OASIS Common Alerting Protocol IPAWS USA), <http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html>. CAP messages contain standardized fields that facilitate interoperability between and among devices. *See id.*

<sup>12</sup> From a technical standpoint, the WEA system currently deployed by FEMA and Participating CMS Providers is based on standards created by the Alliance for Telecommunications Industry Solutions (ATIS), the Telecommunications Industry Association (TIA) (jointly, ATIS/TIA), and the 3rd Generation Partnership Project (3GPP). *See CSRIC IV WEA Messaging Report* at 7. We note that nothing in the WARN Act or the Commission’s rules requires WEA to be a cell broadcast-based service.

<sup>13</sup> *See CSRIC V, Working Group Two, Wireless Emergency Alerts – Recommendations to Improve Geo-targeting and Offer Many-to-One Capabilities, Final Report and Recommendations 8* (2016) (CSRIC V WEA Geo-targeting Report); *but see* Letter from Rebecca Murphy Thompson, EVP and General Counsel, Competitive Carriers Association, to Marlene Dortch, Secretary, FCC, PS Docket No. 15-91, at 2 (filed Oct. 10, 2017) (stating that some carriers offer WEA using a software application, rather than cell broadcast).

<sup>14</sup> The WEA rules do not currently define a “WEA-capable mobile device.”

<sup>15</sup> *See* Joint ATIS/TIA CMAS Mobile Device Behavior Specification (ATIS-TIA-J-STD-100). Subscribers’ right to opt out of WEA message receipt extends to all but the Presidential Alert. *See* 47 CFR § 10.280.

<sup>16</sup> 47 U.S.C. § 1201(b)(1)(B).

<sup>17</sup> 47 CFR §§ 10.10 (k)(l).

Commission requires CMS Providers to file their WEA election letters in a docket.<sup>18</sup> Twenty one of the 76 wireless providers that elect to transmit alert messages,<sup>19</sup> including the three nationwide service providers (AT&T, Verizon Wireless, and T-Mobile) elect to transmit Alert Messages “in part.”<sup>20</sup> A CMS Provider that elects, in whole or in part, not to transmit emergency alerts is also required to make that election in writing to the Commission, provide conspicuous notice at the point of sale of any devices that will not transmit emergency alerts, and notify its existing subscribers of this election.<sup>21</sup> While Participating CMS Providers, including the three nationwide providers, serve the majority of wireless consumers, hundreds of wireless providers (over 450 of them) have elected not to transmit WEA Messages.<sup>22</sup> CMS Providers WEA election letters do not state the extent to which they offer WEA in the entirety of their geographic service area or to all mobile devices that they offer at the point of sale. Rather, this information is available in disparate sources. Our rules authorize Participating CMS Providers to enable alerting authorities to test how WEA works in their communities by transmitting State/Local WEA Tests, which consumers must affirmatively opt in to receive.<sup>23</sup>

7. Over the years the Commission has received numerous requests for waiver of its rules to enable alerting authorities to test WEA using alerts that the public receives by default, to enable alerting authorities to use WEA tests to understand how WEA will work in an actual emergency and to raise public awareness about risks to health and safety.<sup>24</sup> In assessing these waivers, the Commission has balanced raising awareness about emergencies with protecting against alert fatigue.<sup>25</sup> By contrast, the Commission’s rules allow EAS Participants to participate in two tests that the public receives by default

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<sup>18</sup> *Third WEA R&O* at para. 32; 47 CFR § 10.210(c); *see also* PS Docket No. 08-146.

<sup>19</sup> As noted in the *2023 WEA FNPRM*, “[a]s a result of the deficiencies in the current WEA data collection mechanisms, many of which are identified in [the] FNPRM, the number of CMS Providers who have elected to participate ‘in whole or in part’ may not be up to date. For example, the WEA registry lists Sprint Nextel and T-Mobile as having separate WEA elections.” *2023 WEA FNPRM* at note 14.

<sup>20</sup> *See* Letter from Joseph P. Marx, Assistant Vice President, AT&T Services Inc., to Marlene H. Dortch, Secretary, FCC (rec. Feb. 14, 2013); *see* Letter from Steve Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile, to Marlene H. Dortch, Secretary, FCC (rec. Jun. 4, 2018); *see* Letter from Andre J. Lachance, Assistant General Counsel, Verizon, to Marlene H. Dortch, Secretary, FCC (rec. Sep. 8, 2008); *see also* *Wireless Emergency Alerts* (Aug. 4, 2023) (WEA Master Registry under “Resources”), <https://www.fcc.gov/public-safety-and-homeland-security/policy-and-licensing-division/alerting/general/wireless>.

<sup>21</sup> 47 CFR §§ 10.210; 10.240.

<sup>22</sup> *See* Master WEA Registry, [https://www.fcc.gov/sites/default/files/wea\\_masterregistry112019.xls](https://www.fcc.gov/sites/default/files/wea_masterregistry112019.xls) (last visited Sep. 5, 2023).

<sup>23</sup> 47 CFR § 10.350. Specifically, the Commission’s rules require Participating CMS Providers to participate in monthly tests initiated by the Federal Emergency Management Agency and in periodic tests of WEA’s C-Interface. *Id.* On November 1, 2016, the Commission adopted a Report and Order that amended the WEA testing rules to permit emergency managers to conduct end-to-end WEA tests with the public to assess how WEA is working within their jurisdictions. *See WEA R&O*, 31 FCC Rcd at 11154-55, at paras. 65-68; (requiring Participating CMS Providers to provide their subscribers with the option to receive State/Local WEA Tests, whereby subscribers must affirmatively select the option to receive State/Local WEA Test messages).

<sup>24</sup> *See, e.g., Wireless Emergency Alert Performance Testing Wireless Emergency Alerts Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 22-160, 15-91, and 15-94, Order (2022); *Wireless Emergency Alerts Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, Order (2022); *Improving Wireless Emergency Alerts and Community-Initiated Alerting Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, 36 FCC Rcd 12734 (2021).

<sup>25</sup> *See Improving Wireless Emergency Alerts and Community-Initiated Alerting Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, 35 FCC Rcd 1527, para. 6 (2020) (stating that the State/Local WEA test category was adopted to prevent consumers from experiencing “alert fatigue”).

per calendar year, provided that the entity conducting the test takes specified actions to make clear that the alert being sent is only a test.<sup>26</sup>

8. The accessibility of WEAs for people with disabilities and the availability of WEAs for people who primarily speak a language other than English or Spanish has been an important focus since the Commercial Mobile Service Alerting Advisory Committee (CMSAAC) developed recommendations that were to become the basis of the Commission's WEA rules in 2007.<sup>27</sup> The Commission's WEA rules currently support the accessibility of WEA messages by requiring that Participating CMS Providers support an audible WEA attention signal and vibration cadence, support the inclusion of URLs in Alert Messages, and support the transmission of WEA messages originated by alerting authorities in Spanish.<sup>28</sup> The CMSAAC Report contemplates both multilingual alerting and the inclusion of maps in WEA, but WEA does not yet support those features.<sup>29</sup>

9. The Commission has been seeking comment on whether WEA should support languages in addition to English and Spanish and location-aware maps since 2016.<sup>30</sup> Alerting authorities commenting on our *2016 FNPRM* favored the expansion of WEA's language capabilities because it would allow WEAs to reach a wider audience,<sup>31</sup> but industry commenters were generally opposed due to concerns about bandwidth limitations of cellular networks, delay of WEA receipt, and costs.<sup>32</sup> Alerting authorities were in favor of including location-aware maps because it would personalize alerts and bolster

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<sup>26</sup> 47 CFR § 11.61(a)(5) (requiring entities conducting "Live Code Tests" to notify the public before the test in widely-accessible formats that live event codes will be used, but that no emergency is, in fact occurring; state in the test message that the event is only a test; and coordinate the test among EAS Participants, state and local emergency authorities, the relevant state emergency communications committees (SECC), and first responder organizations).

<sup>27</sup> CMSAAC Report, § 5.5 ("The WARN Act requirements for the establishment of the Commercial Mobile Service Alert Advisory Committee membership specifically call for representation from 'national organizations representing individuals with special needs, including individuals with disabilities and the elderly.' During its work, the CMSAAC reviewed input from members on accessibility considerations. Most of the following requirements benefit *all* subscribers in an emergency").

<sup>28</sup> See The Commercial Mobile Alert System, PS Docket No. 07-287, First Report and Order, 23 FCC Rcd 6144 (2008) (First WEA R&O); see *2016 WEA R&O and FNPRM* (requiring Participating CMS Providers to support WEA alerts initiated in Spanish); 47 CFR § 10.480. According to the FEMA IPAWS Program Management Office, since the requirement to support WEA messages in Spanish became effective, as of Mar. 8, 2023, alerting authorities have issued 21,781 WEA messages, 14,240 of which have been translated into Spanish. See *Multilingual Alerting for the Emergency Alert System and Wireless Emergency Alerts* (Sep. 28, 2022), [https://www.fcc.gov/MultilingualAlerting\\_EAS-WEA](https://www.fcc.gov/MultilingualAlerting_EAS-WEA).

<sup>29</sup> CMSAAC Report, at §§ 5.5.2.2, 5.7.

<sup>30</sup> *2016 WEA R&O and FNPRM* at 11195, para. 108.

<sup>31</sup> Sarah Poss, California Governor's Office of Emergency Services, Comments, PS Docket Nos. 15-91 and 15-94, at 3-4 (Rec. Dec. 15, 2016) (CalOES 2016 Comments); Bob Iberger, Islip Office of Emergency Management, Comments, PS Docket No. 15-91, at 1 (Rec. Dec. 5, 2016); Letter from Preston Findlay, Counsel, NCMEC, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 15-91 et al., at 2 (filed July 6, 2017) (NCMEC 2017 *ex parte*); Nassau County OEM 2016 Comments at 1; NYCEM 2016 Comments at 10; City and County of San Francisco Department of Emergency Management, Comments, PS Docket No. 15-91, at 2 (Rec. Dec. 8, 2016).

<sup>32</sup> Apple, Reply, PS Docket Nos. 15-91 and 15-94, at 6 (Rec. Jan. 9, 2017) (Apple 2016 Reply); The Alliance for Telecommunications Industry Solutions, Comments, PS Docket Nos. 15-91 and 15-94, at 7-8 (Rec. Dec. 8, 2016) (ATIS 2016 Comments) ("[S]upport for [ideographic] languages would require service providers to switch from GSM 7-bit encoding to basic Unicode (UCS-2) character set . . . ATIS notes that requiring the use of the UCS-2 character set would decrease the number of display characters to less than half of the 360 character maximum"); AT&T, Reply, PS Docket Nos. 15-91 and 15-94, at 3 (Rec. Jan. 9, 2017) (AT&T 2016 Reply); CTIA, Comments, PS Docket Nos. 15-91 and 15-94, at 9 (Rec. Dec. 8, 2016) (CTIA 2016 Comments); Microsoft, Comments, PS Docket Nos. 15-91 and 15-94, at 9 (Rec. Dec. 8, 2016) (Microsoft 2016 Comments); T-Mobile, Comments, PS Docket Nos. 15-91 and 15-94, at 3-4, 9-10 (Rec. Dec. 8, 2016) (T-Mobile 2016 Comments).

awareness,<sup>33</sup> whereas industry commenters were generally opposed due to the same concerns raised in the multilingual alerting context.<sup>34</sup>

10. Some alerting authorities have hesitated to use WEA because they did not understand or have confidence in how WEA works in practice. In 2017, officials in Sonoma County, California declined to use WEA to warn the public about wildfires, expressing concern that the alerts would be delivered outside of their targeted area.<sup>35</sup> In a letter to the FCC Chairwoman in 2022, Senators Bennett and Hickenlooper of Colorado highlight the fact that “the WEA system was not used during the Marshall Fire due to existing concerns about its reliability and delivery.”<sup>36</sup> They observe that “[w]hile over 1,600 entities nationwide are authorized to send WEAs, less than half have ever done so.”<sup>37</sup> The Senators cite to a National Academies of Sciences, Engineering, and Medicine report that states an effective alert and warning system will, among other things, communicate in a way that people can understand, be one that alerting authorities can trust to deliver an alert in a timely manner to all intended recipients, and be suitable for reaching all at-risk populations.<sup>38</sup>

11. Over the years, the Communications Security, Reliability, and Interoperability Council (CSRIC) – a federal advisory committee to the Commission – has studied and reported on various potential improvements to the WEA system. Nearly ten years ago, CSRIC IV first discussed the possibility of including maps and other graphic information in WEAs, concluding at the time that more study was necessary.<sup>39</sup> This year, CSRIC VIII recommends that WEAs include a link to access location-

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<sup>33</sup> APCO International, Comments, PS Docket No. 15-91, at 3 (Dec. 8, 2016) (APCO 2016 Comments); CalOES 2016 Comments at 3; Nassau County OEM 2016 Comments at 1; Letter from Michael E. Gerber, Physical Scientist, Office of Dissemination, NWS, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 15-91, at 4 (filed July 18, 2017) (NWS 2017 Ex Parte) (“The NWS wishes to reiterate the need for WEA to display a map of the recipient’s location relative to the threat area. This is necessary in order to better personalize the threat and increase the likelihood that people in the path of the threat take decisive life-saving action.”); NYCEM 2016 Comments at 8.

<sup>34</sup> ATIS 2016 Comments at 7-8; AT&T 2016 Reply at 4; CTIA 2016 Comments at 9; Microsoft 2016 Comments at 6-7; T-Mobile 2016 Comments at 2-4, 8-9; Verizon, Comments, PS Docket Nos. 15-91 and 15-94, at 4 (Rec. Dec. 8, 2016).

<sup>35</sup> Dakin Andone, CNN, *Californians say they didn’t receive emergency wildfire alerts* (Oct. 15, 2017), <https://www.cnn.com/2017/10/13/us/california-fires-emergency-alerts/index.html> (quoting a Sonoma County spokeswoman who said that “officials chose not to send out a WEA because it would target too large a geographic area, evacuating residents who weren’t in danger and causing gridlock on the roads”); Napa County Grand Jury 2017-2018, Final Report: Napa County Emergency Alerts Lacking During Fires at 5 (June 13, 2018), <https://www.napa.courts.ca.gov/system/files/gj-17-18-emergency-alerts-lacking-during-fires-e.pdf> (“Even though Sonoma County has the WEA system, the probability for “overshooting” was the reason they did not choose to send out alerts as the fire raged. County officials feared such alerts might have caused panic and traffic jams that may have hindered fire and law enforcement evacuation efforts.”).

<sup>36</sup> Letter from Sens. Bennett and Hickenlooper to FCC Chairwoman Rosenworcel at 1 (Apr. 20, 2022), [https://www.bennet.senate.gov/public/\\_cache/files/6/4/6479f090-12fc-489f-a4ea-60af7ec75515/6EB55A10D990A97F2D897653153BB3D0.wea-letter-to-fcc-final-4.20.22.pdf](https://www.bennet.senate.gov/public/_cache/files/6/4/6479f090-12fc-489f-a4ea-60af7ec75515/6EB55A10D990A97F2D897653153BB3D0.wea-letter-to-fcc-final-4.20.22.pdf).

<sup>37</sup> *Id.*

<sup>38</sup> National Academies of Sciences, Engineering, and Medicine, *Emergency Alert and Warning Systems: Current Knowledge and Future Research Directions* at 50 (2018), <https://nap.nationalacademies.org/download/24935>.

<sup>39</sup> See Communications Security, Reliability, and Interoperability Council III, *Next Generation Alerting Final Report* (2013), [https://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRIC\\_III\\_WG2\\_Report\\_March\\_%202013.pdf](https://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRIC_III_WG2_Report_March_%202013.pdf); see Communications Security, Reliability, and Interoperability Council IV, *Geographic Targeting, Message Content and Character Limitation Subgroup Report* at 50 (2014), [https://transition.fcc.gov/pshs/advisory/csric4/CSRIC\\_CMAS\\_Geo-Target\\_Msg\\_Content\\_Msg\\_Len\\_Rpt\\_Final.pdf](https://transition.fcc.gov/pshs/advisory/csric4/CSRIC_CMAS_Geo-Target_Msg_Content_Msg_Len_Rpt_Final.pdf); see Communications Security, Reliability, and Interoperability Council V, *Emergency Alerting Platforms WEA Security Sub-Working Group* (2016), <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability>; see Communications Security, Reliability, and Interoperability Council VI,

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aware maps that depict the alert’s target geographic area and the alert recipient’s position in relation to the target area leveraging current technology.<sup>40</sup> CSRIC VIII observes that “maps are commonly used to depict alert location across a variety of alert dissemination methods (e.g., TV, social media)” and states that presenting WEA messages via mapping applications on the device “could help the recipient better understand the boundaries of the Alert Area and the device’s location relative to the Alert Area.”<sup>41</sup> CSRIC VIII also recommends further study of WEA support for languages other than English and Spanish.<sup>42</sup>

12. Building upon CSRIC VIII’s recommendation, this past February, Chairwoman Rosenworcel sent letters to the nine largest Participating CMS Providers seeking their input on the feasibility of implementing multilingual alerting through pre-installed templates and through machine translation technologies.<sup>43</sup> Responses state that both may be feasible solutions.<sup>44</sup> In addition, this past February, the Commission received a letter from a bipartisan group of 45 lawmakers representing both chambers of Congress emphasizing the importance of alerting individuals in a language they understand and urging the Commission to upgrade WEA to support multilingual capabilities.<sup>45</sup>

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Comprehensive Re-imagining of Emergency Alerting – AMENDED (2018), <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-council>; see Communications Security, Reliability, and Interoperability Council VII, Report on Standard Operating Procedures for Emergency Alerting Communications (2020), <https://www.fcc.gov/media/41738>; see Communications Security, Reliability, and Interoperability Council VIII, Report on WEA Performance Reporting, <https://www.fcc.gov/file/24518/download> (Dec. 2022).

<sup>40</sup> Communications Security, Reliability, and Interoperability Council VIII, Report on WEA Application Programming Interface at 26, <https://www.fcc.gov/file/25058/download> (Mar. 2023) (CSRIC VIII API Report).

<sup>41</sup> *Id.* at 11-15, 26 (CSRIC suggests this could be implemented in a manner where “text is immediately displayed and an additional option to display a WEA map is provided”).

<sup>42</sup> *Id.* at 27; see also Communications Security, Reliability, and Interoperability Council V, Final Report – Multilingual Alerting Recommendations at 12 (Sep. 2016), <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability> (recommending CAP be leveraged to provide multilingual EAS, but that no action should be taken at the time of writing).

<sup>43</sup> Chairwoman Seeks Information on Multilingual Wireless Emergency Alerts (Feb. 13, 2023), <https://www.fcc.gov/document/chairwoman-seeks-information-multilingual-wireless-emergency-alerts>.

<sup>44</sup> See, e.g., Letter from Rhonda J. Johnson, Executive Vice President, Federal Regulatory Affairs, AT&T, to Jessica Rosenworcel, Chairwoman, FCC, at 4-5 (Rec. Feb. 27, 2023) (AT&T Letter on Multilingual WEA) (stating “[w]e believe that software translation technologies are sufficiently mature to effectively support the translation of WEA alerts into the most commonly spoken languages” and “[i]n the future . . . [an] alert could be broadcast in English and automatically translated into the default language for the user’s device by a WEA application”); Letter from Chemu Langan, Chief Operating Officer and Vice President, Quality and Regulatory, Best Buy Health, Inc., to Jessica Rosenworcel, Chairwoman, FCC, at 2 (Rec. Feb. 27, 2023), <https://www.fcc.gov/ecfs/search/search-filings/filing/1022730060888> (Best Buy Health Letter on Multilingual WEA) (“we believe it would be possible to build pre-scripted WEA messages that are displayed based on the language setting the device user has selected. We estimate that the development work necessary to build such pre-scripted messages would be significant, and we note that collaboration with parties responsible for mobile device operating systems would be key to enabling WEAs in a multitude of languages”).

<sup>45</sup> Letter from Kirsten Gillibrand, Senator, Grace Meng, Congressman, Dianne Feinstein, Senator, Raúl M. Grijalva, Congressman, Robert P. Casey Jr., Senator, Salud Carbajal, Congressman, Mazie Hirono, Senator, Gregory W. Meeks, Congressman, Ben Ray Lujan, Senator, Jasmine Crockett, Congressman, Tammy Duckworth, Senator, Eleanor Holmes Norton, Congressman, Alex Padilla, Senator, Yvette D. Clarke, Congressman, Robert Menendez, Senator, Nydia M. Velázquez, Congressman, Jon Ossoff, Senator, Jerrold Nadler, Congressman, Katie Porter, Congressman, Suzanne Bonamici, Congressman, Adriano Espaillat, Congressman, Pramila Jayapal, Congressman, Josh Harder, Congressman, Juan Vargas, Congressman, Doris Matsui, Congressman, Ed Case, Congressman, Jamaal Bowman, Congressman,

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13. In the 2023 *WEA FNPRM*, the Commission proposed to require Participating CMS Providers to increase WEA’s language support, support the inclusion of location-aware maps in WEA, authorize public-facing tests, and report a variety of availability information into a Commission-hosted WEA Database.<sup>46</sup> The Commission received 28 comments and 11 replies.<sup>47</sup>

### III. DISCUSSION

#### A. Making WEA Available to Millions of People Who Primarily Speak a Language Other Than English or Spanish and Accessible to People with Disabilities

14. To expand WEA’s reach to millions of people who primarily speak a language other than English or Spanish who may not be able to understand the potentially life-saving alerts they receive, we require Participating CMS Providers to support multilingual WEA through the use of Alert Messages translated into the most common languages (referred to in this item as “templates”). These templates would be pre-installed and stored on the mobile device itself. As described below, where an alerting authority chooses to send a multilingual Alert Message, the WEA-capable mobile device must be able to extract and display the relevant template in the subscriber’s default language, if available.<sup>48</sup> If the default language for a WEA-capable mobile device is set to a language that is not among those supported by templates, the WEA-capable device must present the English-language version of the Alert Message.<sup>49</sup>

15. The weight of the record supports expanding WEA’s language capabilities through the use of templates.<sup>50</sup> We agree with NYCEM that “[p]re-loading commonly issued WEAs to supported

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Nanette Diaz Barragán, Congressmember, Marilyn Strickland, Congressmember, Jill Tokuda, Congressmember, Suzan K. DelBene, Congressmember, Dan Goldman, Congressmember, Sara Jacobs, Congressmember, Jim Costa, Congressmember, Jan Schakowsky, Congressmember, Marc A. Veasey, Congressmember, Mark Takano, Congressmember, Kevin Mullin, Congressmember, Grace F. Napolitano, Congressmember, Jesús G. "Chuy" García, Congressmember, Jimmy Gomez, Congressmember, Susie Lee, Congressmember, Andy Kim, Congressmember, Judy Chu, Congressmember, Lizzie Fletcher, Congressmember, Gerald E. Connolly, Congressmember, and Mary Gay Scanlon, Congressmember, to Jessica Rosenworcel, Chairwoman, FCC (Feb. 3, 2023) (Congressional Letter to Chairwoman Rosenworcel).

<sup>46</sup> See generally *Wireless Emergency Alerts, Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket No. 15-91, 15-94, Further Notice of Proposed Rulemaking, FCC 23-30 (Apr. 21, 2023) (*2023 WEA FNPRM*).

<sup>47</sup> See PS Docket Nos. 15-91 and 15-94; see also *infra* Appendix D (List of Commenters).

<sup>48</sup> 47 CFR § 10.500(e).

<sup>49</sup> See ATIS, *Wireless Emergency Alert (WEA) 3.0 Mobile Device Behavior (MDB) Specification* at 5 (2019) (stating that presentation of an English-language Alert Message is mandatory).

<sup>50</sup> Advocacy Groups for the Deaf and Hard of Hearing Comments at 4-5 (“Although certain emergency situations may require unique or specific information delivered through an WEA, the use of template-based alerts that are translated into ASL may provide a next best option to ensuring that the WEAs are accessible to persons for whom ASL is their primary language”); Letitia James, New York State Attorney General, Philip J. Weiser, Colorado Attorney General, William Tong, Connecticut Attorney General, Brian L. Schwalb, District of Columbia Attorney General, Kwame Raoul, Illinois Attorney General, Anthony G. Brown, Maryland Attorney General, Andrea Joy Campbell, Massachusetts Attorney General, Keith Ellison, Minnesota Attorney General, Aaron D. Ford, Nevada Attorney General, Matthew J. Platkin, New Jersey Attorney General, Raúl Torrez, New Mexico Attorney General, Ellen F. Rosenblum, Oregon Attorney General, Peter Neronha, Rhode Island Attorney General, Charity R. Clark, Vermont Attorney General, Bob Ferguson, Washington Attorney General, Joshua L. Kaul, Wisconsin Attorney General, Hon. Sylvia O. Hinds-Radix, New York City Corporation Counsel, Comments, PS Docket Nos. 15-91 and 15-94, at 2-3 (rec. Jul. 21, 2023) (Attorneys General Comments) (“The States and New York City urge the Commission to require pre-installed templates); LAAWW Comments at 3 (“If translation capabilities on the device end is not a possibility, we would like to see expanded functionality in IPAWS software to permit pre-loaded scripts . . . to display alert information assigned to each IPAWS alert code, when possible, to inform end users); New York Public Service Commission, Reply, PS Docket Nos 15-91 and 15-94 (NYPSC Reply); NOAA/NWS Comments at 1

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devices and displaying the alert in the device’s preferred language would certainly be a major improvement to alerting capabilities.”<sup>51</sup> FEMA comments that “pre-installed template messages would work very well for specific scenarios or for specific [Alert Originators] (e.g., NWS and USGS alerts which are uniform and standardized.”<sup>52</sup> Some alerting authorities are already using templates to deliver alerts in multiple languages.<sup>53</sup> The approach we adopt today improves upon other available methods of multilingual WEA messages (e.g., through the use of an embedded reference that takes the recipient to a website with content in multiple languages), because the multilingual Alert Message will be displayed to the user by default.

