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

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| In the Matter of | ) | |
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| Protecting the Nation's Communications Systems from Cybersecurity Threats | ) | PS Docket No. 22-329 |
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**DECLARATORY RULING AND NOTICE OF PROPOSED RULEMAKING**

**Adopted: January 15, 2025** **Released: January 16, 2025**

**Comment Date:** (30 days from the date of publication in the *Federal Register*)
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By the Commission: Chairwoman Rosenworcel and Commissioner Starks issuing separate statements; Commissioners Carr and Simington dissenting and issuing separate statements at a later date.

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## I. INTRODUCTION

1. The cybersecurity of our nation's communications critical infrastructure is essential to promoting national security, public safety, and economic security. As technology continues to advance, so too do the capabilities of adversaries, necessitating constant adaptation and reinforcement of our

defenses.[1] In this *Declaratory Ruling*, we conclude that section 105 of Communications Assistance for Law Enforcement Act ("CALEA") affirmatively requires telecommunications carriers to secure their networks from unlawful access or interception of communications. In this *Notice of Proposed Rulemaking*, we seek comment on ways to strengthen the cybersecurity posture of our nation's communications systems and services. Among other actions, we propose to require covered communications service providers, as defined below, to submit an annual certification attesting that they have created, updated, and implemented cybersecurity and supply chain risk management plans.

## II. BACKGROUND

### A. Threats to the Nation's Communications Systems

2. There is a pressing national security and public safety need to take additional measures to safeguard our nation's communications systems from real and present cybersecurity threats.[2] The federal government must be able to maintain communication capabilities to fulfill its most critical and time-sensitive missions under any circumstances.[3] A February 2024 joint advisory issued by the Cybersecurity and Infrastructure Security Agency (CISA), the National Security Agency (NSA), the Federal Bureau of Investigation (FBI), other U.S. federal agencies, and the "Five Eyes" intelligence alliance warns that "People's Republic of China (PRC) state-sponsored cyber actors are seeking to pre-position themselves on IT networks for disruptive or destructive cyberattacks against U.S. critical infrastructure in the event of a major crisis or conflict with the United States."[4] The advisory includes the communications sector

[1] *See* Ellen Nakashima, *White House Forms Emergency Team to Deal with China Espionage Hack*, Wash. Post (Oct. 11, 2024), https://www.washingtonpost.com/national-security/2024/10/11/china-hack-telecoms-salt-typhoon/ (describing the growing crisis involving Chinese cyberattacks of U.S. telecommunications companies, most recently affecting "about 10 or 12 companies," including AT&T, Verizon, and Lumen).

[2] *See* Check Point Research, *Check Point Research Reports Highest Increase of Global Cyber Attacks Seen in Last Two Years – A 30% Increase in Q2 2024 Global Cyber Attacks* (July 16, 2024), https://blog.checkpoint.com/research/check-point-research-reports-highest-increase-of-global-cyber-attacks-seen-in-last-two-years-a-30-increase-in-q2-2024-global-cyber-attacks/?form=MG0AV3 (finding that publicly-reported global cyberattacks in 2024 rose by 30%, reaching 1,636 attacks per organization per week). Cybersecurity is the "[p]rocess of protecting information by preventing, detecting, and responding to attacks" and the "prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and nonrepudiation." National Institute of Standards and Technology (NIST), *Developing Cyber-Resilient Systems: A Systems Security Engineering Approach*, at 62 (Dec. 2011), https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-160v2r1.pdf.

[3] Exec. Order No. 13618, *Assignment of National Security and Emergency Preparedness Communications Functions*, 77 Fed. Reg. 40799 (July 11, 2012). According to the 2024 National Security Memorandum on Critical Infrastructure Security and Resilience, the Commission's role in securing the communications sector, in coordination with other Federal agencies, is to "(1) identify and prioritize communications infrastructure by collecting information regarding communications networks; (2) assess communications sector risks and work to mitigate those risks by requiring, as appropriate, regulated entities to take specific actions to protect communications networks and infrastructure; and (3) collaborate with communications sector industry members, foreign governments, international organizations, and other stakeholders to identify best practices and impose corresponding regulations." Executive Office of the President, National Security Memorandum on Critical Infrastructure Security and Resilience at 8 (Apr. 30, 2024), https://www.govinfo.gov/content/pkg/DCPD-202400358/pdf/DCPD-202400358.pdf (National Security Memorandum).