16. The implementation of multilingual WEA through the use of templates, as described in this item, integrates two features that are available today. First, it requires the establishment of templates. Letters from some of the largest Participating CMS Providers indicate that implementing template-based WEAs in multiple languages is feasible.<sup>54</sup> Second, it requires templates to be stored in the device and triggered upon receipt of a WEA. As the Commission noted in the *2023 WEA FNPRM*, through a partnership between ShakeAlert and Google, Android mobile devices are already able to display alert content pre-installed on mobile devices upon receipt of a signal from a network of seismic sensors.<sup>55</sup> This application demonstrates how a template can be “activated” by a data element included in Alert Message metadata, which would prompt the mobile device to display the relevant template alert message in the mobile device’s default language chosen by the consumer.

17. Promoting multilingual WEA through templates will enhance the flexibility that alerting authorities have in communicating with their communities. We agree with USGS that there may be times where the benefit delivering an Alert Message to the public as soon as possible outweighs the need for

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(suggesting these templates could be built into devices); NYCEM Comments at 3 (“Pre-loading commonly issued WEAs to supported devices and displaying the alert in the device’s preferred language would certainly be a major improvement to alerting capabilities”); U.S. Geological Survey Comments, PS Docket Nos. 15-91 and 15-94, at 3 (Jul. 27, 2023) (USGS Comments) (“The USGS strongly supports an option for pre-scripted alert messages in the target languages”).

<sup>51</sup> NYCEM Comments at 3.

<sup>52</sup> See FEMA Comments at 3.

<sup>53</sup> See NOAA/NWS Comments at 1 (NWS already uses templates for the English and Spanish WEA messages it sends: <https://www.weather.gov/wrn/wea360>); see also *Notify NYC* (last visited on Sep. 7, 2023) <https://a858-nycnotify.nyc.gov/> (using templates to alert in 13 different languages).

<sup>54</sup> Letter from William H. Johnson, Senior Vice President, Verizon, to Jessica Rosenworcel, Chairwoman, FCC, at 2-3 (Rec. Feb. 27, 2023); <https://www.fcc.gov/ecfs/search/search-filings/filing/10227186202891> (stating that pre-installed, pre-scripted WEA alerts in the default language selected by the user “holds promise” and noting that, with updated standards and handset/OS vendor support, “nothing in wireless networks would preclude devices from performing those functions.”); see also *id.* (“Changes to the relevant technical standard would need to address, at minimum . . . the Commercial Mobile Alert C-Interface in IPAWS would need to support additional values beyond the two it supports today . . . In service provider networks, additional standardized “Message Identifiers” would be needed to ensure networks securely transmit the alerts and that the device can adhere to the user’s WEA language preference setting. Relatedly, a different standardized data encoding scheme would be necessary, not only to account for different language characters but to ensure that the device presents the correct pre-scripted message once the device receives it. And device-level enhancements, at a minimum at the OS level, are necessary to timely and reliably process the message identifier and data encoding information described above”); see also Best Buy Health Letter on Multilingual WEA at 2 (noting that “collaboration with parties responsible for mobile device operating systems would be key to enabling WEAs in a multitude of languages”).

<sup>55</sup> Google, *How Android Earthquake Alerts System Works*, <https://crisisresponse.google/android-alerts/> (last visited Sept. 7, 2023); see also USGS Comments at 3 (“All USGS EEW alerts are generated automatically, and our alert primary alert text is always the same, ‘Earthquake! Expect shaking. Drop, Cover, Hold On. Protect yourself now. - USGS ShakeAlert’. ShakeAlert also has a set of standardized follow-up messages. All these can be pre-translated into the target languages as we have already done for Spanish”).

additional context that freeform text could provide.<sup>56</sup> We also acknowledge the Colorado Alerting Authorities' comment that templates be "encourage[d] and recommend[ed] . . . as a best practice," but that "[t]emplates should not be mandated at the federal level."<sup>57</sup> We do not require alerting authorities to use templates, but require CMS Providers to support them should alerting authorities wish to use them at their discretion. We defer to alerting authorities on how best to utilize these new WEA functions for their communities.

18. We decline to require Participating CMS Providers to implement multilingual WEA using machine translation at this time. While some commenters support machine translation, many suggest that it is not yet ready for utilization in WEA.<sup>58</sup> The Attorneys General urge the Commission to support multilingual WEA through the use of pre-installed templates, rather than machine translation, because "relying on software to translate WEAs without review by a human translator may cause material inaccuracies in critically important alerts."<sup>59</sup> Similarly, the New York Public Service Commission states that "until machine-translated WEAs can be nearly 100% accurate, the FCC should utilize pre-scripted WEA templates that are translated to each required language by humans."<sup>60</sup> We also acknowledge, however, that machine translation holds promise to support more situation-specific emergency alerts in a far larger set of languages.<sup>61</sup> Accordingly, we will continue to examine the feasibility of machine translation technologies and its application in connection with multilingual alerting.

19. As a baseline, we require Participating CMS Providers' WEA-capable mobile devices support templates in the 13 most commonly spoken languages in the United States, based on U.S. Census

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<sup>56</sup> See USGS Comments at 2-3 ("The USGS strongly supports an option for pre-scripted alert messages in the target languages. This would mitigate concerns about poor translations and would also alleviate latency concerns if they are conveyed by a short data element that does not stress the capacity of the messaging protocol").

<sup>57</sup> Colorado Alerting Authorities Comments at 8 (*emphasis theirs*).

<sup>58</sup> Apple Inc., Reply, PS Docket Nos 15-91 and 15-94, at 2, 14 (rec. Aug. 21, 2023) (Apple Reply) ("machine translation approaches should continue to be studied as they develop, and their usage not prematurely mandated"); Attorneys General Comments at 5 ("Recent evidence shows that machine translation produces materially less accurate results when used to translate from English into several other languages"); Competitive Carriers Association, Comments, PS Docket Nos. 15-91 and 15-94, at 3 (rec. Jul. 21, 2023) (CCA Comments) ("CCA members are not aware of existing machine translation technologies that are sufficiently reliable for use in emergency situations"); FEMA Comments at 2 ("FEMA IPAWS has not conducted research to determine the efficacy of machine translation, but anecdotally some AOs have indicated that it has not advanced to the point of replacing their qualified translators"); NOAA/NWS Comments at 1 ("NWS is concerned about the quality of device translation because wording is critical in conveying the message for certain alerts. The NWS has found examples where calls-to-action could be misinterpreted based on a poor, incomplete, or inconsistent translation of an NWS alert"); NYCEM Comments at 2-3 ("NYCEM has concerns about the accuracy of translations, specifically regarding critical life-saving calls-to-action"); County of Sonoma, California Department of Emergency Management and the City of Santa Rosa, California Fire Department Comments, PS Docket Nos. 15-91 and 15-94, at 1 (Jul. 29, 2023) (Sonoma County Comments) ("we are concerned that automatic translation can lead to unintended and deleterious consequences"); T-Mobile Comments at 4 (stating that "the truth is that things can go awfully wrong" with machine translation); USGS Comments at 3 ("the Commission is right to be concerned about the accuracy of on-the-fly translation which may garble or change the meaning of the intended message. This may be especially problematic for place names that may become incomprehensible if improperly translated (e.g., Shoemaker Road might be translated as the nonexistent Camino del Zapatero)").

<sup>59</sup> Attorneys General Comments at 5.

<sup>60</sup> NYPSC Reply at 2.

<sup>61</sup> AT&T Comments at 10-11 ("AT&T is encouraged that native software-based machine language translation solutions on certain WEA-capable devices are becoming sufficiently mature to enable WEA messages to be displayed in multiple languages"); OR-Alert Governance Committee Comments at 1 ("The OR-Alert Governance believes the state of the technology of machine translation technology has matured sufficiently to be able to support device based translation capabilities for WEAs").

data, in addition to English templates.<sup>62</sup> These languages include: Spanish, Chinese, Tagalog, Vietnamese, Arabic, French, Korean, Russian, Haitian Creole, German, Hindi, Portuguese, and Italian.<sup>63</sup> This action is consistent with the request of numerous members of Congress who wrote a letter urging the Commission to make WEA capable of multilingual alerting.<sup>64</sup> We agree with the County of San Diego, the Language and Accessibility in Alert and Warning Workgroup (LAAWW), and Michigan State Police Emergency Management and Homeland Security Division’s Operations Management Section (Michigan State Police OMS) that the 13 languages for which we require support today would help make WEA content available to people who primarily speak a language other than English or Spanish for the first time.<sup>65</sup> We also agree with the Attorneys General that this change will most directly benefit those who have historically been underserved by WEA.<sup>66</sup> We believe that this action will mitigate a risk observed by researchers that individuals who primarily speak a language other than English or Spanish may not understand evacuation notices or instructions, raising the risk of harm.

20. In addition, we require Participating CMS Providers’ WEA-capable mobile devices to support templates in ASL. The Commission received a robust record demonstrating that ASL templates would increase the effectiveness and accessibility of WEAs for people who are deaf and hard of hearing who use ASL.<sup>67</sup> CTIA and ATIS state that the deaf population may be sufficiently supported by text-only

<sup>62</sup> 2023 WEA FNPRM at para. 13.

<sup>63</sup> *Id.*; see also U.S. Census Bureau, *DP02 | Selected Social Characteristics in the United States (2021)* (breaking down language speakers in the United States), <https://data.census.gov/cedsci/table?q=DP02#>; Sandy Dietrich and Erik Hernandez, *Language Use in the United States: 2019*, pages 8, 14-15 (2022), <https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf>; see also US Census Bureau, *The 2020 Census Speaks More Languages* (Mar. 9, 2020), <https://www.census.gov/newsroom/pressreleases/2020/languages.html>. Roughly 78% of the U.S. population primarily speaks English, 13.5% primarily speak Spanish, and 5% primarily speak one of the other twelve languages listed here. See Sandy Dietrich and Erik Hernandez, *Language Use in the United States: 2019*, pages 8, 14-15 (2022), <https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf>.

<sup>64</sup> See Congressional Letter to Chairwoman Rosenworcel at 1 (noting that, without sending WEAs in languages beyond English and Spanish, “[l]ives are put at stake without this crucial information about impending inclement weather events, stay-at-home orders, AMBER alerts, and other emergencies”).

<sup>65</sup> County of San Diego Comments at 2; LAAWW Comments at 3; Michigan State Police OMS Comments at 2. Additionally, we note that our rules allow for WEAs to be sent in Spanish, but this can only be done when the alerting authority has the in-house capacity to translate WEAs into Spanish, so it is not always used.

<sup>66</sup> Attorneys General Comments at 2-3.

<sup>67</sup> Advocacy Groups for the Deaf and Hard of Hearing Comments at i, 3-5 (“the Commission should require WEAs to be delivered in American Sign Language—the primary language of the deaf population . . . Although certain emergency situations may require unique or specific information delivered through an WEA, the use of template-based alerts that are translated into ASL may provide a next best option to ensuring that the WEAs are accessible to persons for whom ASL is their primary language”); see also Advocacy Groups for the Deaf and Hard of Hearing Reply at 3; APCO Comments at 3; Disability and Communications Access Board, Comments, PS. Docket Nos. 15-91 and 15-94 (rec. Jul. 06, 2023 (DCAB Comments) (“Transmitting American Sign Language (ASL) videos . . . would increase the accessibility and effectiveness of emergency alerts”); County of San Diego Comments at 2 (“An embedded link to a human-translated [ASL] video should accompany each WEA”); LAAWW Comments at 4 (“For American Sign Language (ASL), LAAWW supports pre-recording scripted messages and/or artificial intelligence for developing ASL alerts to assure accurate messaging, visual modality, and delivery”); Michigan State Police OMS Comments at 3 (“For American Sign Language (ASL), the OMS supports pre-recording scripted messages and/or artificial intelligence for developing ASL alerts to assure accurate messaging, visual modality, and delivery”); The National Oceanic and Atmospheric Administration’s National Weather Service Comments, PS Docket Nos. 15-91 and 15-94, at 3 (Jul. 21, 2023) (NOAA/NWS Comments) (“The NWS strongly supports the pursuit of American Sign Language (ASL) solutions and capabilities within WEA”); NYCCEM Comments at 3-4 (“The same method could be valid for ASL videos to that of pre-loading templated WEAs on to supported devices . . . Even for individuals who primarily use ASL, but may be proficient in another language, it is just as important as

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WEAs.<sup>68</sup> We agree with Advocacy Groups for the Deaf and Hard of Hearing that, “[a]lthough certain emergency situations may require unique or specific information delivered through an WEA, the use of template-based alerts that are available in ASL may provide a next best option to ensuring that the WEAs are accessible to persons for whom ASL is their primary language.”<sup>69</sup> We also agree “[t]here is no adequate substitute for ASL for many individuals in the deaf and hard of hearing community.”<sup>70</sup> Unlike the other languages for which we require support, however, ASL is not a language to which a mobile device can be set. Because of this, we require Participating CMS Providers’ WEA-capable mobile devices to provide subscribers with the ability to opt-in to receive ASL alerts.<sup>71</sup> A consumer’s choice to receive Alert Message templates in ASL should override the preferred language setting and the Alert Message should be extracted in ASL. This approach is necessary to give meaning to the consumer’s choice. Template-based ASL Alert Messages would function like other template-based Alert Messages in other respects.

21. We direct the Public Safety and Homeland Security Bureau (Bureau) to develop the specific implementation parameters for template-based multilingual alerting. In this regard, we direct the Bureau to propose and seek comment on a set of emergency alert messages for support via template as they would be written in English, the 13 most commonly spoken languages in the U.S. (Spanish, Chinese, Tagalog, Vietnamese, Arabic, French, Korean, Russian, Haitian Creole, German, Hindi, Portuguese, and Italian), and ASL. In identifying this set of emergency alert messages for support via templates, the Bureau should seek comment on which messages are most commonly used by alerting authorities, as the 2023 WEA FNPRM contemplated, as well as those which may be most time-sensitive and thus critical for immediate comprehension.<sup>72</sup>

22. We further direct the Bureau to seek comment on whether the English version of the alert should be displayed in addition to the multilingual version of the alert, and whether templates can be

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any other language that the emergency information be distributed to as many people as possible in their primary language to promote equity and inclusion and ensure equal access to emergency information and an opportunity to take any needed steps to mitigate the emergency”); Portland Regional Disaster Preparedness Organization Comments, PS Docket Nos. 15-91 and 15-94, at 2 (Jul. 20, 2023) (PRDPO Comments) (directing the Commission to “[p]re-record American Sign Language (ASL) scripted messages and use artificial intelligence tools for developing ASL alerts”).

<sup>68</sup> Alliance for Telecommunications Industry Solutions Comments, PS Dockets Nos. 15-91 and 15-94, at 9-10 (Jul. 21, 2023) (ATIS Comments) (noting that “that the existing text-based WEA presentation on the mobile device already supports the needs of the deaf and hard-of-hearing community”); CTIA – The Wireless Association Comments, PS Docket Nos. 15-91 and 15-94, at 18 (Jul. 28, 2023) (CTIA Comments) (“WEA messages presented in American Sign Language (‘ASL’) format also may be less preferable to readable text-based messages”); *see also* AT&T Comments, PS Docket Nos. 15-91 and 15-94, at 12-13 (Jul. 21, 2023) (AT&T Comments) (stating that alert originators should support users with access to videos presenting information in American Sign Language via embedded links).

<sup>69</sup> *See* Advocacy Groups for the Deaf and Hard of Hearing Comments at 4.

<sup>70</sup> *See id.* (“Contrary to common misconceptions, ASL is not derived from any spoken language, including English. Rather, ASL is an independent linguistic system with morphological and grammatical complexity comparable to or exceeding that of spoken languages.”).

<sup>71</sup> We recognize that, unlike textual translations, English language Alert Messages would be translated into ASL by video. To avoid the risk that ASL templates could unnecessarily consume mobile device resources for individuals that do not need them, we allow the user’s voluntary selection of the option to receive WEAs in ASL to trigger the mobile device to download ASL templates to the device. WEA-capable mobile devices need not be sold with ASL templates pre-installed on them, so long as the templates are available to download in the manner described here.

<sup>72</sup> *See* USGS Comments at 3 (noting that delays of even just one second can degrade the effectiveness of earthquake alerting); *see also* *Improving Wireless Emergency Alerts and Community-initiated Alerting*, PS Docket Nos 15-91, 15-94, Public Notice, DA 19-940 (2019) (granting USGS’s request for a waiver of the Commission’s enhanced WEA geo-targeting rule in recognition of the unique time-sensitivity of earthquake alerts).

customizable to incorporate event-specific information. We recognize commenters in the record who suggest that the multilingual template-based alert be displayed together with the English-language alert that includes additional details, to promote a fuller understanding of the nature of the emergency.<sup>73</sup> Through the incorporation of event-specific information into templates, we also seek to address concerns that static template-based alerts may not be flexible enough to be useful, and would reduce an alerting authority's ability to create regionally and culturally relevant messages.<sup>74</sup> We direct the Bureau to assess and determine the parameters for what is feasible and would best serve the public interest in this regard.

23. We direct the Bureau to seek comment on the costs of supporting additional languages after the 13 we identify today, as well as English and ASL. We believe that, after the relevant stakeholders standardize and develop the technology necessary to support template-based multilingual WEA messages, the costs for adding additional language support via this process would be negligible, while the countervailing public interest benefits would be significant. The Attorneys General state that many large immigrant communities nationwide, including “immigrant communities with high rates of . . . [limited English proficiency (LEP)]” are not included in these 13 languages.<sup>75</sup> While commenters generally agree that additional languages should be supported, they present different approaches for identifying those additional languages and did not coalesce around any particular languages or methods.<sup>76</sup> For example, the Attorneys General propose identifying additional languages for WEA support by using rates of “limited English proficiency.”<sup>77</sup> The Attorneys General suggest that WEA messages should be transmitted in “all languages estimated to be spoken by at least 300,000 people in the U.S. over five years old . . . .”<sup>78</sup> The Attorneys General also suggest that WEA messages should be translated “in any additional languages for which there are at least an estimated 25,000 individuals over the age of five years old nationwide (based on the most recent American Community Survey data) who have especially high rates of . . . [limited English proficiency], i.e., those who report speaking English either ‘not at all’ or ‘not

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<sup>73</sup> ATIS Comments at 4-5; Attorneys General Comments at 7 (stating that presenting a template Alert Message along with the English-language version “will provide users with access to relevant event-specific details included in the English-language alert to the extent that the template-based alert they view in a different language does not include all such details”).

<sup>74</sup> AT&T Comments at 19 (“pre-scripted alerts could not include information often provided by local Alert Originators, such as street names and landmarks familiar to people in the covered area”); ATIS Comments at 8 (“Pre-scripted templates appear more limiting than a direct translation by the device based on the user’s preferred language settings”); CTIA Comments at 18 (“template-based alerts may be less useful to end users given that they would lack the event-specific information that makes the WEA system such a valuable tool during emergency situations”); King County Comments at 2 (“We do not support template-based alerts . . . there are too many incident-specific variables for this to be a good use of time, effort, and storage space on consumer devices”); Michigan State Police OMS Comments at 2 (“pre-loading scripted messages onto phones . . . reduces flexibility in crafting regional and culturally relevant messages”); OR-Alert Governance Committee Comments at 1 (“We do not believe that device, firmware embedded, template based alerts are sufficient to address the complexity of emergency situations”); Portland Regional Disaster Preparedness Organization Comments at 2 (“templates . . . [are] not sufficient for addressing more complex emergency situations, and it reduces flexibility for crafting regionally- and culturally- relevant messages”).

<sup>75</sup> Attorneys General Comments at 7.

<sup>76</sup> See, e.g., Attorneys General Comments at 2 (“We are also concerned that the 13 languages identified by the Commission do not take into account the limited English proficiency of millions of people. As a result, we urge the Commission to require wireless companies to issue WEAs in more languages”); County of San Diego Comments at 2; FEMA Comments at 2; King County Comments at 2; LAAWW Comments at 3-4; Michigan State Police OMS Comments at 2; NYCCEM Comments at 3; NYS DHSES Comments at 1; PRDPO Comments at 2.

<sup>77</sup> See Attorney Generals Comment at 7-9.

<sup>78</sup> *Id.* at 8.

well.”<sup>79</sup> Others suggest choosing languages needed according to the needs of particular jurisdictions.<sup>80</sup> We direct the Bureau to seek comment on the best approach to determine which additional languages should be supported and what those languages should be.

24. To the extent that it would be minimally burdensome to implement, we direct the Bureau to designate additional languages – beyond English, ASL, and the 13 most commonly spoken languages in the United States – that should be supported through templates. We also direct the Bureau to seek comment on the timeframe in which these additional languages could be supported. We also delegate authority to the Bureau to ask any additional questions relating to the development and deployment of template-based multilingual alerting that would clarify the technical processes by which such alerts would be developed, updated, and delivered.

25. After an opportunity for comment, the Bureau will publish an Order in the *Federal Register* that establishes the specific implementation parameters for template-based multilingual alerting, including identification of the final set of emergency messages for multilingual WEA support, as well as their accompanying pre-scripted templates.<sup>81</sup> We require Participating CMS Providers to comply with the requirements to support template-based alerting, as well as English, ASL, and the 13 most common languages (Spanish, Chinese, Tagalog, Vietnamese, Arabic, French, Korean, Russian, Haitian Creole, German, Hindi, Portuguese, and Italian) within 30 months after the Bureau publishes its Order in the *Federal Register*.<sup>82</sup> We also direct the Bureau to identify the corresponding timeframe for supporting additional languages.

26. We believe 30 months is reasonable to implement the templates for the 13 languages, as well as English and ASL. As we note above, both alert templates and the extraction of pre-loaded content on a mobile device to display an alert are functionalities that are already in use today. We recognize that additional work is necessary to combine these functionalities to support multilingual WEA templates. Further, Verizon, ATIS, and CTIA point out that implementation of this requirement will require updates to standards, design development, and deployment efforts.<sup>83</sup> Specifically, ATIS states that “any new data element in alert message metadata that would trigger the display of a template would require standards,

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

<sup>80</sup> See NYCEM Comment at 3 (“NYCEM understands the recommendation that WEA capable devices support delivery in the most spoken languages in the United States. However, “most common” is relative to each individual jurisdiction and the most common nationally may not meet the needs of the local population. For example, the list provided does not include several of NYC’s most-common languages, including Bengali, Polish, Urdu, and Yiddish. It would be inequitable to offer these languages alerts via mass notification, but not when an incident escalates to the level of WEA”); LAAWW Comments at 3-4; Attorneys General Comments at 2, 7.

<sup>81</sup> Some commenters state they wish to be part of the translation process, or otherwise want the FCC to engage with native speakers and translators to ensure alerts are properly translated. By proceeding in this manner, we create an opportunity for interested parties to take an active role in ensuring we have selected the correct messages to support through templates and that we have accurately translated them. See Michigan State Police OMS Comments at 2 (urging outreach to culturally and linguistically diverse communities when developing templates); NOAA/NWS Comments at 2 (“The NWS should have a strong role in the NWS WEA message language translation. This will help ensure that all recipients of WEA messages, regardless of target language, will properly understand the message and take appropriate action to protect themselves and their property from the hazards”); PRDPO Comments at 2 (commenting the Commission should “[e]ngage professional translators and linguists in the development of all language access features, including template messages”).

<sup>82</sup> 2023 WEA FNPRM at para. 77.

<sup>83</sup> ATIS Comments at 8; ATIS Reply at 3-4 (“ATIS WTSC agrees that use of pre-scripted and pre-installed templates on the device . . . will require a CAP update, in addition to updates to Federal Emergency Management Agency (FEMA) Integrated Public Alert and Warning System (IPAWS) and the Commercial Mobile Service Provider (CMSP) infrastructure and mobile devices”); CTIA Comments at 19; Letter from William H. Johnson, Senior Vice President, Verizon, to Jessica Rosenworcel, Chairwoman, FCC, at 2-3 (Rec. Feb. 27, 2023); <https://www.fcc.gov/ecfs/search/search-filings/filing/10227186202891>.



design, development, and deployment efforts, and potentially could also require new devices.”<sup>84</sup> AT&T adds that Participating CMS Providers have limited control over the development, adoption, or timing of the implementation of new features that are tied to alerting authority equipment or OS and native software in WEA-capable devices.<sup>85</sup> We observe that mobile device manufacturers and OS vendors have previously proven capable of developing new functionalities for WEA that required standards development, design development, and additional deployment efforts within 30 months.<sup>86</sup> Verizon comments that the “proposed [30-month] compliance deadline may be feasible provided that . . . service providers, handset manufacturers and solution vendors are all engaged in implementation.”<sup>87</sup> Verizon’s perspective that this 30-month compliance timeframe may be feasible is conditioned upon the Commission deciding not to adopt WEA performance reporting requirements – currently pending in this proceeding – at the same time.<sup>88</sup> We do not adopt all the requirements that the *2023 WEA FNPRM* proposed in this *Report and Order*, including the proposed performance reporting requirements at the same time.

27. We believe that applying the 30-month compliance timeframe to all Participating CMS Providers affords sufficient time to comply. CCA requests sufficient time for small carriers to implement this requirement, as well as others that the Commission proposed, in light of the challenges that many smaller and rural carriers face in “prioritizing personnel and similar technical resources, accessing vendor assistance and support, scheduling and funding projects, accessing mobile devices with the latest functionalities, etc.”<sup>89</sup> Irrespective of whether small and rural carriers choose to allocate resources to participate in the standards process in which wireless industry has routinely engaged to support compliance with the Commission’s WEA requirements, the record suggests that this process can be completed within 12 months and will benefit all Participating CMS Providers equally.<sup>90</sup> The remaining 18 months in the 30-month compliance timeframe include 12 months for software development and testing and 6 months for deployment in regular business cycles.<sup>91</sup> We believe that any delays that small and rural carriers may encounter in accessing the network equipment or mobile devices needed to support the requirements we adopt today can be accommodated within the 6-month flexibility that we offer to all Participating CMS Providers. We also note that the Commission has historically not provided small

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<sup>84</sup> ATIS Comments at 8.

<sup>85</sup> *Id.* at 8-9.

<sup>86</sup> *See, e.g., Public Safety and Homeland Security Bureau Announces New Enhancements to Wireless Emergency Alerts are Now Available*, PS Docket Nos. 15-91 and 15-94, Public Notice (2019).

<sup>87</sup> Verizon Comments at 5.

<sup>88</sup> *Id.*; *see also* CTIA Comments at 21 (“The Commission’s proposed timelines for implementation of changes to the WEA system fail to reflect the possibility of delayed development if more than one enhancement moves forward in parallel. For example, the Commission’s estimate that 30 months from publication in the Federal Register would be sufficient for enhanced language support and performance reporting, and 36 months for multimedia capabilities, ignores the realities of developing and implementing each of these capabilities”).

<sup>89</sup> CCA Comments at 10-12 (“smaller carriers will need sufficient time to implement the proposals”).

<sup>90</sup> We note that, in proposing to require compliance within 30 months of the rule’s publication in the *Federal Register*, the Commission used the same record-supported analysis as it has relied upon since 2016. *See 2016 WEA R&O and FNPRM* at 11161-62, para. 79. *I.e.*, 12 months for appropriate industry bodies to finalize and publish relevant standards, 12 months for Participating CMS Providers and device manufacturers to develop and integrate software upgrades consistent with those standards, and an additional six months to deploy this technology in WEA-capable-mobile devices. *See 2016 WEA R&O* at 11161-62, para. 79. AT&T comments that the 12 months that we proposed to allow for standards development would be insufficient were we to have required support for multiple languages, multimedia content, and performance reporting, but we do not adopt a requirement to transmit multimedia content nor do we adopt a performance reporting requirement in this *Report and Order*. *See* AT&T Comments at 31.

<sup>91</sup> *2023 WEA FNPRM* at para 77.

businesses extra time to comply with its WEA rules.<sup>92</sup>

28. Finally, we agree with LAAWW and the Attorneys General that languages should be maintained and reassessed to keep pace with evolving communities and technological capabilities.<sup>93</sup> We therefore anticipate that, in the years to come, as technology evolves and as language needs change, we will continue to examine these issues to assess whether further adjustments are warranted.

### **B. Integrating Location-Aware Maps into Alert Messages**

29. To help people personalize threats that potentially affect them, we require WEA-capable mobile devices to support the presentation of Alert Messages that link the recipient to a native mapping application on their mobile device to depict the recipient's geographic position relative to the emergency incident. The map must include the following features: the overall geographic area, the contour of the area subject to the emergency alert within that geographic area, and the alert recipient's location relative to these geographic areas. We require this functionality only where the Alert Message's target area is specified by a circle or polygon, and where the device has enabled location services and has granted location permissions to its native mapping application.

30. The record demonstrates a compelling public safety need for WEA messages to include location-aware maps.<sup>94</sup> Location-aware maps will personalize threats so recipients will more quickly understand whether an alert applies to them and hasten protective actions. The Portland Regional Disaster Preparedness Organization comments that "[o]ne of the most common complaints about WEAs is the lack of a map to show exactly which areas are impacted."<sup>95</sup> According to NYCEM, ATIS, the County of San Diego, Language & Accessibility in Alert & Warning Workgroup, and Michigan State Police OMS, location-aware maps would allow alert recipients to more easily understand whether an Alert Message is intended for them.<sup>96</sup> We agree with NYCEM that this will, in turn, spur people to take actions to protect their lives and property more quickly than they otherwise might, including in situations where a timely response can save lives.<sup>97</sup> We also agree with ATIS that location-aware maps could

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<sup>92</sup> See generally *Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, Second Report and Order and Second Order on Reconsideration, PS Docket Nos. 15-91 and 15-94, 33 FCC Rcd 1320 (2018); *2016 WEA R&O* at para. 82 (only allowing additional time for small businesses to comply with the alert logging requirement where the record showed that larger businesses were already in compliance, but smaller businesses were not); *Third WEA R&O; The Commercial Mobile Alert System*, Second Report and Order and Further Notice of Proposed Rulemaking, PS Docket No. 07-287, 23 FCC Rcd 10765 (2008); *The Commercial Mobile Alert System*, First Report and Order, PS Docket No. 07-287 (2008).

<sup>93</sup> LAAWW Comments at 3-4; Attorneys General Comments at 2.

<sup>94</sup> Advocacy Groups for the Deaf and Hard of Hearing Comments at 7; APCO Comments at 2-3; Colorado Alerting Authorities Comments at 15; County of San Diego Comments at 3; King County Comments at 2; LAAWW Comments at 3; Michigan State Police OMS Comments at 3; NOAA/NWS Comments at 2-3 (lending support for this functionality, but also commenting on the need for maps to reflect threats in motion); NYCEM Comments at 4-5; Portland Regional Disaster Preparedness Organization comments at 3; Sonoma County Comments at 2; USGS Comments at 5 (noting that location-aware maps may be useful for situational awareness after an earthquake's initial shaking has passed, but they are unsure if that information meets the requirements for sending a WEA); see also Verizon Reply at 3 ("The comments of industry and public safety commenters show common ground in support of the targeted multimedia capabilities Verizon recommends, including location-aware maps").

<sup>95</sup> Portland Regional Disaster Preparedness Organization Comments at 3.

<sup>96</sup> ATIS Comments at 13 ("[t]his proposed WEA enhancement will allow users to better understand whether the alert applies to their locations"); NYCEM Comments at 5 ("NYCEM agrees with the CSRIC VIII recommendation that location-aware maps be included in WEA messages to allow the user to better personalize the alert and take action"); County of San Diego Comments at 3; LAAWW Comments at 3; Michigan State Police OMS Comments at 3.

<sup>97</sup> ATIS Comments at 13; NYCEM Comments at 5.

mitigate the effects of target area overshoot.<sup>98</sup>

31. We find that it is technically feasible to present location-aware maps, provided location services are enabled and permissions for its use are granted to the native mapping application. Notably, CSRIC VIII finds that it is technically feasible to integrate location-aware maps into WEA, stating that “if the Alert Area is defined [by a circle or polygon,] the WEA text could be displayed on the device along with a map of the Alert Area and an indication on the map of the recipient’s location.”<sup>99</sup> Further, we require this feature only where the target area is described as a circle or polygon because, as CSRIC VIII noted in its recent report on the feasibility of location-aware maps in connection with WEA, pursuant to our rules and relevant standards, these are the only target area descriptions that are transmitted to mobile devices.<sup>100</sup> Mobile devices will need these target area descriptions to graphically depict the Alert Message’s target area within the native mapping application. We also agree with NYCEM that such a mapping capability should only be required where location services are enabled and permissions for its use are granted to the native mapping application, because “most modern devices require user permission for locations services to work.”<sup>101</sup> We defer to industry to specify through the standards process exactly how WEA-capable mobile devices may connect the end user to the WEA-enabled map. We only require that Participating CMS Providers’ WEA-capable mobile devices clearly present the map or the option to access the map concurrent with the Alert Message. A few ways this might be achieved are for WEA-capable mobile devices to display a WEA-enabled map within the WEA message itself, to display a clickable link to a native mapping application within the WEA message, or to provide a link via a separate pop-up message that directs the user to the WEA-enabled map.<sup>102</sup> No additional information would need to be broadcast over CMS Provider infrastructure to enable this functionality under any of these approaches.<sup>103</sup> See *Figure 1* below for an example of how a WEA location-aware map could look.

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<sup>98</sup> ATIS Comments at 28 (“If presentation has occurred outside the Alert Area boundaries because location could not be acquired, the user will be better able to understand whether there is a need to act”).

<sup>99</sup> CSRIC VIII API Report at 12.

<sup>100</sup> See 47 CFR 10.450(a); see also ATIS Device-Based Geofencing Standard at 2 (defining Warning Area Coordinates Information Element as including polygons and circles, but not geocodes); CSRIC VIII WEA API Report at 14. When a geocode is used to define the target area for a WEA alert, it is used to target distribution of the alert but then that data is stripped out prior to transmission to mobile devices.

<sup>101</sup> NYCEM Comments at 4-5 (noting that this would require a consumer device to have location services enabled and permissions granted, but that for those that do this, this change “would allow the user to better personalize the alert and take action”).

<sup>102</sup> Advocacy Groups for the Deaf and Hard of Hearing Comments at 7 (“The Commenters support requiring Participating CMS Providers to support (to the extent technically feasible) the presentation of location-aware maps in WEA messages”); Colorado Alerting Authorities Comments at 15 (“Maps available via a link should convey critical location awareness information”); CSRIC VIII API Report at 12-14; LAAWW Comments at 3 (“LAAWW agrees alerting text should include a link to a map”); NOAA/NWS Comments at 2 (“Mobile devices should support location aware maps where the user clicks a button below the WEA message to open a map”).

<sup>103</sup> Accordingly, whereas the Commission proposed to codify this requirement as an Alert Message requirement for Participating CMS Providers, the record shows that the only changes needed to effectuate this functionality are in the mobile device, so we codify it as an equipment requirement instead.

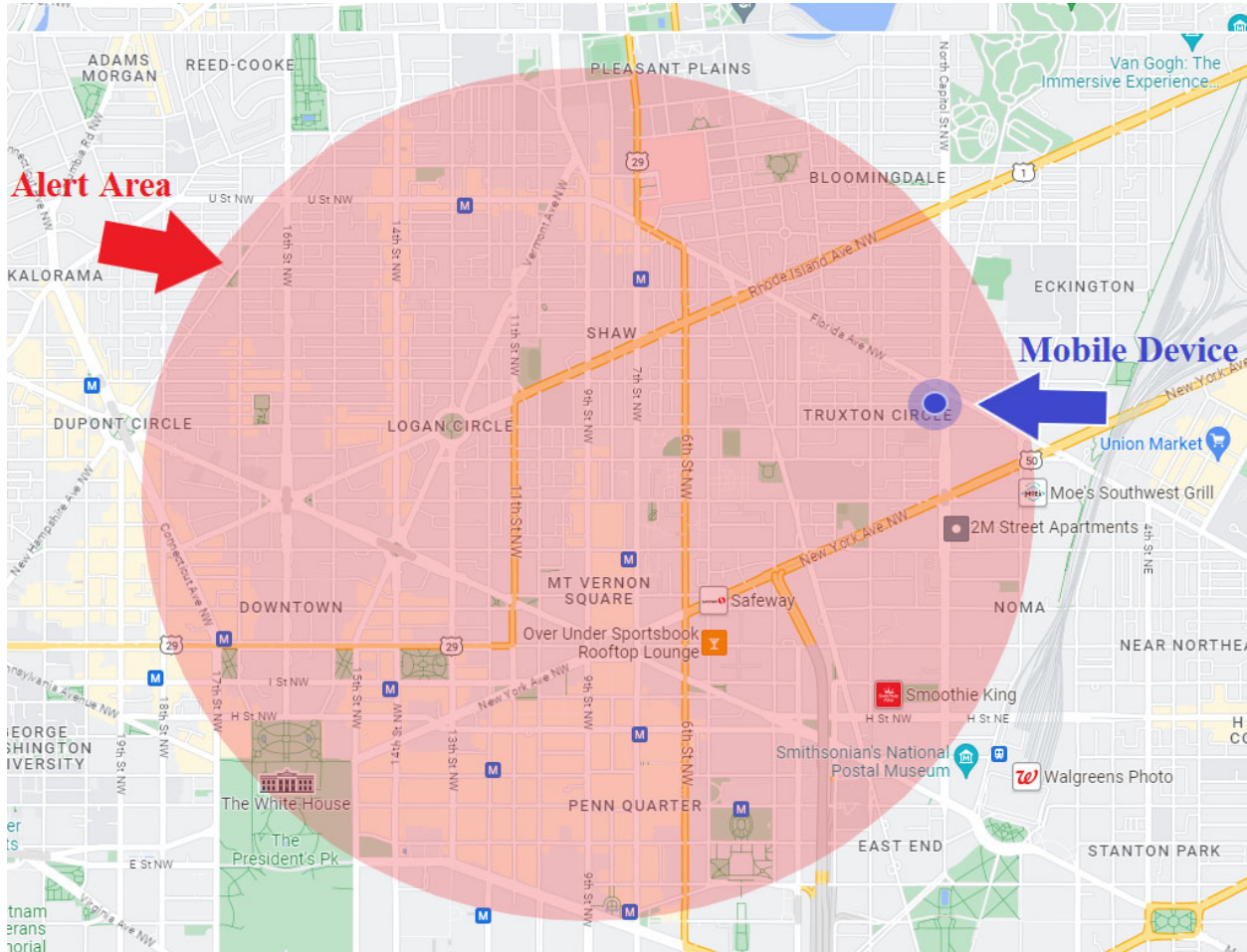


Figure 1.

Figure 1 is based on the look and feel of a common native mapping application using default settings. The red circle represents the Alert Message’s geographic target area and the blue dot with a lighter blue uncertainty area around it represents the user’s location. We do not share some commenters’ concerns that the inclusion of location-aware maps may require further study to ensure they do not confuse consumers.<sup>104</sup> Consumers regularly use the mapping applications in which the WEA target areas will be presented and are already familiar with how those applications display user location relative to geographic features.

32. We require Participating CMS Providers to comply with this requirement 36 months from the rule’s publication in the *Federal Register*, as proposed.<sup>105</sup> We find that 36 months allows more than

<sup>104</sup> FEMA Comments at 6 (“FEMA encourages behavioral and social science experts to address the benefits or detriments associated with the inclusion of location-aware maps in WEA. FEMA IPAWS has engaged with several experts in the field and there is some concern that the inclusion of a map may delay action or create confusion among some of the population as to where they are currently in the map”); Jeanette Sutton Comments at 1 (“disaster researchers have not yet established how maps should be presented, their effectiveness of communicating the area under threat, and the ability of public message receivers to accurately assess their threat based upon maps”); AT&T Comments at 14-15; ATIS Comments at 13.

<sup>105</sup> 2023 WEA FNPRM at para. 78; see *Wireless Emergency Alerts; Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 11112 (2016) (previously, 30 months was the longest the Commission had ever allowed for a compliance timeframe); see also *See Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, Second Report and Order and Second Order on Reconsideration, PS Docket Nos. 15-91 and 15-94, 33 FCC Rcd

(continued....)

sufficient time for Participating CMS Providers to complete of all necessary steps to make location-aware maps available to their subscribers, including standards development, testing, and deployment.<sup>106</sup> We note that no commenter demonstrated that compliance in this timeframe would be a technological impossibility. According to ATIS, “[l]ocation-aware maps will require updates to the ATIS Mobile Device Behavior specification and design and development of mobile devices.”<sup>107</sup> CSRIC VIII recommended ATIS develop standards and best practices for this functionality.<sup>108</sup> AT&T comments that ATIS has already begun this work.<sup>109</sup> Because ATIS has already begun this work and we believe requirement is less complex than others we have required to be implemented in similar timeframes, we believe that 30 months would be sufficient.<sup>110</sup> However, we note that AT&T, Verizon, and CTIA’s raise concerns that the required adoption of several new WEA capabilities may create resource constraints and cause delays to deployment. For example, Verizon comments that the “proposed compliance deadline . . . may be feasible provided that . . . service providers, handset manufacturers and solution vendors are all engaged in implementation” and provided that it is not required to implement WEA performance reporting requirements at the same time.<sup>111</sup> We grant Participating CMS Providers an additional six months to implement mapping to accommodate their concerns.<sup>112</sup>

33. As noted by CSRIC VIII, a WEA-enabled map may not be accessible to screen readers, which means the map may not be useful to blind and low vision individuals.<sup>113</sup> To ensure that this mapping capability is accessible to as many people as possible and that the inclusion of maps enhances the effectiveness of WEA, we encourage alerting authorities to continue to include a text-based description of the Alert Message’s target area in their Alert Message. This will contribute to the overall clarity of the Alert Message and enable those with vision impairments and other access and function needs to understand the geographic area affected by an emergency by using screen readers to understand

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1320, paras. 12-14 (2018) (CSRIC V proposed a compliance timeframe of 42 months for enhanced geo-targeting, but the Commission required compliance in less than two years).

<sup>106</sup> See CSRIC VIII WEA API Report at 26-27 (recommending that the Commission’s compliance timeframe for this requirement allow industry 18-24 months for WEA stakeholder collaboration, usability testing, and standards/best practices development and an additional 18-24 months for mobile device/OS deployments, for a total of 36-48 months).

<sup>107</sup> ATIS Comments at 13-14.

<sup>108</sup> CSRIC VIII API Report at 12 (recommending that ATIS, with input from public warning risk communications experts and from alert originators, should develop standards and best practices for multimedia alerting).

<sup>109</sup> AT&T Comments at 14-15 (“ATIS currently is considering how to enable WEA messages to utilize available location information and harness native mapping solutions on capable devices”).

<sup>110</sup> See *Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, Second Report and Order and Second Order on Reconsideration, PS Docket Nos. 15-91 and 15-94, 33 FCC Rcd 1320, paras. 14, 49 (2018).

<sup>111</sup> Verizon Comments at 5; see also CTIA Comments at 21 (“The Commission’s proposed timelines for implementation of changes to the WEA system fail to reflect the possibility of delayed development if more than one enhancement moves forward in parallel. For example, the Commission’s estimate that 30 months from publication in the Federal Register would be sufficient for enhanced language support and performance reporting, and 36 months for multimedia capabilities, ignores the realities of developing and implementing each of these capabilities”); AT&T Comments at 31-32 (noting that “the Commission’s estimated allotment of 12 months to work through appropriate standards bodies for changes that require software and firmware updates—which would include the support for multiple languages, multimedia content, and performance reporting requirements—is insufficient”).

<sup>112</sup> The WEA performance reporting requirements the Commission sought comment on in the *2023 WEA FNRPM* remain pending. See *2023 WEA FNRPM* at paras. 47-64.

<sup>113</sup> See CSRIC VIII API Report at 14.

the Alert Message’s text.<sup>114</sup> We also expect industry to consult with mobile accessibility experts in the process of standardizing and developing this functionality to determine whether there are advances in technology that would allow location information in the map, as well as the user’s location, to be accessible to screen readers.<sup>115</sup>

### C. WEA Performance and Public Awareness Testing

34. To allow alerting authorities to develop a better understanding of how WEA operates within their unique jurisdictions and circumstances and to engage in important public awareness exercises, we require Participating CMS Providers to support up to two end-to-end WEA tests, per county (or county equivalent), per year, that consumers receive by default.<sup>116</sup> In advance of conducting such a “WEA Performance and Public Awareness Test,” an alerting authority must do the following: 1) conduct outreach and notify the public in advance of the planned WEA test and that no emergency is, in fact, occurring; 2) include in its test message that the alert is “only a test”; 3) coordinate the test among Participating CMS Providers that serve the geographic area targeted by the test, state and local emergency authorities, relevant State Emergency Communications Committees (SECCs), and first responder organizations; and 4) provide notification to the public in widely accessible formats that the test is only a test and is not a warning about an actual emergency. We observe that these conditions also attend alerting authorities’ conduct of EAS “Live Code” Tests, which the public receives by default. Commenters state that these conditions are also reasonable to apply in the WEA context.<sup>117</sup> Permitting alerting authorities to conduct limited WEA Performance and Public Awareness Testing as a matter of course will boost alerting authority and consumer confidence in WEA, allow alerting authorities to determine if the communications tools they wish to use, such as website hyperlinks embedded in WEA messages, will function as intended when needed, and provide WEA stakeholders with a way to assess Participating CMS Providers’ performance of WEA.<sup>118</sup> WEA Performance and Public Awareness Tests will also allow alerting authorities to raise awareness about the types of disasters to which a region is susceptible<sup>119</sup> and

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<sup>114</sup> Blind Advocacy Groups Comments at 2 (“Many people who are blind already use the built-in screen reading functions on their phone” and also urging that geographic area elements be readable by screen readers). Screen readers are unable to read maps without specifically provisioned “alternative text.” Alternative text (alt text) is a written description of an online image that provides a description of an image when an image is inaccessible to the user. See Rachel Handley, *What is Alt Text?* (May 22, 2023), <https://www.semrush.com/blog/alt-text/>.

<sup>115</sup> Blind Advocacy Groups Comments at 4 (discussing best practices to access multimedia content which includes using WCAG when possible). See, e.g., W3C WAI tutorials on describing images: <https://www.w3.org/WAI/tutorials/images/informative/>; <https://www.w3.org/WAI/tutorials/images/complex/>.

<sup>116</sup> Alerting authorities may continue to use any Alert Message classification for these tests. A WEA Performance and Public Awareness Test is not a new or discrete Alert Message classification.

<sup>117</sup> 47 CFR § 11.61(a)(5); King County Comments (“We believe that requiring pre-test outreach and coordination to be reasonable”); USGS at 6 (“The USGS finds the specified conditions to be reasonable”). We decline to require alert originators to keep records regarding compliance with these conditions as some support. See ATIS Comments at 21; see also USGS Comments at 6. Because these are the same conditions that support live code EAS testing, we believe alert originators are familiar with and have demonstrated a history of compliance with our rules.

<sup>118</sup> AT&T Comments at 4; County of San Diego Comments at 4 (“The County of San Diego recommends regular live WEA testing be completed by the mobile carriers and the FCC to validate carrier compliance with WEA rules and regulations”); NYCEM Comments at 8 (“NYCEM also agrees that WEA tests are a useful way to ensure operational readiness and proficiency training . . . NYCEM often uses a link to the Notify NYC website for photo-hosting, and in the past, it has caused traffic management issues. Updates to the site’s infrastructure cannot be fully tested until the next emergency without conducting an end-to-end test”); Verizon Comments at 13 (“Expanding ‘live’ state and local government tests . . . may improve consumer education and alert originator awareness”).

<sup>119</sup> *Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, Order, PS Docket Nos. 15-91 and 15-94, at 1 (Mar. 15, 2023) (VITEMA proposes to conduct this test as part of its annual Caribe Wave Tsunami Awareness exercise, which it conducts due to the elevated risk that this type of natural disaster poses to the people of the U.S. Virgin Islands).

provide alerting authorities with the ability to verify how changes in wireless providers' service offerings affect the local availability of WEA.<sup>120</sup> By making it easier for alerting authorities to conduct effective WEA tests, this action will make WEA more effective overall.

35. We limit the number of WEA Performance and Public Awareness Tests that Participating CMS Providers must support each year by county or county equivalent, rather than by alerting authority, as proposed.<sup>121</sup> We agree with King County and CTIA that limiting the number of permissible tests by alerting authority may be insufficient to mitigate the risk of alerting fatigue because people in counties over which alerting authorities have overlapping jurisdictions could receive a “countless number of additional WEA tests each year.”<sup>122</sup> We recognize that public-facing tests can potentially result in consumers opting out of WEA or diminish the perceived urgency of responding to emergency alerts.<sup>123</sup> The outreach that we require alerting authorities to undertake in advance of issuing a WEA Performance and Public Awareness Test also helps to address commenters' concerns about alert fatigue.<sup>124</sup> We distinguish the negative affect that erroneous WEA tests can have on public confidence in WEA from WEA Performance and Public Awareness Tests issued pursuant to the requirements we adopt today.<sup>125</sup> Alerting authorities have the discretion and judgment to test WEA in a way that serves the interests of their communities.

36. With these revisions, we remove regulatory obstacles to WEA performance testing and reduce time and cost burdens on alert originators by eliminating the need to obtain a waiver. Today, alerting authorities may conduct end-to-end tests of the WEA system only using a State/Local WEA Test, which the public does not receive by default. Instead, only those people who affirmatively opt in to

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<sup>120</sup> *Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, Order, PS Docket Nos. 15-91 and 15-94, at 3 (Dec. 21, 2022) (“The Montana DOJ Letter also notes other purposes of this test: verifying the effectiveness of Montana’s entire AMBER Alert process; verifying successful alerts processing after major software upgrades were completed by the Montana National Weather Service in Great Falls, Montana; verifying the distribution of alerts in rural Eastern Montana after reports of carrier issues; verifying the distribution of alerts after the expansion of carrier coverage; and confirming the effectiveness of IPAWS solutions after enhancements were made to CodeRED”).

<sup>121</sup> *2023 WEA FNPRM* at para. 36, Appendix A. Incidental overshoot into a county due to another county’s test does not count against the number of tests a county is allowed to conduct that intentionally cover that county.

<sup>122</sup> CTIA Comments at 20; King County Comments at 3 (also noting that “giving every eligible authority two live code tests per year could theoretically cause residents of a jurisdiction such as King County to receive more than 80 live tests per year, or on average one every 4½ days”).

<sup>123</sup> CTIA Comments at 20; ATIS Comments at 20.

<sup>124</sup> ATIS Comments at 20 (“ATIS WTSC strongly believes that multiple or overlapping jurisdictions should be expected to coordinate and stagger/consolidate their tests to avoid alert fatigue”); CTIA Comments at 8, 20; LAAWW Comments at 5 (“LAAWW recommends WEA testing be completed in a controlled setting to avoid over-alerting by using broad-based live testing on channels that could potentially be opted out of should regular testing be perceived as a nuisance instead of the intended value assuring alerting systems are working properly”); Michigan State Police OMS Comments at 4; NYCEM Comments at 4, 8-9 (“While it is important to educate the public, alert fatigue would be felt heavily here, likely resulting in opt-outs . . . NYCEM fully agrees with the FCC’s proposal to allow for two end-to-end WEA tests per year so long as the four outlined conditions are met . . . amending the rules will likely increase alert fatigue; however, with proper outreach as outlined in the Commission’s conditions, alerting authorities can mitigate this. Strong coordination should be required across overlapping jurisdictions to ensure no geographical area is targeted more than twice per year”); *see also* NYS DHSES Comments at 2 (“We agree that increased WEA testing, especially when visible to all consumers by default, risks increasing alerting fatigue among the public and could result in more people turning off WEA alerts, hindering the objectives of WEA alerting . . . Therefore, we support requiring coordination in overlapping geographic areas, to reduce duplicative testing, and we support requiring notification to state and local emergency authorities before tests are performed”).

<sup>125</sup> ATIS Comments at 20 (referencing a test in Florida that was accidentally sent using the attention signal during late night hours).

receive State/Local WEA tests will receive them. Alerting authorities currently must obtain a waiver to conduct WEA tests that the public receives by default. King County, USGS, and Portland Regional Disaster Preparedness Organization state that this can be cumbersome and places an unnecessary administrative burden on alerting authorities and CMS Providers<sup>126</sup> By doing away with this paperwork requirement, we enable alerting authorities to more easily access this important tool.