[4] CISA et al., Joint Cybersecurity Advisory, PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure (2024), https://media.defense.gov/2024/Feb/07/2003389935/-1/-1/1/CSA-PRC-COMPROMISE-US-CRITICAL-INFRASTRUCTURE.PDF.

among the targeted critical infrastructure segments.[5] Adversaries linked to the Chinese government are targeting critical U.S. infrastructure, such as our communications, energy, transportation systems, and water and wastewater systems sectors, as they prepare to cause "real-world" harm to Americans.[6] According to the Identity Theft Resource Center, more than 3,000 data compromises were reported in the U.S alone in 2023.[7]

3. As the advisory predicted, PRC-backed cyberattacks have continued to intensify in recent months. In September 2024, U.S. officials said they had assessed that "PRC-linked cyber actors compromised thousands of internet-connected devices," including a network of more than 200,000 routers, cameras, and other Internet-connected consumer devices to "create a network of compromised nodes" to serve as an entry point into U.S. networks to position themselves for malicious activity.[8] In October, the Wall Street Journal reported that another PRC-based group committed a cyberattack that had "penetrated the networks of a swath of U.S. broadband providers," including Verizon, AT&T, Lumen, and others, and may have remained undetected for "months or longer" within network infrastructure that is used to cooperate with lawful federal requests for wiretaps and communications data.[9] This hack has been reported as "a potentially catastrophic security breach . . . geared toward intelligence collection"[10] that follows recent patterns from PRC-based hacking groups of quietly gaining access to networks and then waiting to detonate cyberattacks that could cripple operations of infrastructure.[11] As part of this

[5] *See id.*; *see also* Brian Scott, Office of the National Cyber Director, Deputy Assistant National Cyber Director for Cyber Policy and Programs, Alerting Security Roundtable, 11:19 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (describing "pervasive" cybersecurity threats to the communications sector, including threats from foreign adversaries).

[6] Federal Bureau of Investigation, *Director Wray's Opening Statement to the House Select Committee on Strategic Competition Between the United States and the Chinese Communist Party* (Jan. 31, 2024), https://www.fbi.gov/news/speeches/director-wrays-opening-statement-to-the-house-select-committee-on-the-chinese-communist-party.

[7] Identity Theft Resource Center, 2023 Data Breach Report at 10 (2024), https://www.idtheftcenter.org/wp-content/uploads/2024/01/ITRC_2023-Annual-Data-Breach-Report.pdf. Data compromises are "events where personal information is accessible by unauthorized individuals and/or for unintended purposes," and encompass data breaches, exposures, and leaks. *Id.* at 4.

[8] Joint Cybersecurity Advisory, People's Republic of China-Linked Actors Compromise Routers and IoT Devices for Botnet Operations at 1 (Sept. 18, 2024), https://media.defense.gov/2024/Sep/18/2003547016/-1/-1/0/CSA-PRC-LINKED-ACTORS-BOTNET.PDF; Sarah Krouse et. al, *U.S. Wiretap Systems Targeted in China-Linked Hack*, Wall Street Journal (Oct. 5, 2024); *see also* Press Release, U.S. Dept. of Justice, Court-Authorized Operation Disrupts Worldwide Botnet Used by People's Republic of China State-Sponsored Hackers (Sept. 18, 2024), https://www.justice.gov/opa/pr/court-authorized-operation-disrupts-worldwide-botnet-used-peoples-republic-china-state.https://www.wsj.com/tech/cybersecurity/u-s-wiretap-systems-targeted-in-china-linked-hack-327fc63b; *see also* Press Release, U.S. Dept. of Justice, Court-Authorized Operation Disrupts Worldwide Botnet Used by People's Republic of China State-Sponsored Hackers (Sept. 18, 2024), https://www.justice.gov/opa/pr/court-authorized-operation-disrupts-worldwide-botnet-used-peoples-republic-china-state.

[9] Sarah Krouse et. al, *U.S. Wiretap Systems Targeted in China-Linked Hack*, Wall Street Journal (Oct. 5, 2024), https://www.wsj.com/tech/cybersecurity/u-s-wiretap-systems-targeted-in-china-linked-hack-327fc63b.