37. Our experience with “Live Code” EAS tests over the years suggests that two WEA Performance and Public Awareness Tests per year is sufficient to meet alerting authorities’ public safety objectives and that the preconditions pursuant to which they are issued are effective at limiting the potential for public confusion. The Commission has found that effective public awareness testing helps the public to understand how to respond to WEAs in the event of an actual emergency.<sup>127</sup> Verizon states that public-facing tests can be a valuable public education tool.<sup>128</sup> NYCEM states that it needs to be able to conduct tests that the public receives by default to ascertain whether the servers on which it hosts the web content that they embed in WEAs have sufficient capacity to handle the increase in load generated by sending a WEA that contains an embedded link.<sup>129</sup> We note that alert originators who wish to conduct additional testing may continue to utilize the State/Local WEA test code, which allows alert originators to send test messages only to those who proactively opt in to receive them. As the Commission noted in the *2023 WEA FNPRM*, we continue to believe that State/Local WEA Tests are valuable tools for system readiness testing and proficiency training. To the extent State/Local WEA Tests are used for proficiency training and alerting authorities’ system checks, the fact that the public does not receive State/Local WEA Tests by default is beneficial.<sup>130</sup>

38. Alerting authorities can use WEA Performance and Public Awareness Tests as a tool to gather data about how WEA works in practice, as the Commission has done repeatedly over the years.<sup>131</sup> Multiple alerting authorities highlight the importance of receiving data about how WEA performs in their

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<sup>126</sup> See King County Comments at 3 (“We support the proposal to allow alerting authorities to send live test messages without having to use the cumbersome waiver process”); see also Portland Regional Disaster Preparedness Organization at 3 (“We support the proposal to allow alerting authorities to send live test messages without having to use the cumbersome waiver process”); USGS Comments at 6 (“The USGS ShakeAlert System would benefit from the ability to do two end-to-end WEA tests per alerting authority each year without waivers”).

<sup>127</sup> *Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, Order (Jul. 29, 2019) (approving a testing waiver in Hamilton County, Ohio in response to “the significant need to explain and test this emergency public information tool”).

<sup>128</sup> APCO Comments at 5; King County Comments at 3 (“We support the proposal to allow alerting authorities to send live test messages without having to use the cumbersome waiver process”); USGS Comments at 6; Verizon Comments at 13 (“Expanding ‘live’ state and local government tests, for example, may improve consumer education and alert originator awareness, and in some respects resembles the periodic test alerts used for EAS and tornado sirens”).

<sup>129</sup> NYCEM Comments at 8 (“For example, as previously noted, NYCEM often uses a link to the Notify NYC website for photo-hosting, and in the past, it has caused traffic management issues. Updates to the site’s infrastructure cannot be fully tested until the next emergency without conducting an end-to-end test.”).

<sup>130</sup> *2023 WEA FNPRM* at para. 34.

<sup>131</sup> See *Report: August 11, 2021 Nationwide WEA Test*, Docket Nos. 15-91, 15-94 (“On August 11, 2021, FEMA, in coordination with the Federal Communications Commission (Commission), conducted a nationwide test of Wireless Emergency Alerts (WEA), which is a system designed to notify the public through their mobile devices about emergencies that may affect them. The 2021 nationwide WEA test was designed to evaluate the effectiveness of WEA to distribute an emergency message nationwide”); see also *September 2022 WEA Performance Exercise*, Docket No. 15-91, 15-94 (asserting that the purpose of the 2022 test was to gain knowledge on the speed, accuracy, and reliability of WEA alerts).



local jurisdictions.<sup>132</sup> State/Local WEA Tests may be less effective than WEA Performance and Public Awareness Tests for this purpose because the amount of data that transmission of a State/Local WEA Test can generate is limited by the number of people within the target area that have affirmatively opted in to receive tests of this type.<sup>133</sup> To further facilitate WEA testing for this purpose, we offer alerting authorities access to a Commission survey instrument that has proven effective at gathering data about WEA's reliability, accuracy, and speed.<sup>134</sup> While we continue to evaluate the record on our proposed performance reporting requirements,<sup>135</sup> we believe that this revision of our testing rules will at least help address alerting authorities' immediate needs for WEA performance information in their jurisdictions.

39. We require Participating CMS Providers to comply with this requirement within 30 days of the *Federal Register's* publication of notice that OMB has completed its review of these information collection requirements, as proposed. No commenter objected to this proposal.

#### **D. Establishing a WEA Database for Availability Reporting**

40. To equip alerting authorities with information that allows them to prepare for reliable emergency communications during disasters, we require all CMS Providers to refresh their WEA election status by filing this information in an electronic database hosted by the Commission. The WEA Database will be an interactive portal where CMS Providers submit information about the availability of WEA on their networks. CMS Providers are required to attest whether they participate in WEA "in whole" (meaning that they have "agreed to transmit WEA Messages in a manner consistent with the technical standards, protocols, procedures, and other technical requirements implemented by the Commission in the entirety of their geographic service area," and that all mobile devices that they offer at the point of sale

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<sup>132</sup> NYCEM Comments at 8 ("The value of the data gathered from an end-to-end system test can be seen following the localized WEA tests conducted by 37 emergency management agencies in September 2022. The data presented in the report shows that 91.1% of the 12,000 volunteers located within the targeted areas received a test alert. In a densely populated urban area such as New York City, the 8.9% of targeted devices that did not receive the WEA would equate to over 750,000 people not being alerted. The report also highlighted a disparity in WEA overshoot, with a median delivery distance of 3.13 miles, a significant amount of people in an urban environment. The findings of this data prove additional testing is needed to support further development given the disparities in the expected performance of WEA"); OR-Alert Governance Committee Comments at 1 ("Testing would be much more successful and beneficial if we, as alerting authorities, could understand how and where the message was delivered, how far outside of the intended polygon the message actually went, and other metrics"); Portland Regional Disaster Preparedness Organization Comments at 3 ("Testing would be much more useful if alert originators could understand if and how WEAs are received").

<sup>133</sup> See King County Comments at 3 ("While the opt-in WEA test function can be helpful, we do not have any information on differences that may exist between how live messages and test messages are handled and disseminated, so it is difficult to have confidence in the results of tests sent using the test system"). Alerting authorities still may use State/Local WEA Tests at their discretion to assess WEA's performance. To the extent that alert originators are able to use these tests to generate data about WEA performance, that data should be representative of WEA's actual performance during an emergency because Participating CMS Providers are required to transmit State/Local WEA Tests in a manner that complies with the Alert Message Requirements specified in Subpart D. See 47 CFR § 10.350(c). Aside from the fact that the public does not receive State/Local WEA Tests by default, Participating CMS Providers transmit them like any other Alert Message.

<sup>134</sup> The English-language version of the survey is available at [www.fcc.gov/WEA](http://www.fcc.gov/WEA). The Spanish-language version of the survey is available at <https://www.fcc.gov/WEA-es>.

<sup>135</sup> 2023 WEA FNPRM at para 55 ("To help measure and enforce compliance with our proposed performance requirements, as well as to help public safety stakeholders understand how WEA works in their respective areas, we propose that Participating CMS Providers submit data to the Commission regarding WEA's reliability, accuracy and speed using the WEA Database. In doing so, we also address and build on the record developed in our 2022 Further Notice of Proposed Rulemaking (2022 FNPRM), where public safety commenters argue that performance reporting would directly assist them in using WEA effectively, and that reliability, speed, and accuracy are the most important performance metrics on which Participating CMS Providers should report"), 2023 WEA FNPRM at para 63 (seeking comments on alternative performance reporting approaches).

are WEA-capable), “in part” (meaning that that they offer WEA but the geographic service area condition does not apply, the mobile device condition does not apply, or both), or they may elect not to participate.<sup>136</sup> Currently, CMS Providers have filed their WEA election attestations in a static format in a Commission docket, and many have not been updated since they were first filed over a decade ago.<sup>137</sup>

41. The WEA Database will aggregate WEA participation information in one location for ease of access and understanding, increasing its utility for emergency planning purposes and for the public. We agree with New York State Division of Homeland Security and Emergency Services that “[a]lerting authorities benefit from knowing which CMS providers support WEA, in which geographic areas, and for which mobile devices.”<sup>138</sup> CTIA argues that “[n]o evidence suggests that the public is unaware that WEA is available in virtually every area of the country,”<sup>139</sup> but that statement disregards the alerting authorities’ perspective that they need nuanced information about WEA’s availability, specifically if WEA is *not* available in every CMS network in their alert and warning jurisdiction or in every geographic area in their alert and warning jurisdiction, so that they can make alternative arrangements to deliver emergency communications.<sup>140</sup> While we acknowledge CTIA’s perspective that much of the information that the WEA Database will contain is already publicly available,<sup>141</sup> the record shows that we can significantly increase this information’s utility by aggregating it in one place. The New York State Division of Homeland Security and Emergency Services, for example, states that WEA participation “information is cumbersome for each alerting authority to gather, so having this available and up-to-date in one location would be a significant improvement over current practice.”<sup>142</sup> To the extent that this information is already publicly available, however, we agree with Verizon that it will be minimally burdensome to provide.<sup>143</sup> Aggregating this information in the WEA Database will also directly benefit consumers. As Michigan State Police OMS and other alerting authorities state, “knowing the coverage area and capability of cell phones, consumers can make decisions about how they want to equip their own interests in receiving WEA.”<sup>144</sup> Accordingly, we find that this requirement has potential to help people to protect their lives and property by encouraging and promoting the use of smartphones as emergency preparedness tools.

42. We require each CMS Provider to disclose the entities on behalf of which it files its

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<sup>136</sup> 47 CFR § 10.10(k) (in whole); 47 CFR § 10.10(k) (in part); *see also* 2023 WEA FNPRM at 22-23, paras. 38-40. We decline AT&T’s request that we redefine “in whole” WEA participation to exclude mobile device support. *See* AT&T Comments at 27-28. This issue is outside of the scope of this proceeding.

<sup>137</sup> *See* PS Docket No. 08-146.

<sup>138</sup> NYS DHSES Comments at 2-3.

<sup>139</sup> CTIA Comments at 15.

<sup>140</sup> County of San Diego Comments at 5; *see also* Michigan State Police OMS Comments at 5-6 (“This will give Alert Originators the opportunity to find alternative methods to reach individuals and families with life-saving information”); *see also* NYCEM Comments at 9 (“Having knowledge of WEA dead zones would allow for alerting authorities to prepare alternate ways to alert the population outside of the service area”).

<sup>141</sup> CTIA Comments at 15.

<sup>142</sup> NYS DHSES Comments at 2-3.

<sup>143</sup> Verizon Comment at 8 (“Providing biographical information such as the provider’s name, together with the brand names under which facilities-based service is offered, is appropriate. Such information is already provided and available and posted in other contexts, such as the FCC Form 499 and the Commission’s online Form 499 filer database.”).

<sup>144</sup> *See* Michigan State Police OMS Comments at 3 (“The FCC should require carriers to fully report their level of participation, and ownership (holding companies, DBA’s, etc.) in a WEA Database. Knowing the coverage area and capability of cell phones, consumers can make decisions about how they want to equip their own interests in receiving WEA and other wireless alerts.”); LAAWW Comment at 5; County of San Diego Comments at 4; PRDPO Comments at 4.

election, irrespective of whether it elects to participate in WEA. WEA election attestation disclosures must include (a) the name and WEA participation of the CMS Provider;<sup>145</sup> (b) the name and WEA participation status of any subsidiary companies on behalf of which the CMS Provider's election is filed;<sup>146</sup> (c) any "doing business as" names under which the CMS Provider or its subsidiaries offer wireless service to the public. We agree with the King County Emergency Management that disclosing all of the names under which a CMS Provider does business is necessary for consumers to meaningfully access the information that the WEA Database contains because consumers will often only know a corporate entity by the name under which it markets service.<sup>147</sup> Similarly, we find that requiring CMS Providers to separately identify its WEA participation status and that of each of its subsidiary entities is necessary to allow consumers to understand potential nuances in WEA participation among subsidiary entities owned or controlled by the same parent company.<sup>148</sup>

43. To empower alerting authorities with information about where WEA is and is not available within their communities, we require Participating CMS Providers to disclose the geographic areas in which they offer WEA. CMS Providers that offer WEA in an area that is geographically coextensive with their wireless voice coverage area may satisfy this requirement by simply attesting to that fact. For each such provider, the Commission will use the Graphical Information System (GIS) voice coverage area map that the provider has already submitted to the Commission in furtherance of their obligations to the Commission's Broadband Data Collection.<sup>149</sup> We agree with AT&T that "[t]he use of the voice GIS coverage areas would minimize the reporting burden on CMSPs while providing Alert Originators with relevant information about the availability of WEA" because many CMS Providers likely already maintain information about their network coverage in GIS format.<sup>150</sup> Verizon believes that most Participating CMS Providers do offer WEA in a geographic area that is coextensive with their wireless voice coverage area.<sup>151</sup> For all such providers, the burden of compliance with this requirement will be negligible.

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<sup>145</sup> The Commission generally sought comment on how the Commission can leverage any relevant information that is available through CORES. *2023 WEA FNPRM* at para 39. The Commission did not receive comment on this issue. We believe that eliciting CMS Providers' FCC Registration Numbers (FRNs) and Form 499 identifiers as part of this data collection would facilitate the association of data that the Commission already has about a CMS Provider with their WEA election. This will allow the WEA Database to prepopulate that data in its election attestation form and ultimately reduce the burden of filing. Below, we direct the Bureau to issue a PN to specify the details of how Participating CMS Providers enter data in the WEA Database, including how they identify themselves.

<sup>146</sup> Including when the subsidiary company is a Mobile Virtual Network Operator (MVNO) or wireless reseller wholly-owned or operated by the CMS Provider.

<sup>147</sup> See King County Comments at 4 ("We believe that commercial mobile service (CMS) providers should be required to file under their "doing business as" (d.b.a) name or the name that consumers would know them by: it does no good to most consumers to see that "Cellco Partnership" provides WEA coverage when they are looking for information on Verizon Wireless."); The Commission notes that Cellco Partnership does business under the name of Verizon Wireless. See U.S. Government Accountability Office, Cellco Partnership dba Verizon Wireless, (Nov. 5, 2020), <https://www.gao.gov/products/b-418155.4%2Cb-418155.5>.

<sup>148</sup> *I.e.*, when the CMS Provider's participation status is different from an entity on behalf of which they file (e.g., where one participates in WEA "in whole" and the other "in part").

<sup>149</sup> Federal Communications Commission Broadband Data Collection Help Center, Formatting Mobile Voice Availability Coverage Maps (June 22, 2022), <https://help.bdc.fcc.gov/hc/en-us/articles/6047464151195-Formatting-Mobile-Voice-Availability-Coverage-Maps>.

<sup>150</sup> AT&T Comments at 27; see also CTIA Reply at 13 ("Where WEA is available throughout the wireless provider's network, the Broadband Data Collection information could be relied upon to show where WEA is available"); Verizon Comments at 9.

<sup>151</sup> Verizon Comments at 9 ("Verizon expects that very few if any providers electing to participate in the WEA program do not transmit WEA alerts throughout their entire 4G coverage area").

44. CMS Providers that offer WEA in an area that is not co-extensive with their wireless voice coverage area must submit a geospatial data file compatible with the WEA Database describing their WEA coverage area to satisfy this requirement. We disagree with Verizon and AT&T that the information about Participating CMS Providers' wireless coverage areas that is publicly available today, including via the Commission's National Broadband Map, is sufficient to inform alerting authorities' use of WEA.<sup>152</sup> CMS Providers that choose to participate in WEA in part do not attest that their WEA service area is coextensive with their wireless voice coverage area.<sup>153</sup> Without the additional attestation that the WEA Database will elicit, it would therefore be unreasonable for an alerting authority to infer that any information that these CMS Providers make available about their wireless voice coverage area is representative of their WEA service area.

45. We require Participating CMS Providers to complete their WEA election attestation by submitting to the WEA Database a list of all the mobile devices they offer at the point of sale, indicating for each such device whether it is WEA-capable. Participating CMS Providers will be able to fulfil this obligation by listing the devices that they sell and their WEA capabilities via the WEA Database's online interface.

46. Communities can only benefit from the many WEA enhancements that the Commission has required Participating CMS Providers to support to the extent that deployed mobile devices support them. Creating an aggregated account of the WEA capabilities of the mobile devices that Participating CMS Providers sell will allow alerting authorities to understand the extent to which their communities will benefit from messages crafted to take advantage of modern WEA functionalities, such as a longer, 360-character version of an Alert Message, a Spanish-language version of an Alert Message, or clickable hyperlinks.<sup>154</sup> According to NYCEM, this information would "allow for jurisdictions to supplement the alert with additional messaging as needed."<sup>155</sup> APCO observes that this, in turn, will enable alerting authorities to use WEA more effectively as one emergency communications tool among many at their disposal.<sup>156</sup> For these reasons, we do not share AT&T's concern that "the Commission's WEA Database is likely to suffer from the same underutilization as the Commission's database of hearing-aid compatible devices."<sup>157</sup> Further, whereas the Hearing-Aid Compatible database is primarily intended to be consumer-facing (and each consumer is likely most concerned with the compatibility of devices that they are personally considering for purchase from a particular provider), the publication of the WEA data that will be collected in the WEA Database is primarily intended for use by alerting authorities that need to have the wholistic view of the WEA capabilities of mobile devices in use in their communities that the WEA Database will provide.

47. We direct the Bureau, in coordination with the Wireless Telecommunications Bureau and

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<sup>152</sup> Verizon Comments at 9 ("The Commission's own publicly-available mapping resources already provide the Commission and alert originators with granular information regarding a wireless provider's LTE coverage, and nothing prevents alert originators and their vendors from using those resources to calibrate their alerting practices today"); AT&T Comments at 27. See Federal Communications Commission Broadband Data Collection Help Center, Formatting Mobile Voice Availability Coverage Maps (July 7, 2023), <https://help.bdc.fcc.gov/hc/en-us/articles/6047464151195-Formatting-Mobile-Voice-Availability-Coverage-Maps>.

<sup>153</sup> 47 CFR § 10.10(l) (defining CMS Provider participation "in part").

<sup>154</sup> See NYCEM Comments at 9.

<sup>155</sup> *Id.*

<sup>156</sup> APCO Comments at 6.

<sup>157</sup> AT&T Comments at 30-31 ("[I]n recently removing the burdensome requirements for wireless providers to report HAC devices into the Commission's HAC database that was intended to inform the public of the availability of such devices, the Commission recognized that '[i]t is logical to assume that the typical consumer will turn to a company's web site before thinking to look for a completed FCC form.' Similarly, Alert Originators and wireless users are more likely to turn to CMSP websites to find useful information about WEA-capable devices than the Commission's proposed WEA Database."); ATIS Comments at 35; CTIA Comments at 15.

the Office of Economics and Analytics, to implement the requirements of this collection and the publication of the data collected. We further direct the Bureau to publish information about how Participating CMS Providers will be able to submit their data and to announce when the WEA Database is ready to accept filings. We require all CMS Providers, irrespective of whether they have already submitted a WEA election attestation in the WEA election docket, to refresh their elections to participate in WEA using the WEA Database within 90 days of the Bureau's publication of a public notice announcing (1) OMB approval of any new information collection requirements or (2) that the WEA Database is ready to accept filings, whichever is later. Most CMS Providers have not updated their election to transmit alert messages since filing their initial election in 2008.<sup>158</sup> As a result, we are concerned that many WEA elections could now be outdated and do not accurately reflect WEA's current availability.<sup>159</sup> We agree with Verizon that "refreshing service provider elections are sensible, given the time that has lapsed since service providers submitted their elections over a decade ago and the many intervening changes in the wireless industry."<sup>160</sup> We also allow Participating CMS Providers to use the WEA Database to notify the Commission of any change of their election to participate in WEA, whether that change be an increase or decrease in WEA participation.<sup>161</sup> Participating CMS Providers must continue to notify new and existing subscribers of their withdrawal using the specific notification language required by the rules,<sup>162</sup> which triggers a subscriber's right to terminate their subscription without penalty or early termination fee.<sup>163</sup> A CMS Provider withdraws from WEA if its participation status changes from "in whole" to "in part" or "no" or if it changes its participation status from "in part" to "no." The Commission proposed to require compliance with this requirement within 30 days of the publication of this public notice.<sup>164</sup> On our own initiative, however, we extend this compliance timeframe to 90 days to allow Participating CMS Providers the 60-days' notice that our rules require them to provide to their subscribers in advance of any withdrawal of their WEA participation.<sup>165</sup> After refreshing their elections, we require Participating CMS Providers to update their WEA election information in the WEA Database within 30 days of any change to its WEA coverage areas or the WEA capabilities of the mobile devices that it sells.<sup>166</sup> The Commission sought comment on this approach and received no comments in response.<sup>167</sup>

48. We are persuaded not to require Participating CMS Providers to provide an account of their roaming partners via the WEA Database at this time. We agree with Verizon that "given the comprehensive roaming arrangements across the industry, maintaining this information would be too

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<sup>158</sup> See 2023 WEA FNPRM at 26, para. 46.

<sup>159</sup> *Id.*

<sup>160</sup> Verizon Comments at 8.

<sup>161</sup> See 47 CFR § 10.220 ("A CMS provider that elects to transmit WEA Alert Messages, in part or in whole, may withdraw its election without regulatory penalty or forfeiture if it notifies all affected subscribers as well as the Federal Communications Commission at least sixty (60) days prior to the withdrawal of its election.").

<sup>162</sup> 47 CFR § 10.240 (Notification to new subscribers of non-participation in WEA); 47 CFR § 10.250 (Notification to existing subscribers of non-participation in WEA).

<sup>163</sup> 47 CFR § 10.270 (Subscribers' right to terminate subscription).

<sup>164</sup> *Id.*

<sup>165</sup> See 47 CFR § 10.220.

<sup>166</sup> Below, we direct the Bureau to assess, in coordination with the Commission's Wireless Telecommunications Bureau and Office of Economics and Analytics the extent to which updates to geospatial voice coverage data in the Broadband Data Collection can automatically populate in the WEA Database, reducing the potential burden of compliance with this requirement.

<sup>167</sup> 2023 WEA FNPRM at 39-40, para. 82.

unwieldy for individual providers and result in confusing, duplicative information for consumers.”<sup>168</sup>

49. We are also persuaded not to require CMS Providers to attest to the WEA capabilities of resellers of their facilities-based services at this time, unless those resellers are wholly-owned or controlled by the CMS Provider.<sup>169</sup> We agree with CTIA that Participating CMS Providers should not be required to provide information to which they may not have access, such as participation information for entities they do not control.<sup>170</sup> The record demonstrates that Participating CMS Providers may not have access to WEA participation information about Mobile Virtual Network Operators (MVNOs) or wireless resellers, even when they have a direct business relationship with such entities. According to Verizon, “[f]acilities-based providers do not directly control and may not have direct visibility into the WEA capabilities of . . . MVNO/resellers’ customer devices, or all the particular facilities-based providers with whom the MVNO/reseller has a business relationship,”<sup>171</sup> and that “CMS Providers do not ordinarily have visibility into whether a MVNO/reseller’s mobile devices are WEA-capable or the extent to which an MVNO/reseller is provisioning its own wireless RAN facilities, for example through CBRS spectrum.”<sup>172</sup>

50. We also agree with Verizon, however, that “it is reasonable and appropriate for MVNO/resellers to publicly disclose the WEA capabilities of the devices and the facilities-based services they directly offer to their own customers” because of their significant role in the wireless marketplace.<sup>173</sup> We observe that many MVNOs and wireless resellers have elected to participate in WEA. We encourage these entities to use the WEA Database to keep their WEA election information up to date so that alerting authorities and consumers can be informed about the extent to which they should expect WEAs to be delivered via their networks.<sup>174</sup>

51. We determine that information submitted to the WEA Database under the rules adopted today does not warrant confidential treatment and should be available to the public, as proposed. We observe that the WEA availability information that Participating CMS Providers would submit to the WEA Database is already publicly available, although not aggregated with other WEA information. The information that Participating CMS Providers would supply to the WEA Database about their WEA coverage area is already publicly available through the National Broadband Map, which makes available for download the mobile voice coverage areas collected through the Broadband Data Collection. Similarly, many Participating CMS Providers already make publicly available information about the WEA-capable mobile devices that they offer at the point of sale. We do not believe that the public availability of this information raises any concerns about national security or competitive sensitivity, and it would not include any personally identifiable information or consumer proprietary network

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<sup>168</sup> Verizon Comments at 9.

<sup>169</sup> See Letter from Taci Biswese, Vice President & Associate General Counsel, NCTA - The Internet & Television Association, to Marlene H. Dortch, Secretary, FCC, at 1 (Rec. Sept. 15, 2023) (“Mobile Virtual Network Operators (MVNOs) that do not control the facilities providing WEA messages should not be required to formally elect whether to participate in WEA or otherwise report on the WEA capabilities of underlying mobile wireless network owners, nor should such network owners be required to report on the WEA capabilities of MVNOs”).

<sup>170</sup> CTIA Comments at 16.

<sup>171</sup> Verizon Comments at 8.

<sup>172</sup> *Id.*

<sup>173</sup> *Id.* at 9.

<sup>174</sup> Some MVNOs have elected to participate in WEA. See, e.g., Letter from Patrick Fonzo, Compliance Officer, Google North America, Inc. to Marlene H. Dortch, Secretary, FCC at 1 (Apr. 28, 2015); Letter from Jean Parker, Legal Director, CREDO Mobile, to Marlene H. Dortch, Secretary, FCC at 1 (Aug. 16, 2012). The Commission does not have election information for many others.

information. No commenter objected to this proposal.<sup>175</sup>

### E. Legal Authority

52. We find that the Commission has ample legal basis to adopt the targeted revisions to the rules that we adopt today that are designed to make WEA more accessible to a wider range of people, including members of the public who primarily speak a language other than English or Spanish and people with disabilities. These amendments are grounded in our authority under the Communications Act of 1934, as amended, as well as the WARN Act.<sup>176</sup> We reject commenters' assertions to the contrary.