[10] *Id.*

[11] *See* CISA, Joint Cybersecurity Advisory, PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure at 2-3, 8 (2024), https://www.cisa.gov/sites/default/files/2024-03/aa24-038a_csa_prc_state_sponsored_actors_compromise_us_critical_infrastructure_3.pdf; *see also* Joseph Menn, *Chinese Government Hackers Penetrate U.S. Internet Providers to Spy*, Wash. Post (Aug. 27, 2024), https://www.washingtonpost.com/technology/2024/08/27/chinese-government-hackers-penetrate-us-internet-providers-spy/ (detailing another attack in August 2024 in which "some of the techniques and resources employed (continued….)

breach, the hackers also reportedly may have exfiltrated data from Verizon networks by reconfiguring Cisco routers responsible for routing much of the traffic on the Internet.[12]

4. Such threats can come from a variety of sources, including foreign adversaries and private actors. These incidents are only the most recent in an increasing pattern of cyberattacks targeting the United States' communications industry in the last several years.[13] For example, in a 2022 Data Breach Investigations Report, Verizon states that "[i]n the fifteen years that Verizon has been publishing its Data Breach Investigations Report, it has 'collected and analyzed in total over 914,547 incidents, 234,638 breaches and 8.9 TBs of cybersecurity data.' And the number of incidents is increasing every year."[14] In 2022, according to the Communications Sector Coordinating Council, "[c]yberattacks more than doubled against technology and telecommunications industries because of greater reliance on digital environments and remote working,"[15] and Check Point Research reports an average of 1,268 cyberattacks per week.[16] This troubling trend continues. Recent data breaches caused by cyberattacks have led some, such as Marcus Fowler, Chief Executive Officer (CEO) of Darktrace Federal, to comment that the communications sector is "uniquely vulnerable to cyberattacks," with other experts arguing that "leaving it up to the telecom industry to improve their own security postures isn't enough anymore."[17] This point was underscored in March 2024 by AT&T's public announcement that the company experienced a data breach involving the personal information of more than 70 million current and former customers leaked on the dark web.[18] NPR issued a report detailing the multiple data breaches AT&T alone has experienced

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are associated with those used in the past year by . . . Volt Typhoon[.] U.S. intelligence officials said that group sought access to equipment . . . to enable China to sow panic and disrupt America's ability to move troops, weaponry and supplies to Taiwan if armed conflict breaks out.").

[12] Ellen Nakashima, *China Hacked Major U.S. Telecom Firms in Apparent Counterspy Operation*, Wash. Post (Oct. 6, 2024), https://www.washingtonpost.com/national-security/2024/10/06/salt-typhoon-china-espionage-telecom/.

[13] *See generally* Communications Sector Coordinating Council, Annual Report (2024), https://www.comms-scc.org/2024/03/01/2024-cscc-annual-report/. The threat of cyberattacks on the communications sector is not limited to PRC-backed groups. *See*, *e.g.*, CISA, Russian Military Cyber Actors Target US and Global Critical Infrastructure (Sept. 5, 2024), https://www.cisa.gov/news-events/cybersecurity-advisories/aa24-249a.

[14] Center For Internet Security Reply, PS Docket Nos. 15-94, 15-91, and 22-329, at 2 (rec. Jan. 23, 2023) (citing Verizon, Data Breach Investigations Report at 10 (2022), https://www.verizon.com/business/en-gb/resources/2022-data-breach-investigations-report-dbir.pdf) (CIS Reply).

[15] Communications Sector Coordinating Council, Annual Report at 2 (2023), https://www.comms-scc.org/2023/02/07/2023-cscc-annual-report/.

[16] Check Point Research, *Third Quarter of 2022 Reveals Increase in Cyberattacks and Unexpected Developments in Global Trends* (Oct. 26, 2022), https://blog.checkpoint.com/2022/10/26/third-quarter-of-2022-reveals-increase-in-cyberattacks/ (describing how the communications sector was the fifth-most attacked critical infrastructure sector in the third quarter of 2022).

[17] Sam Sabin, *Wave of Telecom Data Breaches Highlight Industry's Weaknesses* (Mar. 17, 2023), https://www.axios.com/2023/03/17/telecom-data-breaches-t-mobile-att.

[18] AT&T, *AT&T Addresses Recent Data Set Released on the Dark Web* (Mar. 30, 2024), https://about.att.com/story/2024/addressing-data-set-released-on-dark-web.html; *see also* Chloe Veltman, *Millions of Customers' Data Found on Dark Web in Latest AT&T Data Breach* (Mar. 30, 2024), https://www.npr.org/2024/03/30/1241863710/att-data-breach-dark-web/.

since 2010, affecting the data of hundreds of millions of users.[19] Due to the current lapses in cybersecurity practices, vast amounts of critical and confidential data are vulnerable to adversaries.[20]

5. Successful attacks on the communications sector can, in turn, have damaging effects on other critical infrastructure sectors.[21] As CISA notes, "the Communications Sector is one of the few sectors that can affect all other sectors. At a minimum, each sector depends on services from the communications sector to support its operations and associated day-to-day communication needs for corporate and organizational networks and services (e.g., Internet connectivity, voice services, and video teleconferencing capabilities)."[22] For example, attacks on communications networks have impacted the healthcare industry. Lurie Children's Hospital, the largest children's hospital serving Chicago, Illinois, experienced an outage caused by a cyberattack that affected phone and Internet service, crippled the ability of patients and doctors to communicate, and overwhelmed call centers for more than a week.[23] Reportedly, the incident created a domino effect across the pediatric community, "from slow-downs in billing to young patients being sent to other hospitals to community physicians who rely on Lurie's

[19] Chloe Veltman, *Millions of Customers' Data Found on Dark Web in Latest AT&T Data Breach* (Mar. 30, 2024), https://www.npr.org/2024/03/30/1241863710/att-data-breach-dark-web/ ("AT&T is by no means the only U.S. telecommunications provider with a history of compromised customer data. The issue is rife across the industry.") *citing* Catherine Reed, *AT&T Data Breaches: Full Timeline Through 2023*, Firewall Times (Oct. 5, 2023), https://firewalltimes.com/att-data-breaches/. *See also, e.g.*, SEC, Frontier Communications Parent, Inc. Form 8-K (Apr. 15, 2024), https://www.sec.gov/ix?doc=/Archives/edgar/data/20520/000119312524100764/d784189d8k.htm (describing a cybersecurity incident that resulted in "shutting down certain of the Company's systems" and accessing "personally identifiable information").

[20] Cybersecurity risk management plans are proactive frameworks focused on identifying, mitigating, and managing potential cybersecurity threats to systems and operations, distinct from incident reporting requirements, which address the documentation and disclosure of specific cybersecurity events once they occur. *See*, *cf.*, Securities and Exchange Commission (SEC), *Cybersecurity Risk Management, Strategy, Governance, and Incident Disclosure*, 88 Fed. Reg. 44429 (July 26, 2023), https://www.sec.gov/files/rules/final/2023/33-11216.pdf.

[21] Brian Scott, Office of the National Cyber Director, Deputy Assistant National Cyber Director for Cyber Policy and Programs, Alerting Security Roundtable, 22:35 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable ("Everything that we're doing right now, all of our networks with the interconnectedness of our communications network and the internet across everything, every single sector is completely interdependent on the communications networks.").

[22] *See* CISA, *Communications Sector-Specific Plam: An Annex to the NIPP 2013*, at 9-10 (2015), https://www.cisa.gov/2015-sector-specific-plans (specifically identifying emergency services, energy, financial services, the IT Sector, and transportation as sectors that are dependent on communications). *See also, e.g.*, Andy Rose & Sara Smart, *Cyberattack on a Chicago Children's Hospital Has Shut Down Its Systems for a Week*, CNN (Feb. 6, 2024), https://www.cnn.com/2024/02/06/tech/cybersecurity-incident-chicago-lurie-childrens-hospital/index.html (describing a cyberattack on a hospital's computer systems and networks by which patients were unable to communicate with their specialists and accessing their records); *see also* CISA, *DNP3 Implementation Vulnerability (Update B)* (Sept. 6, 2018), https://www.cisa.gov/news-events/ics-advisories/icsa-13-291-01b (describing an IP-based vulnerability applicable to companies in the energy sector, where an adversary could craft an IP packet that would be able to remotely exploit this vulnerability to cause the software to go into an infinite loop and cause a system crash).