53. CCA contends<sup>177</sup> that there are limits on the Commission's authority to adopt enhancements to the system given the timing specifications in the WARN Act<sup>178</sup> and its provision that the Commission "shall have no rulemaking authority under this chapter, except as provided in subsections (a), (b), (c), and (f)."<sup>179</sup>

54. Consistent with the WARN Act, WEA "enable[s] commercial mobile service alerting capability for commercial mobile service providers that voluntarily elect to transmit emergency alerts."<sup>180</sup> The WEA system is a voluntary program designed to deliver life-saving emergency information to the public, and the Commission has worked hard to build enhancements into the system since it was created. The system now includes embedded links to additional information, Spanish-language alerts, and geotargeting designed to help messages reach the intended audience that needs the information to act in an emergency.<sup>181</sup> Today's improvements, which will help reach audiences that speak additional languages or that have disabilities that could limit WEA's utility in its present form, build on these prior efforts. Those providers opting to support the system must be prepared to accommodate these enhancements and to follow the rules that the Commission adopts.

55. With that important context in mind, we find no merit in CCA's contentions. Contrary to CCA's view, the time periods set out in subsections (a), (b), and (c) only established deadlines for initial actions on the directives described in those provisions. Moreover, we note that subsection (f), which is also referenced in subsection (d), contains no deadline for the Commission's regulatory authority over WEA technical testing.<sup>182</sup> Under CCA's interpretation of the statute, our WEA rulemaking authority would have lapsed after establishing initial rules in 2008; yet this reading is inconsistent with Congress's amendment of the WARN Act in 2021, when it directed the Commission to examine the feasibility of expanding the reach of emergency alerts using new technologies.<sup>183</sup> Over time, the Commission's

<sup>175</sup> 2023 WEA FNPRM at 36, paras. 69-71. The Commission considers requests that materials or information submitted to the Commission be withheld from public inspection pursuant under 47 CFR § 0.459.

<sup>176</sup> See 2023 WEA FNPRM at para. 103.

<sup>177</sup> See CCA Comments at 2; see also CCA Comments, PS Docket Nos. 15-91, 15-94 and 22-329, at 8-9 (filed Dec. 23, 2022) (CCA Cybersecurity Comments); Verizon Comments at 15 & n.32 (contending that certain FNPRM questions "raise technical concerns as well as questions about the Commission's authority to move the WEA system in such a fundamentally different direction").

<sup>178</sup> 47 U.S.C. § 1201(a).

<sup>179</sup> 47 U.S.C. § 1201(d).

<sup>180</sup> 47 U.S.C. § 1201(a).

<sup>181</sup> See 47 CFR §§ 10.320(d) (geographic targeting), 10.441 (embedded references), 10.480 (language support).

<sup>182</sup> See 47 U.S.C. § 1201(f) ("The Commission shall require by regulation technical testing for commercial mobile service providers that elect to transmit emergency alerts and for the devices and equipment used by such providers for transmitting such alerts.").

<sup>183</sup> See Section 9201 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, § 9201(a), Pub. L. 116-283, 134 Stat. 3388. Moreover, as noted above, a bipartisan group of lawmakers

(continued....)

enhancements to WEA and Congress’s recognition of the importance of the system, including those enhancements, reflect Congress’s endorsement of how the Commission was exercising its authority under the WARN Act.

56. In any event, however, the Commission’s legal authority concerning emergency alerts is based not solely on the provisions of the WARN Act but also on several provisions of the Communications Act, which is the backdrop against which Congress adopted the WARN Act. In particular, section 303(b) directs the Commission to “[p]rescribe the nature of the service to be rendered” by licensees.<sup>184</sup> The rule changes we make today do just that—lay down rules about the nature of services to be rendered by Participating CMS Providers.<sup>185</sup> They do so pursuant to our finding that the “public convenience, interest, or necessity requires”<sup>186</sup> doing so and in fulfillment of the statutory purpose of “promoting safety of life and property through the use of wire and radio communications.”<sup>187</sup> To the extent that section 602(d) of the WARN Act limits the Commission’s rulemaking authority, it does so only as to the authority granted under that Act and does not limit the Commission’s preexisting and well-established authority under the Communications Act.<sup>188</sup>

#### F. Assessing the Benefits and Costs

57. We find that the benefits from the improvements made to WEA we adopt today exceed their cost. In the *2023 WEA FNPRM*, the Commission estimated that the proposed rules would result in an industry-wide, one-time compliance cost of \$39.9 million and an annually recurring cost of \$422,500 to update the WEA standards and software necessary to comply with the rules adopted in this *Report and Order*. While we do not adopt all the *2023 WEA FNPRM*’s proposals, such as including thumbnail images, modifying the attention signal and vibration cadence capabilities, or requiring any performance-related benchmarking or reporting, we believe that the *2023 WEA FNPRM*’s estimate remains a reasonable ceiling for the cost of compliance with the rules that we adopt today. The activities in which industry will engage to comply with the requirements we adopt today (the creation and revision of standards and the development and testing of software) are not easily amenable to subdivision based on lines of text written or lines of code programmed. While the WEA standards will undoubtedly require less revision and less code will need to be written to comply with the requirements we adopt today, we do not attempt to quantify the extent of cost reduction that will result. The record reflects the significant benefits arising from WEA support for additional functionalities, including enhancing language support and providing location-aware maps. These enhanced functionalities of WEA will make WEAs comprehensible for some language communities for the first time, helping to keep these vulnerable communities safer during disasters. These enhancements will also encourage consumers to remain opted-in to receiving WEA messages and incentivize emergency managers that are currently not alerting authorities to become authorized with FEMA to use WEA as a tool for providing information in times of emergencies. With increased participation by both consumers and emergency managers, WEAs will be more likely to be both sent and received, leading to an incremental increase in lives saved, injuries

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representing both chambers of Congress has expressed keen interest in continuing to upgrade WEA to support multilingual capabilities. *See supra* note 38.

<sup>184</sup> 47 U.S.C. § 303(b); *see also id.* § 301 (requiring licensees to operate only “under and in accordance with this chapter and with a license ... granted under the provisions of this chapter”).

<sup>185</sup> *See Cellco Partnership v. FCC*, 700 F.3d 534, 542 (D.C. Cir. 2012) (upholding section 303(b) as a basis to prescribe a data-roaming rule for licensees providing mobile-internet service). As in *Cellco*, we read section 303(b) together with sections 303(r) and 316 as providing additional supporting authority. *See id.* at 543.

<sup>186</sup> 47 U.S.C. § 303.

<sup>187</sup> 47 U.S.C. § 151.

<sup>188</sup> To be clear, the phrase “this chapter” in 47 U.S.C. § 1201 refers to chapter 11 of title 47 of the United States Code and corresponds to the phrase “this title” in the original Security and Accountability for Every Port Act, which referred to title VI thereof, i.e. the WARN Act.



prevented, and reductions in the cost of deploying first responders. We base our assessment of costs on the quantitative framework on which the Commission relied in the *2023 WEA FNPRM*.<sup>189</sup> We note that the Commission sought comment on the costs and benefits of our proposed rules in the *2023 WEA FNPRM*,<sup>190</sup> but received a sparse record in response, including no dollar figure estimates.<sup>191</sup> Although most of the benefits are difficult to quantify, we believe they outweigh the overall costs of the adopted rules.

### 1. Benefits

58. We believe that the rules we adopt today will result in benefits measurable in terms of lives saved and injuries and property damage prevented.<sup>192</sup> We agree with Verizon that these rule changes could offer “tangible safety benefits to consumers and alert originators.”<sup>193</sup> According to CTIA and Southern Communications Services, Inc. d/b/a Southern Linc (Southern Linc), WEA has become one of the most effective and reliable alert and warning tools for public safety and the public.<sup>194</sup> The requirements we adopt today will both promote the availability of those benefits for a greater number of people and enhance their benefit for those for whom they were already available. We also recognize that it is difficult to assign precise dollar values to changes to WEA that improve the public’s safety, life, and health.<sup>195</sup>

59. *Making WEA Accessible to Millions of People Who Primarily Speak a Language Other Than English or Spanish*. Currently, the 76 CMS Providers participating in WEA send alerts to 75% of mobile phones in the country.<sup>196</sup> Among the 26 million people who do not primarily speak English or Spanish, nearly 15.4 million speak primarily one of the 12 languages that we integrate into the WEA system in addition to English and Spanish.<sup>197</sup> Assuming 66% of these individuals are covered by the WEA system, approximately 11.5 million people who have been receiving WEA messages in languages they may have difficulty comprehending would understand the content of WEA messages under the

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<sup>189</sup> *2023 WEA FNPRM* at 40-56, paras. 83-96.

<sup>190</sup> *Id.*

<sup>191</sup> See, e.g., *CCA Comments* at 10 (“The FNPRM’s cost-benefit analysis severely underestimates the resources, timeframes, costs, and burdens associated with achieving and maintaining compliance with any new WEA requirements. Significant additional standards work must occur before a clear picture of effort, cost, and timeline can be fully considered.”).

<sup>192</sup> See Michele M. Wood, Dennis Miletic, Hamilton Bean, Brooke Liu, Jeannette Sutton, and Stephanie Madden, *Milling and Public Warnings*, 50 *Environment and Behavior* (2017), [https://www.researchgate.net/publication/317242672\\_Milling\\_and\\_Public\\_Warnings](https://www.researchgate.net/publication/317242672_Milling_and_Public_Warnings).

<sup>193</sup> Verizon Comments at 1.

<sup>194</sup> *CTIA Comment* at 1.

<sup>195</sup> *Resilient Networks*, Report and Order, PS Docket 21-346, FCC 22-50, para. 46 (2022) (*Resilient Networks Order*) (“it would be impossible to quantify the precise financial value of these health and safety benefits”).

<sup>196</sup> Fox News, *FEMA tests ‘presidential alert’ to 225 million electronic devices*, <https://www.foxnews.com/us/fema-tests-presidential-alert-to-225-million-electronic-devices> (last visited Aug. 30, 2023) (“FEMA officials estimate nearly 75 percent of all mobile phones in the country, including major carriers, will receive the (presidential) alert”).

<sup>197</sup> Among the 26 million people who do not primarily speak English or Spanish, 15,375,637 individuals speak one of the additional 12 languages that we propose to add to the WEA system. Staff calculation based on Sandy Dietrich and Erik Hernandez, *Language Use in the United States: 2019*, page 8 (2022), <https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf>. Assuming 75% of these individuals are able to receive WEA messages, approximately 10 million [15,375,637\*75% = 9,994,164] additional people would receive these messages in the primary language they speak.

proposed WEA language support.<sup>198</sup> We agree with Verizon that “the public safety benefits to non-English-speaking consumers and communities by improving access to life-saving information are self-evident.”<sup>199</sup> Even if alerts reach just 1% of this population per year (i.e., roughly 150,000 people) the potential of WEA to prevent property damage, injuries, and deaths could be enormous. Further, over 12 million people are with a hearing difficulty.<sup>200</sup> Requiring Participating CMS Providers to provide subscribers with the ability to opt-in to receive ASL alerts would help effectively prevent property damages, injuries, and loss of life for these individuals who are deaf or hard-of-hearing.

60. *Integrating Location-Aware Maps into Alert Messages.* Alert messages that link the recipient to a native mapping application would help the public to personalize alerts, allowing them to better understand the geographic area under threat and their location relative to it.<sup>201</sup> We agree with ATIS and NYCEM that location-aware maps will provide the public with a better understanding of the emergency alerts they receive.<sup>202</sup> It follows that this will likely cause recipients to take protective action more quickly than they otherwise would. This requirement will yield particular benefits in the most time-sensitive emergencies, such as earthquakes and wildfires, where every second can count.

61. *WEA Performance and Public Awareness Tests.* We agree with AT&T and Verizon, among others, that adopting rules to permit alerting authorities to conduct up to two WEA Performance and Public Awareness Tests per year may improve alerting authorities’ awareness of and confidence in WEA and provide alerting authorities with a tool to improve consumer education about and confidence in WEA.<sup>203</sup> This awareness and education will result in more prompt and effective public response to WEAs when issued, potentially saving lives, protecting property, and reducing the cost of deploying first responders. Further, this rule may encourage more alerting authorities to participate in WEA due to promoting a better understanding of it, and with increased participation by alerting authorities, more of the public will benefit from the lifesaving information conveyed by WEA. We also agree with APCO that “[t]esting is fundamental to public safety communications and will improve the system’s

<sup>198</sup> Assuming 75% of these individuals are able to receive WEA messages, approximately 11.5 million [15,375,637\*75% = 11,531,728] additional people would receive these messages in the primary language they speak. Numbering Resource Utilization/Forecast (NRUF) data show that, at year end-2021 in the United States, there were 439 million wireless connections, which are measured as phone numbers being assigned to mobile wireless devices. See *Communications Marketplace Report* et al., GN Docket No. 22-203, Report, FCC 22-103, at 56, para. 73 (Dec. 30, 2022). The number of wireless connections greatly exceeds the U.S. population which was under 332 million based on 2020 U.S. Census data. U.S. Census Bureau, *U.S. Census Bureau Today Delivers State Population Totals for Congressional Apportionment* (Apr. 26, 2021), <https://www.census.gov/library/stories/2021/04/2020-census-data-release.html>. Although the connection count includes both traditional handsets and other connected devices, e.g., wearables, for simplicity, we assume that the entire U.S. population can be reached via mobile connections. We also assume that the number of wireless connections per person is independent of whether the devices receive alerts from WEA. A violation of the first assumption would decrease our estimate, a violation of the second could either increase or decrease the estimate.

<sup>199</sup> Verizon Comments at 3.

<sup>200</sup> U.S. Census Bureau, *American Community Survey: Disability Characteristics in the United States, Table S1810, “Disability Characteristics”*, <https://data.census.gov/table?q=S1810:+DISABILITY+CHARACTERISTICS&tid=ACSST1Y2021.S1810> (last visited Sept. 14, 2023).

<sup>201</sup> CSRIC VIII API Report at 11.

<sup>202</sup> ATIS Comments at 13 (“[t]his proposed WEA enhancement will allow users to better understand whether the alert applies to their locations”); NYCEM Comments at 5 (“NYCEM agrees with the CSRIC VIII recommendation that location-aware maps be included in WEA messages to allow the user to better personalize the alert and take action”).

<sup>203</sup> AT&T Comment at 4; Verizon Comment at 13 (“Expanding “live” state and local government tests, for example, may improve consumer education and alert originator awareness, and in some respects resembles the periodic test alerts used for EAS and tornado sirens.”).

trustworthiness and effectiveness.”<sup>204</sup> We further believe harmonizing WEA and EAS test rules would simplify alerting authorities’ efforts to test and exercise their public alert and warning capability and allow EAS and WEA tests to be more closely and easily coordinated.

62. *Establishing a WEA Database for Availability Reporting.* We determine that the rules adopted today establishing a WEA Database and requiring CMS Providers to refresh their WEA participation election will equip alerting authorities with information they need to plan for reliable communications during disasters and raise their confidence in WEA. We agree with alerting authorities that the WEA Database will allow them to know both where WEA is and is not available within their alert and warning jurisdictions, allowing them to maximize the public safety value derived from other emergency communications tools.<sup>205</sup> Creating an aggregated account of the WEA capabilities of the mobile devices that Participating CMS Providers sell will also allow alerting authorities to understand the extent to which their communities will benefit from messages crafted to take advantage of modern WEA functionalities, such as a longer, 360-character version of an Alert Message, a Spanish-language version of an Alert Message, or clickable hyperlinks.<sup>206</sup> We also agree with T-Mobile that “this information will help the public and alert originators understanding which wireless providers support WEA, where the service is available, and what handsets can be obtained to reap the full benefits of WEA.”<sup>207</sup>

## 2. Costs

63. We estimate that the rules we adopt today could result in an industry-wide, one-time compliance cost of, at most, \$42.4 million to update the WEA standards and software necessary to comply with the rules adopted in this *Report and Order* and an annually recurring cost of \$422,500 for recordkeeping and reporting. In this *Report and Order*, we take appropriate steps to ensure that these costs are not unduly burdensome.<sup>208</sup> At the same time, as the Commission observed in the *2023 WEA FNPRM*, CMS Providers’ participation in WEA is voluntary.<sup>209</sup> Any Participating CMS Provider that does not wish to comply with the rules we adopt today may withdraw their election to participate in WEA without penalty, and incur no implementation costs as a result.<sup>210</sup>

64. Consistent with our prior estimates,<sup>211</sup> our one-time cost \$42.4 million to update the WEA standards and software necessary to comply with the proposals in the *Further Notice* includes

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<sup>204</sup> APCO Comment at 5.

<sup>205</sup> County of San Diego Comments at 5 (“The key information that should be made public or at least privately known by Alert Originators is the location data where WEAs (and other alerts) may not be received by consumers due to ‘dead spots’ or ‘outages’”); King County Comments at 4; Michigan State Police OMS Comments at 5-6; NYCEM Comments at 9 (“Having knowledge of WEA dead zones would allow for alerting authorities to prepare alternate ways to alert the population outside of the service area”); NOAA/NWS Reply at 2; NYS DHSES Comments at 2-3 (“Alerting authorities benefit from knowing which CMS providers support WEA, in which geographic areas, and for which mobile devices. This information is cumbersome for each alerting authority to gather, so having this available and up-to-date in one location would be a significant improvement over current practice”).

<sup>206</sup> See NYCEM Comments at 9.

<sup>207</sup> T-Mobile Comments at 12.

<sup>208</sup> See *infra* Appx. B, Section E Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities (Final Regulatory Flexibility Analysis, Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered).

<sup>209</sup> *2023 WEA FNPRM* at 46, para 96.

<sup>210</sup> See 47 U.S.C. § 1201(b)(2)(D), 47 U.S.C. § 1202(b)(2)(D).

<sup>211</sup> *2023 WEA FNPRM* at 43-44, para. 93 (in the *2023 WEA FNPRM*, the Commission estimated a \$39.9 million one-time cost, consisting of \$814,000 cost to update applicable WEA standards and a \$39.1 million cost to update applicable software, based on an earlier version of Employer Costs for Employee Compensation Summary published by the Bureau of Labor Statistics).

approximately a \$845,000 to update applicable WEA standards and approximately a \$41.5 million to update applicable software. We quantify the \$845,000 cost of modifying standards as the annual compensation for 30 network engineers compensated at the national average wage for their field (\$62.25/hour),<sup>212</sup> plus a 45% mark-up for benefits (\$28.01/hour)<sup>213</sup> working for the amount of time that it takes to develop a standard (one hour every other week for one year, 26 hours) for 12 distinct standards.<sup>214</sup> Our \$41.5 million cost estimate for software updates consists of \$12.2 million for software modifications and \$29.3 million for software testing.<sup>215</sup> The Commission quantified the cost of modifying software as the annual compensation for one software developer compensated at the national average wage for their field (\$132,930/year), plus a 45% mark-up for benefits (\$59,819/year), working for the amount of time that it takes to develop software (ten months) at each of the 76 CMS Providers that participate in WEA.<sup>216</sup> The Commission quantified the cost of testing these modifications (including integration testing, unit testing and failure testing) to require 12 software developers compensated at the national average for their field working for two months at each of the 76 CMS Providers that participate in WEA.<sup>217</sup> In quantifying costs for software development, the Commission has used the same framework since 2016 for changes to software ranging from expanding WEA's maximum character limit to enhanced geo-targeting.<sup>218</sup>

<sup>212</sup> See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-1241 Computer Network Architects*, <https://www.bls.gov/oes/current/oes151241.htm> (last visited Sept. 14, 2023) (stating that the mean hourly wage for a computer network architect is \$62.25/hour).

<sup>213</sup> According to the Bureau of Labor Statistics, as of June 2023, civilian wages and salaries averaged \$29.86/hour and benefits averaged \$13.39/hour. Total compensation therefore averaged \$29.86 + \$13.39, rounded to \$43.26. See Press Release, Bureau of Labor Statistics, *Employer Costs for Employee Compensation—June 2023* (Sept. 12, 2023), <https://www.bls.gov/news.release/pdf/eccc.pdf>. Using these figures, benefits constitute a markup of \$13.39/\$29.86 ~ 45% (*Compensation Benefit Markup*). We therefore markup wages by 45% to account for benefits. We calculate the benefit markup as follows:  $\$62.25 \times 45\% = \$28.01/\text{hour}$ .

<sup>214</sup> This is calculated as follows: 30 network engineers  $\times$  (\$62.25 + \$28.01) per hour per network engineer  $\times$  26 hours per standard  $\times$  12 standards = \$844,834. We round this figure to \$845,000 to avoid the false appearance of precision in our estimate. See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-1241 Computer Network Architect*, <https://www.bls.gov/oes/current/oes151241.htm> (last visited Sept. 14, 2023) (stating that the mean hourly wage for a computer network architect is \$62.25/hour); Letter from Tom Goode, General Counsel, ATIS, to Marlene Dortch, Secretary, FCC, PS Docket No. 15-91, at 1 (filed Sept. 6, 2016) (stating that, when standards need to be modified for WEA, it would be common practice for groups of approximately 30 individuals with relevant technical expertise meet approximately bi-weekly for an hour to discuss the modifications); *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Second Report and Order and Second Order on Reconsideration, 33 FCC Rcd 1320, 1344-45, para. 33, n.154 (2018) (listing the 12 WEA standards).

<sup>215</sup> We calculate the total costs to update the software as \$12.2 million + \$29.3 million = \$41.5 million.

<sup>216</sup> This is calculated as follows: (\$132,930 + \$59,819) annually per Participating CMS Provider  $\times$  10 months / 12 months per year  $\times$  76 Participating CMS Providers = \$12,207,437. See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-1252 Software Developers*, <https://www.bls.gov/oes/current/oes151252.htm>, (last visited Sept. 14, 2022) (stating that the mean annual wage for a software developer is \$132,930/year); Verizon, PS Docket No. 15-91, Comments, PS Docket No. 15-91, at 5 (Jan. 13, 2016) (stating that it takes manufacturers and vendors 12 months to incorporate WEA standards into their products and test them); FCC, Master WEA Registry, [https://www.fcc.gov/sites/default/files/wea\\_masterregistry112019.xls](https://www.fcc.gov/sites/default/files/wea_masterregistry112019.xls) (last visited Aug. 19, 2022) (reflecting that 76 CMS Providers participate in WEA either in whole or in part).

<sup>217</sup> This is calculated as follows: 12 software developers  $\times$  (\$132,930 + \$59,819) annually per Participating CMS Provider  $\times$  2 months / 12 months per year  $\times$  76 Participating CMS Providers = \$ 29,297,848. *Id.*

<sup>218</sup> See *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Report and Order and Further Notice or Proposed Rulemaking, 31 FCC 11112, 11168-81 paras. 96-103 (2016) ("According to ATIS, when standards

(continued...)

Because the Commission received no comment to the aforementioned costs framework that specifies a different analytical framework or dollar figure estimate, we find that it remains accurate to describe the costs attendant to the rules the Commission proposed. Because we do not adopt all the rules the Commission proposed in the *2023 WEA FNPRM*, we believe the rules we adopt today will cost less than what was proposed in the *2023 WEA FNPRM*, but do not quantify how much less here.

65. We determine that costs associated with our adopted rules related to WEA availability reporting to be relatively low for Participating CMS Providers that participate in WEA in whole or that otherwise offer WEA in the entirety of their geographic service area because such Participating CMS Providers have already provided the Commission with the geospatial data needed to fulfill a significant aspect of their reporting obligation in furtherance of their obligations to support the Commission's Broadband Data Collection.<sup>219</sup> We agree with T-Mobile that "[w]here WEA is available throughout a wireless provider's network, the GIS files used for the biannual Broadband Data Collection should serve this purpose. If a wireless provider does not offer WEA throughout its network, it should be allowed to submit a different GIS depicting WEA coverage."<sup>220</sup> We determine that in the Supporting Document of Study Area Boundary Data Reporting in Esri Shapefile Format, the Office of Information and Regulatory Affairs estimates that it takes an average of 26 hours for a data scientist to modify a shapefile.<sup>221</sup> We believe submitting WEA availability information in geospatial data format should require no more time than modifying a shapefile. Therefore, we believe 26 hours would be an upper bound of the time required for a Participating CMS Provider to report its WEA availability in geospatial data format. Given that the average wage rate is \$55.40/hour for data scientists,<sup>222</sup> with a 45% markup for benefits,<sup>223</sup> we arrive at \$780.33 as the hourly compensation rate for a data scientist. We estimate an aggregate cost of WEA availability reporting to be approximately \$160,000 ( $\approx \$80.33 \text{ per hour} \times 26 \text{ hours} \times 76 \text{ providers} = \$158,732$ , rounded to \$160,000),<sup>224</sup> which may be recurring on an annual basis since availability may change and need to be updated over time. Within these 26 hours, we believe that Participating CMS Providers will also be able to provide the availability information required by the rules adopted today, including lists of all the mobile devices the Participating CMS Provider offers at the point of sale, list of the Participating CMS Provider's DBAs and subsidiaries, and any changes of WEA service. Many

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need to be modified for WEA, it would be common practice for groups of approximately 30 individuals with relevant technical expertise meet approximately bi-weekly for an hour to discuss the modifications. Commenters assert that these standards-setting processes can be completed within 12 months, or 26 bi-weekly, one-hour meetings."); *see also Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Second Report and Order and Second Order on Reconsideration, 33 FCC Rcd 1320, 1344-45, para. 33 (2018) ("We received no objections to this approach in the record.").

<sup>219</sup> *See generally, Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195 and 11-10, Report and Order and Second Further Notice of Proposed Rulemaking (2019) (discussing costs of requiring submission of broadband coverage maps (polygons) from fixed providers).

<sup>220</sup> T-Mobile Comment at 12-13.

<sup>221</sup> *See* Office of Information and Regulatory Affairs, Office of Management and Budget Executive Office of the President, 2022 Study Area Boundary Data Reporting in Esri Shapefile Format DA 12-1777 and DA 13-282, Supporting Statement - OMB Control No. 3060-1181, at 5, para. 12 (Feb. 15, 2022), [https://www.reginfo.gov/public/do/PRAViewDocument?ref\\_nbr=202202-3060-009](https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202202-3060-009).

<sup>222</sup> *See* Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-2051 Data Scientists*, <https://www.bls.gov/oes/current/oes152051.htm> (last visited Sept. 14, 2023) (stating that the mean hourly wage for a data scientist is \$55.40/hour).

<sup>223</sup> *See Compensation Benefit Mark-up*.

<sup>224</sup> *2023 WEA FNPRM* at 44-45, para. 94 (in the *2023 WEA FNPRM*, the Commission estimated a \$139,000 recurring cost based on an earlier version of Employer Costs for Employee Compensation Summary published by the Bureau of Labor Statistics).

Participating CMS Providers already create and maintain this information, and therefore, we believe that providing this information to the WEA Database would require minimal time burdens and would be within the cost estimates.

66. No commenter objected to our belief that CMS Providers would not incur any cost to comply with our proposal to allow alerting authorities to conduct two public awareness tests per year. Based on the foregoing analysis, we find it reasonable to expect that these improvements will result in lives saved, injuries avoided, and a reduced need to deploy first responders. We conclude that the expected public safety benefits exceed the costs imposed by the rules adopted today.

#### IV. PROCEDURAL MATTERS

67. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA)<sup>225</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>226</sup> Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the potential impact of the rule and policy changes adopted and proposed in the *Third Report and Order*, on small entities. The FRFA is set forth in Appendix B. We have also prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning the potential impact of rule and policy change proposals on small entities in the *Fourth Notice of Proposed Rulemaking*. The IRFA is set forth in Appendix C.

68. *Paperwork Reduction Act Analysis.* This document contains new or modified information collection requirements. They will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the Paperwork Reduction Act of 1995 (PRA).<sup>227</sup> OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. § 3506(c)(4), we previously sought, but did not receive, specific comment on how the Commission might “further reduce the information collection burden for small business concerns with fewer than 25 employees.”<sup>228</sup> The Commission does not believe that the new or modified information collection requirements we adopt here will be unduly burdensome on small businesses.

69. *Congressional Review Act.* [The Commission will submit this draft Third Report and Order to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, for concurrence as to whether this rule is “major” or “non-major” under the Congressional Review Act, 5 U.S.C. § 804(2).] The Commission will send a copy of this *Third Report and Order* to Congress and the Government Accountability Office pursuant 5 U.S.C. § 801(a)(1)(A).

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

71. *Additional Information.* For additional information on this proceeding, contact Michael Antonino, Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau (202) 418-7965, or by email to [Michael.Antonino@fcc.gov](mailto:Michael.Antonino@fcc.gov).

#### V. ORDERING CLAUSES

72. ACCORDINGLY IT IS ORDERED, pursuant to the authority contained in Sections 1, 2,

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<sup>225</sup> 5 U.S.C. §§ 601–612. The RFA 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>226</sup> 5 U.S.C. § 605(b).

<sup>227</sup> 44 U.S.C. § 3507(d).

<sup>228</sup> See 44 U.S.C. 3506(c)(4).

4(i), 4(n), 301, 303(b), 303(e), 303(g), 303(j), 303(r), 307, 309, 316, 403, and 706 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 154(n), 301, 303(b), 303(e), 303(g), 303(j), 303(r), 307, 309, 403, and 606, as well as by sections 602(a), (b), (c), (f), 603, 604 and 606 of the Warning Alert and Response Network (WARN) Act, 47 U.S.C. §§ 1201(a), (b), (c), (f), 1203, 1204 and 1206, that this *Third Report and Order* IS hereby ADOPTED.

73. IT IS FURTHER ORDERED that Part 10 of the Commission's rules IS AMENDED as specified in Appendix A, and such rules WILL BECOME EFFECTIVE thirty-six (36) months after publication of this *Third Report and Order* in the Federal Register, changes to 47 CFR §§ 10.210 and 10.350, which may contain new or modified information collection requirements, and will not become effective until the completion of any review by the Office of Management and Budget under the Paperwork Reduction Act that the Public Safety and Homeland Security Bureau (PSHSB) determines is necessary, and changes to 47 CFR §§ 10.480 and 10.500(e), which are the subject of a further Bureau-level rulemaking, and will not become effective until thirty (30) months after the Bureau publishes a subsequent Order in the Federal Register. PSHSB will publish a notice in the Federal Register announcing the relevant effective date for each of these sections.<sup>229</sup>

74. IT IS FURTHER ORDERED that the Office of the Secretary, Reference Information Center, SHALL SEND a copy of this *Third Report and Order* and *Fourth Further Notice of Proposed Rulemaking*, including the Final and Initial Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration.

75. IT IS FURTHER ORDERED that the Office of the Managing Director, Performance & Program Management, SHALL SEND a copy of this *Third Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

<sup>229</sup> Pub. L. No. 104-13, 109 Stat. 163 (May 22, 1995), *codified at* 44 U.S.C. §§ 3501 *et seq.*

**APPENDIX A****Final Rules**

For the reasons discussed above, Part 10 of Title 47 of the Code of Federal Regulations is amended as follows:

**PART 10 – WIRELESS EMERGENCY ALERTS**

1. The authority citation for part 10 is revised to read as follows:

Authority: 47 U.S.C §§ 151, 152, 154(i), 154(n), 201, 301, 303(b), 303(e), 303(g), 303(j), 303(r), 307, 309, 316, 403, 544(g), 606, 1201, 1202, 1203, 1204, and 1206.

\* \* \* \* \*

2. Delayed indefinitely, amend § 10.210 by revising paragraph (a) introductory text, redesignating current paragraph (b) as paragraph (d), removing current paragraph (c), and adding new paragraphs (b) and (c), and revising the redesignated paragraph (d) to read as follows:

**§ 10.210 WEA participation election procedures.**

(a) A CMS provider that elects to transmit WEA Alert Messages must elect to participate in part or in whole, as defined by § 10.10(l) and (m), and shall electronically file in the Commission's WEA Database attesting that the Provider:

\* \* \*

(b) A CMS Provider that elects to participate in WEA must disclose the following information in their election filed in the Commission's WEA Database:

(1) The entities on behalf of which the Participating CMS Provider files its election, including the subsidiary companies (whether those subsidiaries are wholly owned or operated CMS Providers, Mobile Virtual Network Operators, or wireless resellers) on behalf of which their election is filed and the "doing business as" names under which a Participating CMS Provider offers WEA;

(2) The geographic area in which the Participating CMS Provider agrees to offer WEA alerts, either as:

(i) an attestation that they offer WEA in the entirety of their voice coverage area as reported to the Commission in the Broadband Data Collection or any successors; or

(ii) geospatial data submitted to the Commission through the WEA Database

(3) The extent to which all mobile devices that the Participating CMS Provider offers at the point of sale are WEA-capable, as demonstrated by the following:

(i) the mobile devices, as defined in § 10.10(j), that the Participating CMS Provider offers at their point of sale; and

(ii) the WEA-capable mobile devices, as defined in § 10.10(k), that the Participating CMS Provider offers at their point of sale.

(c) If the terms of a CMS Provider's WEA participation change in any manner described by paragraph (b) of this section, it must update the information within 30 days such that the information in the WEA Database accurately reflects the terms of their WEA participation.

(d) A CMS Provider that elects not to transmit WEA Alert Messages shall file electronically in the Commission's WEA Database attesting to that fact. Their filing shall include any subsidiary companies



on behalf of which the election is filed and the CMS Provider’s “doing business as” names, if applicable.

\* \* \* \* \*

3. Delayed indefinitely, amend § 10.350 by adding new paragraph (d) to read as follows:

**§ 10.350 WEA testing and proficiency training requirements.**

\* \* \* \* \*

(d) *Performance and Public Awareness Tests.* Participating CMS Providers may participate in no more than two (2) WEA tests per county (or county equivalent), per calendar year that the public receives by default, provided that the entity conducting the test:

- (i) Conducts outreach and notifies the public before the test that live event codes will be used, but that no emergency is, in fact, occurring;
- (ii) To the extent technically feasible, states in the test message that the event is only a test;
- (iii) Coordinates the test among Participating CMS Providers and with state and local emergency authorities, the relevant SECC (or SECCs, if the test could affect multiple states), and first responder organizations, such as PSAPs, police, and fire agencies); and
- (iv) Provides in widely accessible formats the notification to the public required by this paragraph that the test is only a test and is not a warning about an actual emergency.

\* \* \* \* \*

4. Delayed indefinitely, amend § 10.480 by designating the introductory text as paragraph (a), revising paragraph (a), and adding paragraph (b) to read as follows:

**§ 10.480 Language support.**

- (a) Participating CMS Providers are required to transmit WEA Alert Messages that are issued in the Spanish language or that contain Spanish-language characters.
- (b) Participating CMS Providers are required to support the display of a pre-scripted alert pre-installed and stored in the mobile device that corresponds to the default language of the mobile device.

\* \* \* \* \*

5. Delayed indefinitely, amend § 10.500 by revising paragraph (e) to read as follows:

**§ 10.500 General requirements.**

\* \* \* \* \*

- (e) Extraction of alert content in English and the subscriber-specified default language, if applicable.
  - (1) Storing pre-scripted alerts in English, Spanish, Chinese, Tagalog, Vietnamese, Arabic, French, Korean, Russian, Haitian Creole, German, Hindi, Portuguese, and Italian.
  - (2) Allowing the subscriber to choose to receive pre-scripted Alert Messages in American Sign Language (ASL) instead of or in addition to their mobile device’s subscriber-specified default language setting.

\* \* \* \* \*

6. Amend § 10.500 by revising paragraph (i) to read as follows:

**§ 10.500 General requirements.**

\* \* \* \* \*

(i) For Alert Messages with a target area specified by a circle or polygon, when a device has location services enabled and has granted location permissions to its native mapping application, Participating CMS Providers must support the presentation of a map along with an emergency alert message that includes at least

- (1) the shape of the target area,
- (2) the user's location relative to the target area, and
- (3) a geographical representation of a target area in which both the targeted area and user are located.

\* \* \* \* \*

## APPENDIX B

### Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA)<sup>1</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Wireless Emergency Alerts, Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System, Further Notice of Proposed Rulemaking (2023 WEA FNPRM)* released in April 2023.<sup>2</sup> The Commission sought written public comments on the proposals in the *2023 WEA FNPRM*, including comments on the IRFA. Three commenters specifically addressed the IRFA and we address those comments below in Section B. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>3</sup>

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

2. In this *Third Report and Order*, the Commission adopts rules to empower alert originators to enhance the utility of Wireless Emergency Alerts (WEA) as an alerting tool, making WEA more accessible and enabling WEA to provide more personalized alerts. Specifically, we require Participating Commercial Mobile Service Providers (Participating CMS Providers) to enable alerting authorities to display translated Alert Message content via the use of emergency alert message templates. In addition, our efforts to make WEA messages more accessibility extend to the deaf and hard of hearing community pursuant to our requirement that Participating CMS Providers' WEA-capable mobile devices support templates in American Sign Language (ASL). We conclude that enabling the display of translated Alert Message content via the use of emergency alert message templates will allow alert originators to inform those communities that primarily speak a language other than English or Spanish of emergencies and save more lives. The Commission also adopts rules to require Participating CMS Providers' WEA-capable mobile devices to support the presentation of WEA messages that link the recipient to a native mapping application. This requirement will allow alert originators to personalize alerts, spurring people to take protective action more quickly and to understand whether an alert applies to their them. Further, to allow alerting authorities to understand WEA's reliability, speed, and accuracy and to promote the use of WEA as a tool for raising public awareness about emergencies likely to occur, we require Participating CMS Providers to support up to two end-to-end WEA tests, per county or county equivalent, per year, that consumers receive by default, subject to the conditions described in the *Third Report and Order*. Our adoption of this rule promotes compliance and presents a minimal burden for Participating CMS Providers.<sup>4</sup> Finally, the Commission adopts rules to require Participating CMS Providers to submit certain information in the WEA Database. Requiring the disclosure of data outlined in the *Third Report and Order* will allow alert originators and consumers more insight into WEA's availability and enable a transparent understanding of WEA.

3. In light of the significant public safety benefits, which include the capacity to save lives, mitigate and prevent injuries, the Commission believes that the actions taken in the *Third Report and Order* further the public interest.

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

4. Three commenters specifically addressed the proposed rules and policies presented in the IRFA. The Competitive Carriers Association (CCA) argued that flexibility of implementing the adopted

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<sup>1</sup> 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See *Wireless Emergency Alerts, Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System, Further Notice of Proposed Rulemaking*, PS Docket No. 15-91, 15-94, Further Notice of Proposed Rulemaking, FCC 23-30, Appx. B., Initial Regulatory Flexibility Analysis (Apr. 21, 2023) (*2023 WEA FNPRM*).

<sup>3</sup> 5 U.S.C. § 604.

<sup>4</sup> See ATIS Comments at 21; see also USGS Comments at 6. No commenter objects to this proposal.

rules would promote participation in WEA by smaller and regional carriers.<sup>5</sup> CCA also argued that the “supply chain and level of support for handsets for smaller and regional carriers generally lags behind the nationwide carriers, and this should also be a consideration.”<sup>6</sup> Further, CCA stated the additional requirements would disproportionately burden smaller and regional carriers because of the raised difficulty and costs to administer WEA, and because the cumulative costs of complying with the FCC’s other requirements and proposals more broadly, including within public safety, burdens small teams and limited resources of many smaller carriers.<sup>7</sup> In addition, CCA commented, “many smaller and rural carriers face challenges in prioritizing personnel and similar technical resources, accessing vendor assistance and support, scheduling and funding projects, accessing mobile devices with the latest functionalities, etc.,” and suggests increased time for compliance for non-nationwide carriers.<sup>8</sup>

5. Southern Communications Services, Inc. d/b/a Southern Linc (Southern Linc) raised concerns similar to those raised by CCA, namely, that the Commission should account for the disproportionate impact that the proposed requirements in the *2023 WEA FNPRM* would have on smaller and regional carriers and the Commission should provide small and medium-sized mobile service providers additional time to comply.<sup>9</sup>

6. CTIA – The Wireless Association (CTIA) argued that to the extent the proposals made in the *2023 WEA FNPRM* would require a complete overhaul of the WEA System, that “[s]ubstantial changes to the WEA system also may disproportionately impact regional and smaller, rural carriers, who often rely on third-party vendors to implement WEA functions and may not be able to bear the additional technical and financial burdens, rendering their ongoing voluntary participation in WEA infeasible.”<sup>10</sup>

7. The Commission considered the potential impact of the rules proposed in the IRFA on small entities and we concluded that these mandates provide Participating CMS Providers with a sufficient measure of flexibility to account for any technical and/or cost-related concerns. We have determined that implementing these improvements to WEA are technically feasible for small entities and other Participating CMS Providers and the cost of implementation is reasonable. To help facilitate compliance with the requirements in the *Third Report and Order*, we adopted a compliance timeframe that is longer than the timeframe necessary to complete the requirements based on the record.<sup>11</sup> Our adopted timeframe is also longer than the compliance timeframes for previously adopted rules for WEA which should help facilitate compliance by smaller providers. We believe that the public interest benefits of expanding the reach and accessibility of WEA significantly outweigh the costs that small and other

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<sup>5</sup> Competitive Carriers Association, Comments, PS Docket Nos. 15-91 and 15-94, at 7, (rec. Jul. 21, 2023) (CCA Comments).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.* at 10.

<sup>8</sup> *Id.* at 12.

<sup>9</sup> Southern Communications Services, Inc. d/b/a Southern Linc, Reply, PS Docket Nos. 15-91 and 15-94, at 6-8, (rec. Aug. 21, 2023) (“Southern Linc Reply”).

<sup>10</sup> CTIA, Comments, PS Docket Nos. 15-91 and 15-94, at 10, (rec. Jul 21, 2023) (“CTIA Comments”).

<sup>11</sup> The requirement for compliance within 30 months of the publication of the Bureau’s Order in the *Federal Register* is based the record-supported analysis the Commission has previously relied upon. See *Wireless Emergency Alerts Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 11112, 11161-62, para. 79 (2016). The 30-month timeframe allows 12 months for the appropriate industry bodies to finalize and publish relevant standards, 12 months for Participating CMS Providers and device manufacturers to develop and integrate software upgrades consistent with those standards, and an additional 6 months to deploy this technology in WEA-capable-mobile devices.

providers will incur to implement the requirements adopted in the *Third Report and Order*.

**C. Response to Comments by Chief Counsel for Advocacy of the Small Business Administration**

8. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

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

9. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein.<sup>12</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>13</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>14</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>15</sup>

10. *Small Businesses, Small Organizations, 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>16</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 Small Business Administration’s (SBA) Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.<sup>17</sup> These types of small businesses represent 99.9% of all businesses in the United States, which translates to 32.5 million businesses.<sup>18</sup>

11. 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>19</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>20</sup> Nationwide, for tax year 2020, there

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<sup>12</sup> 5 U.S.C. § 604(a)(4).

<sup>13</sup> 5 U.S.C. § 601(6).

<sup>14</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>15</sup> 15 U.S.C. § 632.

<sup>16</sup> See 5 U.S.C. § 601(3)-(6).

<sup>17</sup> See SBA, Office of Advocacy, Frequently Asked Questions, “What is a small business?,” <https://cdn.advocacy.sba.gov/wp-content/uploads/2021/11/03093005/Small-Business-FAQ-2021.pdf>. (Nov 2021).

<sup>18</sup> *Id.*

<sup>19</sup> See 5 U.S.C. § 601(4).

<sup>20</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.

were approximately 447,689 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>21</sup>

12. 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>22</sup> U.S. Census Bureau data from the 2017 Census of Governments<sup>23</sup> indicate that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.<sup>24</sup> Of this number there were 36,931 general purpose governments (county<sup>25</sup>, municipal and town or township<sup>26</sup>) with populations of less than 50,000 and 12,040 special purpose governments - independent school districts<sup>27</sup> with enrollment populations of less than 50,000.<sup>28</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>29</sup>

13. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide

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<sup>21</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 Exempt Organization Business Master File (EO BMF) Extract 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 businesses for the tax year 2020 with revenue less than or equal to \$50,000, for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) which includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

<sup>22</sup> See 5 U.S.C. § 601(5).

<sup>23</sup> See 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7”. See also Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

<sup>24</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 tbl.2. CG1700ORG02 Table Notes\_Local Governments by Type and State\_2017.

<sup>25</sup> See *id.* at tbl.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>26</sup> See *id.* at tbl.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>27</sup> See *id.* at tbl.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 tbl.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>28</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>29</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 tbls.5, 6 & 10.

communications via the airwaves.<sup>30</sup> Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.<sup>31</sup> The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>32</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.<sup>33</sup> Of that number, 2,837 firms employed fewer than 250 employees.<sup>34</sup> Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services.<sup>35</sup> Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees.<sup>36</sup> Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

14. *Broadband Personal Communications Service.* The broadband personal communications services (PCS) spectrum encompasses services in the 1850-1910 and 1930-1990 MHz bands.<sup>37</sup> The closest industry with a SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (except Satellite).<sup>38</sup> The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>39</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>40</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>41</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

15. Based on Commission data as of November 2021, there were approximately 5,060 active licenses in the Broadband PCS service.<sup>42</sup> The Commission's small business size standards with respect to

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<sup>30</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (except Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>31</sup> *Id.*

<sup>32</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>33</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>34</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>35</sup> Federal-State Joint Board on Universal Service, *Universal Service Monitoring Report at 26, Table 1.12 (2021)*, <https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf>.

<sup>36</sup> *Id.*

<sup>37</sup> See 47 CFR § 24.200.

<sup>38</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (except Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>39</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>40</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>41</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>42</sup> Based on a FCC Universal Licensing System search on November 16, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = CW; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

Broadband PCS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. In auctions for these licenses, the Commission defined “small business” as an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding \$40 million for the preceding three years, and a “very small business” as an entity that, together with its affiliates and controlling interests, has had average annual gross revenues not exceeding \$15 million for the preceding three years.<sup>43</sup> Winning bidders claiming small business credits won Broadband PCS licenses in C, D, E, and F Blocks.<sup>44</sup>

16. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA’s small business size standard.

17. *Narrowband Personal Communications Services.* Narrowband Personal Communications Services (*Narrowband PCS*) are PCS services operating in the 901-902 MHz, 930-931 MHz, and 940-941 MHz bands.<sup>45</sup> PCS services are radio communications that encompass mobile and ancillary fixed communication that provide services to individuals and businesses and can be integrated with a variety of competing networks.<sup>46</sup> Wireless Telecommunications Carriers (*except Satellite*)<sup>47</sup> is the closest industry with a SBA small business size standard applicable to these services. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>48</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>49</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>50</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

18. According to Commission data as of December 2021, there were approximately 4,211 active *Narrowband PCS* licenses.<sup>51</sup> The Commission’s small business size standards with respect to *Narrowband PCS* involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of these licenses, the Commission defined a “small business”

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<sup>43</sup> See 47 CFR § 24.720(b).

<sup>44</sup> See Federal Communications Commission, Office of Economics and Analytics, Auctions, Auctions 4, 5, 10, 11, 22, 35, 58, 71 and 78, <https://www.fcc.gov/auctions>.

<sup>45</sup> See 47 CFR § 24.5.

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

<sup>47</sup> See U.S. Census Bureau, 2017 NAICS Definition, “517312 Wireless Telecommunications Carriers (*except Satellite*),” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>48</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>49</sup> See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePrevious=false>.

<sup>50</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>51</sup> Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, “Match only the following radio service(s)”, Radio Service = CN; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.



as an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$40 million.<sup>52</sup> A “very small business” is defined as an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$15 million.<sup>53</sup> Pursuant to these definitions, 7 winning bidders claiming small and very small bidding credits won approximately 359 licenses.<sup>54</sup> One of the winning bidders claiming a small business status classification in these *Narrowband PCS* license auctions had an active license as of December 2021.<sup>55</sup>

19. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA’s small business size standard.

20. *Wireless Communications Services.* Wireless Communications Services (WCS) can be used for a variety of fixed, mobile, radiolocation, and digital audio broadcasting satellite services. Wireless spectrum is made available and licensed for the provision of wireless communications services in several frequency bands subject to Part 27 of the Commission’s rules.<sup>56</sup> Wireless Telecommunications Carriers (*except Satellite*)<sup>57</sup> is the closest industry with a SBA small business size standard applicable to these services. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>58</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>59</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>60</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

21. The Commission’s small business size standards with respect to WCS involve eligibility

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<sup>52</sup> See 47 CFR § 24.321(a)(1)-(2).

<sup>53</sup> *Id.*

<sup>54</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 41: Narrowband PCS, Summary, Closing Charts, License By Bidder,

<https://www.fcc.gov/sites/default/files/wireless/auctions/41/charts/41cls2.pdf>; Auction 50: Narrowband PCS, Summary, Closing Charts, License By Bidder,

<https://www.fcc.gov/sites/default/files/wireless/auctions/50/charts/50cls2.pdf>.

<sup>55</sup> Based on a FCC Universal Licensing System search on December 10, 2021,

<https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, “Match only the following radio service(s)”, Radio Service = CN; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>56</sup> See 47 CFR §§ 27.1 – 27.1607.

<sup>57</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “517312 Wireless Telecommunications Carriers (*except Satellite*)”, <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>58</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>59</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.:* 2017, Table ID: EC1700SIZEEMPfirm, NAICS Code 517312,

<https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePrevious=false>.

<sup>60</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.

for bidding credits and installment payments in the auction of licenses for the various frequency bands included in WCS. When bidding credits are adopted for the auction of licenses in WCS frequency bands, such credits may be available to several types of small businesses based average gross revenues (small, very small and entrepreneur) pursuant to the competitive bidding rules adopted in conjunction with the requirements for the auction and/or as identified in the designated entities section in Part 27 of the Commission's rules for the specific WCS frequency bands.<sup>61</sup>

22. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

23. *700 MHz Guard Band Licensees.* The 700 MHz Guard Band encompasses spectrum in 746-747/776-777 MHz and 762-764/792-794 MHz frequency bands. Wireless Telecommunications Carriers (*except* Satellite)<sup>62</sup> is the closest industry with a SBA small business size standard applicable to licenses providing services in these bands. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>63</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>64</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>65</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

24. According to Commission data as of December 2021, there were approximately 224 active 700 MHz Guard Band licenses.<sup>66</sup> The Commission's small business size standards with respect to 700 MHz Guard Band licensees involve eligibility for bidding credits and installment payments in the auction of licenses. For the auction of these licenses, the Commission defined a "small business" as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years, and a "very small business" an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years.<sup>67</sup> Pursuant to these definitions, five winning bidders claiming one of the small business status classifications won 26 licenses, and one winning bidder claiming small business won two

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<sup>61</sup> See 47 CFR §§ 27.201 – 27.1601. The Designated entities sections in Subparts D – Q each contain the small business size standards adopted for the auction of the frequency band covered by that subpart.

<sup>62</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (*except* Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>63</sup> See 13 CFR § 121.201, NAICS Code 517911517312 (as of 10/1/22, NAICS Code 517121517112).

<sup>64</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>65</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>66</sup> Based on a FCC Universal Licensing System search on December 14, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = WX; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>67</sup> See 47 CFR § 27.502(a).

licenses.<sup>68</sup> None of the winning bidders claiming a small business status classification in these 700 MHz Guard Band license auctions had an active license as of December 2021.<sup>69</sup>

25. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

26. *Lower 700 MHz Band Licenses.* The lower 700 MHz band encompasses spectrum in the 698-746 MHz frequency bands. Permissible operations in these bands include flexible fixed, mobile, and broadcast uses, including mobile and other digital new broadcast operation; fixed and mobile wireless commercial services (including FDD- and TDD-based services); as well as fixed and mobile wireless uses for private, internal radio needs, two-way interactive, cellular, and mobile television broadcasting services.<sup>70</sup> Wireless Telecommunications Carriers (*except* Satellite)<sup>71</sup> is the closest industry with a SBA small business size standard applicable to licenses providing services in these bands. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>72</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>73</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>74</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

27. According to Commission data as of December 2021, there were approximately 2,824 active Lower 700 MHz Band licenses.<sup>75</sup> The Commission's small business size standards with respect to

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<sup>68</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 33: Upper 700 MHz Guard Bands, Summary, Closing Charts, Licenses by Bidder, <https://www.fcc.gov/sites/default/files/wireless/auctions/33/charts/33cls2.pdf>, Auction 38: Upper 700 MHz Guard Bands, Summary, Closing Charts, Licenses by Bidder, <https://www.fcc.gov/sites/default/files/wireless/auctions/38/charts/38cls2.pdf>.

<sup>69</sup> Based on a FCC Universal Licensing System search on December 14, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = WX; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>70</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auctions 44, 49, 60: Lower 700 MHz Band, Fact Sheet, Permissible Operations, <https://www.fcc.gov/auction/44/factsheet>, <https://www.fcc.gov/auction/49/factsheet>, <https://www.fcc.gov/auction/60/factsheet>.

<sup>71</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (*except* Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>72</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>73</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>74</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>75</sup> Based on a FCC Universal Licensing System search on December 14, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = WY, WZ; Authorization Type = All; Status = Active. We note

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Lower 700 MHz Band licensees involve eligibility for bidding credits and installment payments in the auction of licenses. For auctions of Lower 700 MHz Band licenses the Commission adopted criteria for three groups of small businesses. A very small business was defined as an entity that, together with its affiliates and controlling interests, has average annual gross revenues not exceeding \$15 million for the preceding three years, a small business was defined as an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding \$40 million for the preceding three years, and an entrepreneur was defined as an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding \$3 million for the preceding three years.<sup>76</sup> In auctions for Lower 700 MHz Band licenses seventy-two winning bidders claiming a small business classification won 329 licenses,<sup>77</sup> twenty-six winning bidders claiming a small business classification won 214 licenses,<sup>78</sup> and three winning bidders claiming a small business classification won all five auctioned licenses.<sup>79</sup>

28. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

29. *Upper 700 MHz Band Licenses.* The upper 700 MHz band encompasses spectrum in the 746-806 MHz bands. Upper 700 MHz D Block licenses are nationwide licenses associated with the 758-763 MHz and 788-793 MHz bands.<sup>80</sup> Permissible operations in these bands include flexible fixed, mobile, and broadcast uses, including mobile and other digital new broadcast operation; fixed and mobile wireless commercial services (including FDD- and TDD-based services); as well as fixed and mobile wireless uses for private, internal radio needs, two-way interactive, cellular, and mobile television broadcasting services.<sup>81</sup> Wireless Telecommunications Carriers (*except* Satellite)<sup>82</sup> is the closest industry with a SBA small business size standard applicable to licenses providing services in these bands. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>83</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this

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that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>76</sup> See 47 CFR § 27.702(a)(1)-(3).

<sup>77</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 44: Lower 700 MHz Guard Bands, Summary, Closing Charts, Licenses by Bidder, <https://www.fcc.gov/sites/default/files/wireless/auctions/44/charts/44cls2.pdf>.

<sup>78</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 49: Lower 700 MHz Guard Bands, Summary, Closing Charts, Licenses by Bidder, <https://www.fcc.gov/sites/default/files/wireless/auctions/49/charts/49cls2.pdf>.

<sup>79</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 60: Lower 700 MHz Guard Bands, Summary, Closing Charts, Licenses by Bidder, <https://www.fcc.gov/sites/default/files/wireless/auctions/60/charts/60cls2.pdf>.

<sup>80</sup> See 47 CFR § 27.4.

<sup>81</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 73: 700 MHz Band, Fact Sheet, Permissible Operations, <https://www.fcc.gov/auction/73/factsheet>. We note that in Auction 73, Upper 700 MHz Band C and D Blocks as well as Lower 700 MHz Band A, B, and E Blocks were auctioned.

<sup>82</sup> See U.S. Census Bureau, 2017 NAICS Definition, "517312 Wireless Telecommunications Carriers (*except* Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>83</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

industry for the entire year.<sup>84</sup> Of that number, 2,837 firms employed fewer than 250 employees.<sup>85</sup> Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

30. According to Commission data as of December 2021, there were approximately 152 active Upper 700 MHz Band licenses.<sup>86</sup> The Commission's small business size standards with respect to Upper 700 MHz Band licensees involve eligibility for bidding credits and installment payments in the auction of licenses. For the auction of these licenses, the Commission defined a "small business" as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years, and a "very small business" an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years.<sup>87</sup> Pursuant to these definitions, three winning bidders claiming very small business status won five of the twelve available licenses.<sup>88</sup>

31. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

32. *Advanced Wireless Services (AWS) - (1710–1755 MHz and 2110–2155 MHz bands (AWS-1); 1915–1920 MHz, 1995–2000 MHz, 2020–2025 MHz and 2175–2180 MHz bands (AWS-2); 2155–2175 MHz band (AWS-3); 2000-2020 MHz and 2180-2200 MHz (AWS-4)).* Spectrum is made available and licensed in these bands for the provision of various wireless communications services.<sup>89</sup> Wireless Telecommunications Carriers (*except* Satellite)<sup>90</sup> is the closest industry with a SBA small business size standard applicable to these services. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>91</sup> U.S. Census Bureau data for

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<sup>84</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>85</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>86</sup> Based on a FCC Universal Licensing System search on December 14, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = WP, WU; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>87</sup> See 47 CFR § 27.502(a).

<sup>88</sup> See *Auction of 700 MHz Band Licenses Closes; Winning Bidders Announced for Auction 73*, Public Notice, DA-08-595, Attachment A, Report No. AUC-08-73-I (Auction 73) (March 20, 2008). The results for Upper 700 MHz Band C Block can be found on pp. 62-63.

<sup>89</sup> See 47 CFR § 27.1(b).

<sup>90</sup> See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (*except* Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>91</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>92</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>93</sup> Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

33. According to Commission data as December 2021, there were approximately 4,472 active AWS licenses.<sup>94</sup> The Commission's small business size standards with respect to AWS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of AWS licenses, the Commission defined a "small business" as an entity with average annual gross revenues for the preceding three years not exceeding \$40 million, and a "very small business" as an entity with average annual gross revenues for the preceding three years not exceeding \$15 million.<sup>95</sup> Pursuant to these definitions, 57 winning bidders claiming status as small or very small businesses won 215 of 1,087 licenses.<sup>96</sup> In the most recent auction of AWS licenses 15 of 37 bidders qualifying for status as small or very small businesses won licenses.<sup>97</sup>

34. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

35. *Broadband Radio Service and Educational Broadband Service.* Broadband Radio Service systems, previously referred to as Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) systems, and "wireless cable,"<sup>98</sup> transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service (ITFS)).<sup>99</sup> Wireless cable operators that use spectrum in the BRS

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<sup>92</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>93</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>94</sup> Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = AD, AH, AT, AW; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>95</sup> See 47 CFR §§ 27.1002, 27.1102, 27.1104, 27.1106.

<sup>96</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 66: Advanced Wireless Services (AWS-1), Summary, Spreadsheets, <https://www.fcc.gov/sites/default/files/wireless/auctions/66/charts/66cls2.pdf>.

<sup>97</sup> See *Auction of Advanced Wireless Services (AWS-3) Licenses Closes; Winning Bidders Announced for Auction 97*, Public Notice, DA-15-131, Attachments A-B, (Auction No. 97) (January 30, 2015).

<sup>98</sup> The use of the term "wireless cable" does not imply that it constitutes cable television for statutory or regulatory purposes.

<sup>99</sup> See 47 CFR § 27.4; see also *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and*

(continued....)

often supplemented with leased channels from the EBS, provide a competitive alternative to wired cable and other multichannel video programming distributors. Wireless cable programming to subscribers resembles cable television, but instead of coaxial cable, wireless cable uses microwave channels.<sup>100</sup>

36. In light of the use of wireless frequencies by BRS and EBS services, the closest industry with a SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (*except* Satellite).<sup>101</sup> The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.<sup>102</sup> U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.<sup>103</sup> Of this number, 2,837 firms employed fewer than 250 employees.<sup>104</sup> Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

37. According to Commission data as December 2021, there were approximately 5,869 active BRS and EBS licenses.<sup>105</sup> The Commission's small business size standards with respect to BRS involves eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of BRS licenses, the Commission adopted criteria for three groups of small businesses. A very small business is an entity that, together with its affiliates and controlling interests, has average annual gross revenues exceed \$3 million and did not exceed \$15 million for the preceding three years, a small business is an entity that, together with its affiliates and controlling interests, has average gross revenues exceed \$15 million and did not exceed \$40 million for the preceding three years, and an entrepreneur is an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding \$3 million for the preceding three years.<sup>106</sup> Of the ten winning bidders for BRS licenses, two bidders claiming the small business status won 4 licenses, one bidder claiming the very small business status won three licenses and two bidders claiming entrepreneur status won six licenses.<sup>107</sup> One of the winning bidders claiming a small business status classification in the BRS license auction has

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*Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

<sup>100</sup> Generally, a wireless cable system may be described as a microwave station transmitting on a combination of BRS and EBS channels to numerous receivers with antennas, such as single-family residences, apartment complexes, hotels, educational institutions, business entities and governmental offices. The range of the transmission depends upon the transmitter power, the type of receiving antenna and the existence of a line-of-sight path between the transmitter or signal booster and the receiving antenna.

<sup>101</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “517312 Wireless Telecommunications Carriers (*except* Satellite),” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

<sup>102</sup> See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

<sup>103</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>104</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>105</sup> Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, “Match only the following radio service(s)”, Radio Service =BR, ED; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>106</sup> See 47 CFR § 27.1218(a).

<sup>107</sup> See Federal Communications Commission, Economics and Analytics, Auctions, Auction 86: Broadband Radio Service, Summary, Reports, All Bidders, <https://www.fcc.gov/sites/default/files/wireless/auctions/86/charts/86bidder.xls>.

an active licenses as of December 2021.<sup>108</sup>

38. The Commission's small business size standards for EBS define a small business as an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$55 million for the preceding five (5) years, and a very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$20 million for the preceding five (5) years.<sup>109</sup> In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

39. *The Educational Broadcasting Services.* Cable-based educational broadcasting services fall under the broad category of the Wired Telecommunications Carriers industry.<sup>110</sup> The Wired Telecommunications Carriers industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks.<sup>111</sup> Transmission facilities may be based on a single technology or a combination of technologies.<sup>112</sup> 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."<sup>113</sup>

40. The SBA small business size standard for this industry classifies businesses having 1,500 or fewer employees as small.<sup>114</sup> U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.<sup>115</sup> Of this total, 2,964 firms operated with fewer than 250

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<sup>108</sup> Based on a FCC Universal Licensing System search on December 10, 2021, <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service =BR; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>109</sup> See 47 CFR § 27.1219(a).

<sup>110</sup> See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>. Examples of this category are: broadband Internet service providers (e.g., cable, DSL); local telephone carriers (wired); cable television distribution services; long-distance telephone carriers (wired); closed circuit television (CCTV) services; VoIP service providers, using owner operated wired telecommunications infrastructure; direct-to-home satellite system (DTH) services; telecommunications carriers (wired); satellite television distribution systems; and multichannel multipoint distribution services (MMDS).

<sup>111</sup> See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>. *Id.*

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

<sup>115</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePrevious=false>.



employees.<sup>116</sup> Thus, under this size standard, the majority of firms in this industry can be considered small. Additionally, according to Commission data as of December 2021, there were 4,477 active EBS licenses.<sup>117</sup> The Commission estimates that the majority of these licenses are held by non-profit educational institutions and school districts and are likely small entities.

41. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment.<sup>118</sup> Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.<sup>119</sup> The SBA small business size standard for this industry classifies businesses having 1,250 employees or less as small.<sup>120</sup> U.S. Census Bureau data for 2017 show that there were 656 firms in this industry that operated for the entire year.<sup>121</sup> Of this number, 624 firms had fewer than 250 employees.<sup>122</sup> Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

42. *Software Publishers.* This industry comprises establishments primarily engaged in computer software publishing or publishing and reproduction.<sup>123</sup> Establishments in this industry carry out operations necessary for producing and distributing computer software, such as designing, providing documentation, assisting in installation, and providing support services to software purchasers.<sup>124</sup> These establishments may design, develop, and publish, or publish only.<sup>125</sup> The SBA small business size standard for this industry classifies businesses having annual receipts of \$41.5 million or less as small.<sup>126</sup> U.S. Census Bureau data for 2017 indicate that 7,842 firms in this industry operated for the entire year.<sup>127</sup>

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<sup>116</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>117</sup> Based on a FCC Universal Licensing System search on December 17, 2021. <https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Search parameters: Service Group = All, “Match only the following radio service(s)”, Radio Service =ED; Authorization Type = All; Status = Active. We note that the number of active licenses does not equate to the number of licensees. A licensee can have one or more licenses.

<sup>118</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing,” <https://www.census.gov/naics/?input=334220&year=2017&details=334220>.

<sup>119</sup> *Id.*

<sup>120</sup> See 13 CFR § 121.201, NAICS Code 334220.

<sup>121</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 334220, <https://data.census.gov/cedsci/table?y=2017&n=334220&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

<sup>122</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>123</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “511210 Software Publishers,” <https://www.census.gov/naics/?input=511210&year=2017&details=511210>.

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> See 13 CFR § 121.201, NAICS Code 511210 (as of 10/1/22, NAICS Code 513210).

<sup>127</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFirm, NAICS Code 511210, <https://data.census.gov/cedsci/table?y=2017&n=511210&tid=ECNSIZE2017.EC1700SIZEREVFirm&hidePreview=false>.

Of this number 7,226 firms had revenue of less than \$25 million.<sup>128</sup> Based on this data, we conclude that a majority of firms in this industry are small.

43. *Noncommercial Educational (NCE) and Public Broadcast Stations.* Noncommercial educational broadcast stations and public broadcast stations are television or radio broadcast stations which under the Commission's rules are eligible to be licensed by the Commission as a noncommercial educational radio or television broadcast station and are owned and operated by a public agency or nonprofit private foundation, corporation, or association; or are owned and operated by a municipality which transmits only noncommercial programs for education purposes.

44. The SBA small business size standards and U.S. Census Bureau data classify radio stations<sup>129</sup> and television broadcasting<sup>130</sup> separately and both categories may include both noncommercial and commercial stations. The SBA small business size standard for both radio stations and television broadcasting classify firms having \$41.5 million or less in annual receipts as small.<sup>131</sup> For Radio Stations, U.S. Census Bureau data for 2017 show that 1,879 of the 2,963 firms that operated during that year had revenue of less than \$25 million per year.<sup>132</sup> For Television Broadcasting, U.S. Census Bureau data for 2017 show that 657 of the 744 firms that operated for the entire year had revenue of less than \$25,000,000.<sup>133</sup> While the U.S. Census Bureau data does not indicate the number of non-commercial stations, we estimate that under the applicable SBA size standard the majority of noncommercial educational broadcast stations and public broadcast stations are small entities.

45. According to Commission data as of December 31, 2022, there were 4,590 licensed noncommercial educational radio and television stations.<sup>134</sup> In addition, the Commission estimates as of

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<sup>128</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. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>129</sup> See U.S. Census Bureau, *2017 NAICS Definition, "515112 Radio Stations,"* <https://www.census.gov/naics/?input=515112&year=2017&details=515112>.

<sup>130</sup> See U.S. Census Bureau, *2017 NAICS Definition, "515120 Television Broadcasting,"* <https://www.census.gov/naics/?input=515120&year=2017&details=515120>.

<sup>131</sup> See 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22, NAICS Code 516110) (Radio Stations); NAICS Code 515120 (as of 10/1/22, NAICS Code 516120) (Television Broadcasting).

<sup>132</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515112, <https://data.census.gov/cedsci/table?y=2017&n=515112&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>. 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. We note that the U.S. Census Bureau withheld publication of the number of firms that operated for the entire year. We also note that the U.S. Census Bureau withheld publication of the number of firms that operated with sales/value of shipments/revenue in the individual categories for less than \$100,000, and \$100,000 to \$249,999 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in these categories). Therefore, the number of firms with revenue that meet the SBA size standard would be higher than noted herein. We further note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>133</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515120, <https://data.census.gov/cedsci/table?y=2017&n=515120&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>. 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. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>134</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

December 31, 2022, there were 383 licensed noncommercial educational (NCE) television stations, 383 Class A TV stations, 1,912 LPTV stations and 3,122 TV translator stations.<sup>135</sup> The Commission does not compile and otherwise does not have access to financial information for these stations that permit it to determine how many stations qualify as small entities under the SBA small business size standards. However, given the nature of these services, we will presume that all noncommercial educational and public broadcast stations qualify as small entities under the above SBA small business size standards.

46. *Radio Stations.* This industry is comprised of “establishments primarily engaged in broadcasting aural programs by radio to the public.”<sup>136</sup> Programming may originate in their own studio, from an affiliated network, or from external sources.<sup>137</sup> The SBA small business size standard for this industry classifies firms having \$41.5 million or less in annual receipts as small.<sup>138</sup> U.S. Census Bureau data for 2017 show that 2,963 firms operated in this industry during that year.<sup>139</sup> Of this number, 1,879 firms operated with revenue of less than \$25 million per year.<sup>140</sup> Based on this data and the SBA’s small business size standard, we estimate a majority of such entities are small entities.

47. The Commission estimates that as of December 31, 2022, there were 4,484 licensed commercial AM radio stations and 6,686 licensed commercial FM radio stations, for a combined total of 11,170 commercial radio stations.<sup>141</sup> Of this total, 11,168 stations (or 99.98 %) had revenues of \$41.5 million or less in 2021, according to Commission staff review of the BIAKelsey Media Access Pro Online Database (MAPro) on January 13, 2023,<sup>142</sup> and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates that as of December 31, 2022, there were 4,207 licensed noncommercial (NCE) FM radio stations, 2,015 low power FM (LPFM) stations, and 8,950 FM translators and boosters.<sup>143</sup> The Commission however does not compile, and otherwise does not have access to financial information for these radio stations that would permit it to determine how many of these stations qualify as small entities under the SBA small business size standard. Nevertheless, given the SBA’s large annual receipts threshold for this industry and the nature of these radio station licensees, we presume that all of these entities qualify as small entities under the above SBA small

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<sup>135</sup> *Id.*

<sup>136</sup> See U.S. Census Bureau, 2017 NAICS Definition, “515112 Radio Stations,” <https://www.census.gov/naics/?input=515112&year=2017&details=515112>.

<sup>137</sup> *Id.*

<sup>138</sup> See 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22, NAICS Code 516110).

<sup>139</sup> See U.S. Census Bureau, 2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEREVFIRM, NAICS Code 515112, <https://data.census.gov/cedsci/table?y=2017&n=515112&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>. We note that the US Census Bureau withheld publication of the number of firms that operated for the entire year.

<sup>140</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. We note that the U.S. Census Bureau withheld publication of the number of firms that operated with sales/value of shipments/revenue in the individual categories for less than \$100,000, and \$100,000 to \$249,999 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in these categories). Therefore, the number of firms with revenue that meet the SBA size standard would be higher than that noted herein. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>141</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

<sup>142</sup> BIA Advisory Services, BIAKelsey Media Access Pro Online Radio Database, <http://www.biakelsey.com/data-platforms/media-access-pro> (last visited January 13, 2023).

<sup>143</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

business size standard.

48. We note, however, that in assessing whether a business concern qualifies as “small” under the above definition, business (control) affiliations<sup>144</sup> must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, another element of the definition of “small business” requires that an entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific radio or television broadcast station is dominant in its field of operation. Accordingly, the estimate of small businesses to which the rules may apply does not exclude any radio or television station from the definition of a small business on this basis and is therefore possibly over-inclusive. An additional element of the definition of “small business” is that the entity must be independently owned and operated. Because it is difficult to assess these criteria in the context of media entities, the estimate of small businesses to which the rules may apply does not exclude any radio or television station from the definition of a small business on this basis and similarly may be over-inclusive.

49. *FM Translator Stations and Low-Power FM Stations.* FM translators and Low Power FM Stations are classified in the industry for Radio Stations.<sup>145</sup> The Radio Stations industry comprises establishments primarily engaged in broadcasting aural programs by radio to the public.<sup>146</sup> Programming may originate in their own studio, from an affiliated network, or from external sources.<sup>147</sup> The SBA small business size standard for this industry classifies firms having \$41.5 million or less in annual receipts as small.<sup>148</sup> U.S. Census Bureau data for 2017 show that 2,963 firms operated during that year.<sup>149</sup> Of that number, 1,879 firms operated with revenue of less than \$25 million per year.<sup>150</sup> Therefore, based on the SBA’s size standard we conclude that the majority of FM Translator stations and Low Power FM Stations are small. Additionally, according to Commission data, as of December 31, 2022, there were 8,950 FM Translator Stations and 2,015 Low Power FM licensed broadcast stations.<sup>151</sup> The Commission however does not compile and otherwise does not have access to information on the revenue of these stations that would permit it to determine how many of the stations would qualify as small entities. For purposes of this regulatory flexibility analysis, we presume the majority of these stations are small entities.

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<sup>144</sup> “[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both.” 13 CFR § 21.103(a)(1).

<sup>145</sup> See U.S. Census Bureau, *2017 NAICS Definition, “515112 Radio Stations,”* <https://www.census.gov/naics/?input=515112&year=2017&details=515112>.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.*

<sup>148</sup> See 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22, NAICS Code 516110).

<sup>149</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515112, <https://data.census.gov/cedsci/table?y=2017&n=515112&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>. We note that the US Census Bureau withheld publication of the number of firms that operated for the entire year.

<sup>150</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. We note that the U.S. Census Bureau withheld publication of the number of firms that operated with sales/value of shipments/revenue in the individual categories for less than \$100,000, and \$100,000 to \$249,999 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in these categories). Therefore, the number of firms with annual receipts that meet the SBA size standard would be higher than noted herein. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>151</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

50. *Television Broadcasting.* This industry is comprised of “establishments primarily engaged in broadcasting images together with sound.”<sup>152</sup> These establishments operate television broadcast studios and facilities for the programming and transmission of programs to the public.<sup>153</sup> These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studio, from an affiliated network, or from external sources. The SBA small business size standard for this industry classifies businesses having \$41.5 million or less in annual receipts as small.<sup>154</sup> 2017 U.S. Census Bureau data indicate that 744 firms in this industry operated for the entire year.<sup>155</sup> Of that number, 657 firms had revenue of less than \$25,000,000.<sup>156</sup> Based on this data we estimate that the majority of television broadcasters are small entities under the SBA small business size standard.

51. As of December 31, 2022, there were 1,375 licensed commercial television stations.<sup>157</sup> Of this total, 1,282 stations (or 93.2%) had revenues of \$41.5 million or less in 2021, according to Commission staff review of the BIAKelsey Media Access Pro Online Television Database (MAPro) on January 13, 2023,<sup>158</sup> and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates as of December 31, 2022, there were 383 licensed noncommercial educational (NCE) television stations, 383 Class A TV stations, 1,912 LPTV stations and 3,122 TV translator stations.<sup>159</sup> The Commission however does not compile, and otherwise does not have access to financial information for these television broadcast stations that would permit it to determine how many of these stations qualify as small entities under the SBA small business size standard. Nevertheless, given the SBA’s large annual receipts threshold for this industry and the nature of these television station licensees, we presume that all of these entities qualify as small entities under the above SBA small business size standard.

52. *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.<sup>160</sup> 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.<sup>161</sup> The programming

<sup>152</sup> See U.S. Census Bureau, *2017 NAICS Definition, “515120 Television Broadcasting,”* <https://www.census.gov/naics/?input=515120&year=2017&details=515120>.

<sup>153</sup> *Id.*

<sup>154</sup> See 13 CFR § 121.201, NAICS Code 515120 (as of 10/1/22, NAICS Code 516120).

<sup>155</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515120, <https://data.census.gov/cedsci/table?y=2017&n=515120&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>.

<sup>156</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. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>157</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

<sup>158</sup> BIA Advisory Services, BIAKelsey Media Access Pro Online Television Database, <http://www.biakelsey.com/data-platforms/media-access-pro> (last visited on Jan. 13, 2023).

<sup>159</sup> *Broadcast Station Totals as of December 31, 2022*, Public Notice, DA 22-721 (rel. Jan. 11, 2022) (*December 2022 Broadcast Station Totals PN*), <https://www.fcc.gov/document/broadcast-station-totals-december-31-2022>.

<sup>160</sup> See U.S. Census Bureau, *2017 NAICS Definition, “515210 Cable and Other Subscription Programming,”* <https://www.census.gov/naics/?input=515210&year=2017&details=515210>.

<sup>161</sup> *Id.*

material is usually delivered to a third party, such as cable systems or direct-to-home satellite systems, for transmission to viewers.<sup>162</sup> The SBA small business size standard for this industry classifies firms with annual receipts less than \$41.5 million as small.<sup>163</sup> Based on U.S. Census Bureau data for 2017, 378 firms operated in this industry during that year.<sup>164</sup> Of that number, 149 firms operated with revenue of less than \$25 million a year and 44 firms operated with revenue of \$25 million or more.<sup>165</sup> Based on this data, the Commission estimates that the majority of firms operating in this industry are small.

53. *Cable System Operators (Rate Regulation Standard)*. The Commission has developed its own small business size standard for the purpose of cable rate regulation. Under the Commission’s rules, a “small cable company” is one serving 400,000 or fewer subscribers nationwide.<sup>166</sup> Based on industry data, there are about 420 cable companies in the U.S.<sup>167</sup> Of these, only seven have more than 400,000 subscribers.<sup>168</sup> In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.<sup>169</sup> Based on industry data, there are about 4,139 cable systems (headends) in the U.S.<sup>170</sup> Of these, about 639 have more than 15,000 subscribers.<sup>171</sup> Accordingly, the Commission estimates that the majority of cable companies and cable systems are small.

54. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, contains a size standard for a “small cable operator,” 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>172</sup> For purposes of the Telecom Act Standard, the Commission determined that a cable system operator that serves fewer than 677,000 subscribers, either directly or through affiliates, will meet the definition of a small cable operator based on the cable subscriber count established in a 2001 Public

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<sup>162</sup> *Id.*

<sup>163</sup> See 13 CFR § 121.201, NAICS Code 515210.

<sup>164</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 515210, <https://data.census.gov/cedsci/table?y=2017&n=515210&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>. The US Census Bureau withheld publication of the number of firms that operated for the entire year to avoid disclosing data for individual companies (see Cell Notes for this category).

<sup>165</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. We note that the U.S. Census Bureau withheld publication of the number of firms that operated with sales/value of shipments/revenue in all categories of revenue less than \$500,000 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in these categories). Therefore, the number of firms with revenue that meet the SBA size standard would be higher than noted herein. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>166</sup> 47 CFR § 76.901(d).

<sup>167</sup> S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited September 15, 2023).

<sup>168</sup> S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited September 15, 2023); S&P Global Market Intelligence, *Multichannel Video Subscriptions, Top 10* (April 2022).

<sup>169</sup> 47 CFR § 76.901(c).

<sup>170</sup> S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited September 15, 2023).

<sup>171</sup> S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited September 15, 2023).

<sup>172</sup> 47 U.S.C. § 543(m)(2).

Notice.<sup>173</sup> Based on industry data, only six cable system operators have more than 677,000 subscribers.<sup>174</sup> Accordingly, the Commission estimates that the majority of cable system operators are small under this size standard. We note however, 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>175</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.

55. *Satellite Telecommunications.* This industry comprises firms “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>176</sup> Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with \$35 million or less in annual receipts as small.<sup>177</sup> U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year.<sup>178</sup> Of this number, 242 firms had revenue of less than \$25 million.<sup>179</sup> Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 71 providers that reported they were engaged in the provision of satellite telecommunications services.<sup>180</sup> Of these providers, the Commission estimates that approximately 48 providers have 1,500 or fewer employees.<sup>181</sup> Consequently using the SBA’s small business size standard, a little more than of these providers can be considered small entities.

56. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications

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<sup>173</sup> *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (CSB 2001) (2001 Subscriber Count PN). In this Public Notice, the Commission determined that there were approximately 67.7 million cable subscribers in the United States at that time using the most reliable source publicly available. *Id.* We recognize that the number of cable subscribers changed since then and that the Commission has recently estimated the number of cable subscribers to traditional and telco cable operators to be approximately 58.1 million. *See Communications Marketplace Report*, GN Docket No. 20-60, 2020 Communications Marketplace Report, 36 FCC Rcd 2945, 3049, para. 156 (2020) (2020 Communications Marketplace Report). However, because the Commission has not issued a public notice subsequent to the 2001 Subscriber Count PN, the Commission still relies on the subscriber count threshold established by the 2001 Subscriber Count PN for purposes of this rule. *See* 47 CFR § 76.901(e)(1).

<sup>174</sup> S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited September 15, 2023); S&P Global Market Intelligence, *Multichannel Video Subscriptions, Top 10* (April 2022).

<sup>175</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>176</sup> *See* U.S. Census Bureau, 2017 NAICS Definition, “517410 Satellite Telecommunications,” <https://www.census.gov/naics/?input=517410&year=2017&details=517410>.

<sup>177</sup> *See* 13 CFR § 121.201, NAICS Code 517410.

<sup>178</sup> *See* U.S. Census Bureau, 2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEREVFIRM, NAICS Code 517410, <https://data.census.gov/cedsci/table?y=2017&n=517410&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false>.

<sup>179</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. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, *see* [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>180</sup> Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf>.

<sup>181</sup> *Id.*

telemetry, and radar station operation.<sup>182</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>183</sup> Providers of Internet services (e.g. dial-up ISPs) or voice over Internet protocol (VoIP) services, via client-supplied telecommunications connections are also included in this industry.<sup>184</sup> The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small.<sup>185</sup> U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.<sup>186</sup> Of those firms, 1,039 had revenue of less than \$25 million.<sup>187</sup> Based on this data, the Commission estimates that the majority of “All Other Telecommunications” firms can be considered small.

57. *Direct Broadcast Satellite (“DBS”) Service.* DBS service is a nationally distributed subscription service that delivers video and audio programming via satellite to a small parabolic “dish” antenna at the subscriber’s location. DBS is included in the Wired Telecommunications Carriers industry which comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks.<sup>188</sup> Transmission facilities may be based on a single technology or combination of technologies.<sup>189</sup> 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.<sup>190</sup> By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.<sup>191</sup>

58. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.<sup>192</sup> U.S. Census Bureau data for 2017 show that 3,054

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<sup>182</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “517919 All Other Telecommunications,” <https://www.census.gov/naics/?input=517919&year=2017&details=517919>.

<sup>183</sup> *Id.*

<sup>184</sup> *Id.*

<sup>185</sup> See 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

<sup>186</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEREVFIRM, NAICS Code 517919, <https://data.census.gov/cedsci/table?y=2017&n=517919&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePrevious=false>.

<sup>187</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. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, see [https://www.census.gov/glossary/#term\\_ReceiptsRevenueServices](https://www.census.gov/glossary/#term_ReceiptsRevenueServices).

<sup>188</sup> See U.S. Census Bureau, *2017 NAICS Definition*, “517311 Wired Telecommunications Carriers,” <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

<sup>189</sup> *Id.*

<sup>190</sup> See *id.* Included in this industry are: broadband Internet service providers (e.g., cable, DSL); local telephone carriers (wired); cable television distribution services; long-distance telephone carriers (wired); closed-circuit television (CCTV) services; VoIP service providers, using own operated wired telecommunications infrastructure; direct-to-home satellite system (DTH) services; telecommunications carriers (wired); satellite television distribution systems; and multichannel multipoint distribution services (MMDS).

<sup>191</sup> *Id.*

<sup>192</sup> See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111)..



firms operated in this industry for the entire year.<sup>193</sup> Of this number, 2,964 firms operated with fewer than 250 employees.<sup>194</sup> Based on this data, the majority of firms in this industry can be considered small under the SBA small business size standard. According to Commission data however, only two entities provide DBS service - DIRECTV (owned by AT&T) and DISH Network, which require a great deal of capital for operation.<sup>195</sup> DIRECTV and DISH Network both exceed the SBA size standard for classification as a small business. Therefore, we must conclude based on internally developed Commission data, in general DBS service is provided only by large firms.

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

59. The *Third Report and Order* will adopt new or additional reporting, recordkeeping and/or other compliance obligations on small entities to report information about WEA availability in the WEA Database. Specifically, the rules require all CMS Providers to: (1) refresh their WEA election of whether to participate in WEA “in whole” or “in part” or not to participate in a Commission-hosted, publicly available WEA Database; (2) disclose the entities on behalf of which it files its election, irrespective of whether it elects to participate in WEA, including names of subsidiary companies and the “doing business as” names under which a CMS Provider offer wireless service; (3) disclose the geographic areas in which they offer WEA; (4) submit to the WEA Database a list of all the mobile devices they offer at the point of sale; and (5) use the WEA Database as a means of providing notice of withdrawing their election to Participating in WEA.<sup>196</sup>

60. We estimate that the rules we adopt today could result in an industry-wide, one-time compliance cost of \$42.4 million to update the WEA standards and software necessary to comply with the rules adopted in this *Report and Order* and an annually recurring cost of \$160,000 for recordkeeping and reporting. We estimate that Participating CMS Providers would, in the aggregate, incur a \$42.4 million one-time cost to update the WEA standards and software necessary to comply the proposals in this *Further Notice*. This figure consists of approximately a \$845,000 cost to update applicable WEA

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<sup>193</sup> See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

<sup>194</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>195</sup> See *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eighteenth Report*, Table III.A.5, 32 FCC Rcd 568, 595 (Jan. 17, 2017).

<sup>196</sup> 47 CFR § 10.10(k) (in whole); 47 CFR § 10.10(k) (in part). Very little of this information will be public-facing for the first time. Wireless service area is already available via the Broadband Data Collection. See Federal Communications Commission Broadband Data Collection Help Center, Formatting Mobile Voice Availability Coverage Maps, <https://help.bdc.fcc.gov/hc/en-us/articles/6047464151195-Formatting-Mobile-Voice-Availability-Coverage-Maps> (June 22, 2022). Nationwide Participating CMS Providers already make their mobile device support information public. See *WEA-capable Phones* (Apr. 3, 2023), <https://www.att.com/idpassets/images/support/pdf/WEA-capablePhones.pdf>; See *Devices Tested for WEA Functionality* (last visited on September 15, 2023), <https://www.t-mobile.com/content/dam/digx/tmobile/us/en/non-dynamic-media/pdf/TMobileWEA.pdf>; See *Wireless Emergency Alert Compatible Devices* (last visited on Aug. 18, 2023), <https://www.verizon.com/support/wireless-emergency-alerts-compatible-devices/>. WEA election status has always been public. See generally PS Docket No. 08-146. And, a particularly motivated consumer could likely use Google to ascertain which CMS Providers are providing service to which MVNOs and resellers. See e.g. Jillian Goltzman and Rachel Hartman, *Mint Mobile Cell Phone Plans Review and Prices* (Aug. 18, 2023), <https://www.usnews.com/360-reviews/services/cell-phone-plans/mint-mobile#:~:text=Founded%20in%202016%2C%20Mint%20Mobile,t%20owned%20by%20the%20company>. (“Mint Mobile functions as a mobile virtual network operator (MVNO). It runs on T-Mobile’s cellular network, which means it uses T-Mobile’s network but isn’t owned by the company”).

standards and approximately a \$41.5 million cost to update applicable software. We quantify the cost of modifying standards as the annual compensation for 30 network engineers compensated at the national average wage for their field (\$62.25/hour), plus a 45% mark-up for benefits (\$28.01/hour),<sup>197</sup> working for the amount of time that it takes to develop a standard (one hour every other week for one year, 26 hours) for 12 distinct standards.<sup>198</sup> Our \$41.5 million cost estimate on software updates consists of \$12.2 million for software modifications and \$29.3 million for software testing.<sup>199</sup> We quantify the cost of modifying software as the annual compensation for a software developer compensated at the national average for their field (\$132,930/year), plus a 45% mark-up for benefits (\$59,819/year),<sup>200</sup> working for the amount of time that it takes to develop software (ten months) at each of the 76 CMS Providers that participate in WEA.<sup>201</sup> We quantify the cost of testing these modifications (including integration testing, unit testing and failure testing) to require 12 software developers compensated at the national average for their field working for two months at each of the 76 CMS Providers that participate in WEA.<sup>202</sup> In quantifying costs for software development, we have used the same framework since 2016 for changes to software ranging from expanding WEA's maximum character limit to enhanced geo-targeting.<sup>203</sup>

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<sup>197</sup> According to the Bureau of Labor Statistics, as of June 2023, civilian wages and salaries averaged \$29.86/hour and benefits averaged \$13.39/hour. Total compensation therefore averaged \$29.86 + \$13.39, rounded to \$43.26. See Press Release, Bureau of Labor Statistics, Employer Costs for Employee Compensation—June 2023 (Sept. 12, 2023), <https://www.bls.gov/news.release/pdf/ecec.pdf>. Using these figures, benefits constitute a markup of \$13.39/\$29.86 ~ 45% (*Compensation Benefit Mark-up*). We therefore markup wages by 45% to account for benefits. We calculate the benefit markup as follows:  $\$62.25 \times 45\% = \$28.01/\text{hour}$ .

<sup>198</sup> This is calculated as follows: 30 network engineers  $\times$  (\$62.25 + \$28.01) per hour per network engineer  $\times$  26 hours per standard  $\times$  12 standards = \$844,834. We round this figure to \$845,000 to avoid the false appearance of precision in our estimate. See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-1241 Computer Network Architect* (), <https://www.bls.gov/oes/current/oes151241.htm> (last visited Sept. 14, 2023) (stating that the mean hourly wage for a computer network architect is \$62.25/hour); Letter from Tom Goode, General Counsel, ATIS, to Marlene Dortch, Secretary, FCC, PS Docket No. 15-91, at 1 (filed Sept. 6, 2016) (stating that, when standards need to be modified for WEA, it would be common practice for groups of approximately 30 individuals with relevant technical expertise meet approximately bi-weekly for an hour to discuss the modifications); *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Second Report and Order and Second Order on Reconsideration, 33 FCC Rcd 1320, 1344-45, para. 33, n.154 (2018) (listing the 12 WEA standards).

<sup>199</sup> We calculate the total costs to update the software as \$12.2 million + \$29.3 million = \$41.5 million.

<sup>200</sup> See *Compensation Benefit Mark-up*.

<sup>201</sup> This is calculated as follows: (\$132,930 + \$59,819) annually per Participating CMS Provider  $\times$  10 months / 12 months per year  $\times$  76 Participating CMS Providers = \$12,207,437. See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-1252 Software Developers*, <https://www.bls.gov/oes/current/oes151252.htm> (last visited Sept. 14, 2023) (stating that the mean annual wage for a software developer is \$132,930/year); Verizon Comments, PS Docket No. 15-91, at 5 (Jan. 13, 2016) (stating that it takes manufacturers and vendors 12 months to incorporate WEA standards into their products and test them); FCC, Master WEA Registry, [https://www.fcc.gov/sites/default/files/wea\\_masterregistry112019.xls](https://www.fcc.gov/sites/default/files/wea_masterregistry112019.xls) (last visited Sept. 7, 2023) (reflecting that 76 CMS Providers participate in WEA either in whole or in part).

<sup>202</sup> This is calculated as follows: 12 software developers  $\times$  (\$132,930 + \$66,465) annually per Participating CMS Provider  $\times$  2 months / 12 months per year  $\times$  76 Participating CMS Providers = \$ 30,308,040.

<sup>203</sup> See *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC 11112, 11168-81 paras. 96-103 (2016) ("According to ATIS, when standards need to be modified for WEA, it would be common practice for groups of approximately 30 individuals with relevant technical expertise meet approximately bi-weekly for an hour to discuss the modifications. Commenters assert that these standards-setting processes can be completed within 12 months, or 26 bi-weekly, one-hour meetings."); see also *Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Second Report

(continued....)

Because the Commission received no comment to the aforementioned costs framework that specifies a different analytical framework or dollar figure estimate, we find that it remains accurate to describe the costs attendant to the rules we adopt today.

61. We determine that costs associated with our adopted rules related to WEA availability reporting to be minimal for small entities that participate in WEA in whole or that otherwise offer WEA in the entirety of their geographic service area because such small entities may have already provided the Commission with the geospatial data needed to fulfill a significant aspect of their reporting obligation in furtherance of their obligations to support the Commission's Broadband Data Collection.<sup>204</sup> We agree with T-Mobile that "[w]here WEA is available throughout a wireless provider's network, the GIS files used for the biannual Broadband Data Collection should serve this purpose. If a wireless provider does not offer WEA throughout its network, it should be allowed to submit a different GIS depicting WEA coverage."<sup>205</sup> We determine that in the Supporting Document of Study Area Boundary Data Reporting in Esri Shapefile Format, the Office of Information and Regulatory Affairs estimates that it takes an average of 26 hours for a data scientist to modify a shapefile.<sup>206</sup> We believe submitting WEA availability information in geospatial data format should require no more time than modifying a shapefile. Therefore, we believe 26 hours would be an upper bound of the time required for a Participating CMS Provider to report its WEA availability in geospatial data format. Given that the median wage rate is \$55.40/hour for data scientists,<sup>207</sup> with a 45% markup for benefits,<sup>208</sup> we arrive at \$80.33 as the hourly compensation rate for a data scientist. We estimate an aggregate cost of WEA availability reporting to be approximately \$160,000 ( $\approx \$80.33 \text{ per hour} \times 26 \text{ hours} \times 76 \text{ providers} = \$158,732$ , rounded to \$160,000), which may be recurring on an annual basis since availability may change and need to be updated over time. Within these 26 hours, we believe that Participating CMS Providers will also be able to provide the availability information required by the rules adopted today, including lists of all the mobile devices the Participating CMS Provider offers at the point of sale, and any changes of WEA service. Many Participating CMS Providers already create and maintain this information, and therefore, we believe that providing this information to the WEA Database would require minimal time burdens and within the cost estimates. The Commission received no objections to this estimate in the record.

62. We reason that no additional, ongoing or annualized burdens will result from this reporting obligation for small entities and other Participating CMS Providers because the requirement that we adopt today does not change the approach that Participating CMS Providers must take to updating their elections once this one-time renewed election is completed. For example, the rules adopted today do not impose annual certification of a CMS Provider's participation in WEA, but rather require reporting in the WEA Database only in event of a change of a CMS Provider's participation in WEA, as specified by

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and Order and Second Order on Reconsideration, 33 FCC Rcd 1320, 1344-45, para. 33 (2018) ("We received no objections to this approach in the record.").

<sup>204</sup> See generally, *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195 and 11-10, Report and Order and Second Further Notice of Proposed Rulemaking (2019) (discussing costs of requiring submission of broadband coverage maps (polygons) from fixed providers).

<sup>205</sup> T-Mobile Comments at 12-13.

<sup>206</sup> See Office of Information and Regulatory Affairs, Office of Management and Budget Executive Office of the President, 2022 Study Area Boundary Data Reporting in Esri Shapefile Format DA 12-1777 and DA 13-282, Supporting Statement - OMB Control No. 3060-1181, at 5- paras. 12 (Feb. 15, 2022), [https://www.reginfo.gov/public/do/PRAViewDocument?ref\\_nbr=202202-3060-009](https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202202-3060-009).

<sup>207</sup> See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2022, 15-2051 Data Scientists*, <https://www.bls.gov/oes/current/oes152051.htm> (last visited Sept. 14, 2023) (stating that the mean hourly wage for a data scientist is \$55.40/hour).

<sup>208</sup> See *Compensation Benefit Mark-up*.

this *Third Report and Order*.<sup>209</sup> The Commission is not currently in a position to determine whether the rules adopted in the *Third Report and Order* will require small entities to hire attorneys, engineers, consultants, or other professionals to comply.

**F. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

63. The RFA requires an agency to provide, “a description of the steps the agency has taken to minimize the significant economic impact on small entities...including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.”<sup>210</sup>

64. The Commission continues to adopt measures to improve WEA and continues to meet its obligation to develop the nation’s emergency preparedness and response infrastructure by making WEA more accessible by adding multilingual (including ASL) functionality, integrating location-aware maps, enabling Performance and Public Awareness tests, and establishing a WEA Database for Participating CMS Providers to report information about WEA availability. While doing so, the Commission is mindful that small entities may incur costs; we weighed these costs against the public interest benefits of the new obligations and determined the benefits outweigh the costs. The specific steps the Commission has taken to minimize costs and reduce the economic impact for small entities and alternatives considered are discussed below.

65. In adopting the rule to enable alerting authorities to display translated Alert Message content via the use of emergency alert message templates, we found the record demonstrates that machine translation is not yet ripe for use today in WEA.<sup>211</sup> The use of alert message templates should minimize

<sup>209</sup> See *supra* Part III.F.

<sup>210</sup> 5 U.S.C. § 604(a)(6).

<sup>211</sup> Apple Inc., Reply, PS Docket Nos 15-91 and 15-94, at 2, 14 (rec. Aug. 21, 2023) (Apple Reply) (“machine translation approaches should continue to be studied as they develop, and their usage not prematurely mandated”); ATIS Comments at 3 (“ATIS WTSC is not in a position to comment on whether machine translation technologies are mature enough at this time to be used for WEA translations, but notes that the Federal Emergency Management Agency (FEMA) and others have expressed reservations about the exclusive use of machine translations in emergency situations”); Attorneys General Comments at 5 (“Recent evidence shows that machine translation produces materially less accurate results when used to translate from English into several other languages”); Competitive Carriers Association, Comments, PS Docket Nos. 15-91 and 15-94, at 3 (rec. Jul. 21, 2023) (CCA Comments) (“CCA members are not aware of existing machine translation technologies that are sufficiently reliable for use in emergency situations”); CTIA, Reply, PS Docket Nos. 15-91 and 15-94, at 11 (rec. Aug. 21, 2023) (CTIA Reply) (“CTIA supports efforts by the Commission to evaluate the potential for machine translation that will guide future determination of any appropriate rules adopting its use”); Federal Emergency Management Agency Integrated Public Alert and Warning System Program Office Comments, PS. Docket Nos. 15-91 and 15-94, at 2 (Jul. 29, 2023) (FEMA Comments) (“FEMA IPAWS has not conducted research to determine the efficacy of machine translation, but anecdotally some AOs have indicated that it has not advanced to the point of replacing their qualified translators”); NOAA/NWS Comments at 1 (“NWS is concerned about the quality of device translation because wording is critical in conveying the message for certain alerts. The NWS has found examples where calls-to-action could be misinterpreted based on a poor, incomplete, or inconsistent translation of an NWS alert”); NYCEM Comments at 2-3 (“NYCEM has concerns about the accuracy of translations, specifically regarding critical life-saving calls-to-action”); NYPSIC Reply at 2; County of Sonoma, California Department of Emergency Management and the City of Santa Rosa, California Fire Department Comments, PS Docket Nos. 15-91 and 15-94, at 1 (Jul. 29, 2023) (Sonoma County Comments) (“we are concerned that automatic translation can lead to unintended and deleterious consequences”); T-Mobile Comments at 4 (“Just last fall it was noted that ‘[m]achine translation tools like Google Translate can be super handy, and Big Tech often promotes them as accurate and accessible tools that’ll break down many intra-linguistic barriers in the modern world. But the truth is that things can go awfully wrong”); T-Mobile USA, Inc., Reply, PS Docket Nos. 15-91 and 15-94, at 3 (T-Mobile Reply); USGS Comments at 3 (“the

(continued....)

the impact of the adopted requirements for small entities because it will limit developing software and standards to enable machine translations. Because the alert message templates will be produced by the Public Safety and Homeland Security Bureau after taking into account public feedback, small entities will not need to expend resources to translate emergency messages and develop template alert messages.

66. AT&T, Verizon, and CTIA expressed concerns that it would take them longer to comply if we require compliance with all rules at once due to wireless industry's resource constraints and the burdens of parallel standards and technological development.<sup>212</sup> We provide additional time to accommodate these concerns. We believe these timeframes will also minimize the burden on small entities. Additionally, the rules adopted in the *Third Report and Order* are technologically neutral to provide small entities the flexibility to comply with our rules using technologies offered by a variety of vendors.

#### **G. Report to Congress**

67. The Commission will send a copy of the *Third WEA Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.<sup>213</sup> In addition, the Commission will send a copy of the *Third WEA Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Third WEA Report and Order* and FRFA (or summaries thereof) will also be published in the *Federal Register*.<sup>214</sup>

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Commission is right to be concerned about the accuracy of on-the-fly translation which may garble or change the meaning of the intended message. This may be especially problematic for place names that may become incomprehensible if improperly translated (e.g., Shoemaker Road might be translated as the nonexistent Camino del Zapatero”).

<sup>212</sup> AT&T Comments at 32; CTIA Comments at 21; Verizon Comments at 3, 5. We also note that this *Report and Order* adopts fewer than all the 2023 *WEA FNPRM*'s proposed requirements.

<sup>213</sup> See 5 U.S.C. § 801(a)(1)(A).

<sup>214</sup> See 5 U.S.C. § 604(b).

## APPENDIX D

## List of Commenters

Comments

Alliance for Telecommunications Industry Solutions (ATIS)
American Foundation for the Blind, American Council of the Blind, National Disability Rights Network (Advocacy Groups for the Blind)
Association of Public-Safety Communications Officials International, Inc. (APCO)
AT&T Services, Inc. (AT&T)
Competitive Carriers Association (CCA)
County of San Diego Department of Emergency Services
County of Sonoma, California Department of Emergency Management and the City of Santa Rosa, California Fire Department.
DeMarcus Strange
Disability and Communications Access Board (DCAB)
Federal Emergency Management Agency, Integrated Public Alert and Warning System Program Office (FEMA IPAWS)
Franklin W. Bell
Jeanette Sutton
King County Emergency Management
Language and Accessibility in Alert and Warning Workgroup (LAAWW)
Larimer Emergency Telephone Authority, Jefferson County Emergency Communications Authority, Boulder Office of Disaster Management, Boulder County Communications, Boulder County Sheriff's Office, Arapahoe County Office of Emergency Management, Arapahoe, County 911 Authority, Adams County E-911 Emergency Telephone Service Authority (Colorado Alerting Authorities)
Letitia James, New York State Attorney General, Philip J. Weiser, Colorado Attorney General, William Tong, Connecticut Attorney General, Brian L. Schwab, District of Columbia Attorney General, Kwame Raoul, Illinois Attorney General, Anthony G. Brown, Maryland Attorney General, Andrea Joy Campbell, Massachusetts Attorney General, Keith Ellison, Minnesota Attorney General, Aaron D. Ford, Nevada Attorney General, Matthew J. Platkin, New Jersey Attorney General, Raúl Torrez, New Mexico Attorney General, Ellen F. Rosenblum, Oregon Attorney General, Peter Neronha, Rhode Island Attorney General, Charity R. Clark, Vermont Attorney General, Bob Ferguson, Washington Attorney General, Joshua L. Kaul, Wisconsin Attorney General, Hon. Sylvia O. Hinds-Radix, New York City Corporation Counsel (Attorneys General)
Lilt, Inc.
Michigan State Police Emergency Management and Homeland Security Division's Operations Management Section (Michigan State Police OMS)
Multimedia Telecommunications and Internet Council
The National Oceanic and Atmospheric Administration's National Weather Service (NOAA NWS)
New York State Division of Homeland Security and Emergency Services (NYS DHSES)
NYC Emergency Management (NYCEM)
Regional Disaster Preparedness Organization of the Portland-Vancouver Metro Region (Portland Regional Disaster Preparedness Organization or PRDPO)
State of Oregon's OR-Alert Governance Committee
Telecommunications for the Deaf and Hard of Hearing, Inc., Communication Service for the Deaf, Hearing Loss Association of America, National Association of the Deaf, Coalition on Inclusive Emergency Planning, Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, Gallaudet University (Advocacy Groups for the Deaf and Hard of Hearing)

The Cellular Telecommunications and Internet Association (CTIA)
The National Oceanic and Atmospheric Administration's National Weather Service (NOAA NWS)
T-Mobile USA, Inc.
United States Geological Survey (USGS)
Verizon

**Replies**

Apple, Inc.
ATIS
CTIA
Electronic Frontier Foundation
New York State Public Service Commission (NYSPSC)
Southern Communications Services, Inc. d/b/a Southern Linc
Telecommunications for the Deaf and Hard of Hearing, Inc., Communication Service for the Deaf, Hearing Loss Association of America, National Association of the Deaf, Coalition on Inclusive Emergency Planning, Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, Gallaudet University
The National Oceanic and Atmospheric Administration's National Weather Service (NOAA NWS)
T-Mobile USA, Inc.
Twin Cities Public Television, Inc.
Verizon