[23] *See, e.g.*, Kristen Schorsch, *Lurie Children's Outage Being Felt Beyond the Near North Side Pediatric Hospital*, Chicago Sun Times (Feb. 12, 2024), https://chicago.suntimes.com/2024/02/12/lurie-childrens-hospital-outage-system-impact-doctors-patients (describing how the outage forced the children's hospital to shut down its phone, email, electronic health record system, and patient portal after being subject to a cyberattack); Andy Rose & Sara Smart, *Cyberattack on a Chicago Children's Hospital Has Shut Down Its Systems for a Week*, CNN (Feb. 6, 2024), https://www.cnn.com/2024/02/06/tech/cybersecurity-incident-chicago-lurie-childrens-hospital/index.html (citing a Facebook post from the hospital's account on January 31, 2024, stating "Lurie Children's is currently experiencing a network outage that impacts internet and phone service. We are actively working to resolve the issue.").

systems struggling to communicate with families."[24] Further, a February 2024 joint advisory issued by CISA, NSA, the FBI, and other U.S. federal agencies warned the public of Russian state-sponsored cyber actors' use of compromised Ubiquiti EdgeRouters to facilitate malicious cyber operations worldwide, which specifically has had an impact on various industries, including critical manufacturing, energy, and transportation systems sectors.[25]

### B. Commission Action to Protect the Nation's Networks from Attack

6. Congress created the Commission, among other reasons, "for the purpose of the national defense [and] for the purpose of promoting safety of life and property through the use of wire and radio communication . . . ."[26] The Commission takes this responsibility seriously and, over the years, has taken measures to protect the security of our nation's communications networks and infrastructure from potential security threats. The Commission has previously found that "a foreign adversary's access to American communications networks could result in hostile actions to disrupt and surveil our communications networks, impacting our nation's economy generally and online commerce specifically, and result in the breach of confidential data."[27]

7. Recent rulemakings in the context of the Universal Service Fund (USF) have adopted rules to require the creation, implementation, and maintenance of operational cybersecurity and supply chain risk management plans as a condition to the receipt of funds. In July 2023, the Commission adopted rules requiring participants in the Enhanced Alternative Connect America Cost Model (A-CAM) program to implement cybersecurity and supply chain risk management plans by the start of the Enhanced A-CAM term, and to certify to the Commission their submission of such plans to the Universal Service Administrative Company (USAC).[28] Similarly, the Commission has adopted rules in the 5G Fund for Rural America (5G Fund) and in the next phase of high-cost fixed and mobile support in Alaska (Alaska

[24] *Id.*

[25] *See* Joint Cybersecurity Advisory, Russian Cyber Actors Use Compromised Routers to Facilitate Cyber Operations at 2 (2024), https://www.ic3.gov/Media/News/2024/240227.pdf; *see also* Luke Barr, ABC News, *Russian Hackers Using 'Compromised' Internet Routers for Cyber Operations, US, International Law Enforcement Warn* (Feb. 28, 2024), https://abcnews.go.com/US/russian-hackers-compromised-internet-routers-cyber-operations-us/story?id=107616396.

[26] 47 U.S.C. § 151.

[27] *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs; Huawei Designation; ZTE Designation*, WC Docket No. 18-89; PS Docket Nos. 19-351 and 19-352, Report and Order, Further Notice of Proposed Rulemaking, and Order, 34 FCC Rcd 11423, 11465, para. 109 (2019) (*Supply Chain Order*); *see also China Telecom (Americas) Corporation*, GN Docket No. 20-109, File Nos. ITC-214-20010613-00346, ITC-214-20020716-00371, ITC-T/C-20070725-00285, Order on Revocation and Termination, 36 FCC Rcd 15966, 16019-20, para. 81 (2021) (*China Telecom Americas Order on Revocation and Termination*), *aff'd*, *China Telecom (Ams.) Corp. v. FCC*, 57 F.4th 256 (D.C. Cir. 2022).

[28] *Connect America Fund: A National Broadband Plan for Our Future High-Cost Universal Service Support; ETC Annual Reports and Certifications; Telecommunications Carriers Eligible to Receive Universal Service Support; Connect America Fund – Alaska Plan; Expanding Broadband Service Through the ACAM Program*, WC Docket Nos. 10-90, 14-58, 09-197, and 16-271, and RM-11868, Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, 38 FCC Rcd 7040, 7086-88, paras. 109-14 (2023) (*Enhanced A-CAM Program Order*) (adopting the creation, implementation, and maintenance of operational cybersecurity and supply chain risk management plans as a condition to the receipt of funds).

Connect Fund) proceedings that would require recipients of USF to implement cybersecurity and supply chain risk management plans as a condition of receiving support.[29]

8. In 2022, the Commission proposed requirements to ensure that participants in the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA) remain vigilant and proactive in safeguarding their networks from emerging cybersecurity threats.[30] Among other requirements, the Commission proposed that participants in these alerting systems certify that they have created, updated, and implemented cybersecurity risk management plans that describe how they ensure the confidentiality, integrity, and availability of systems and services that potentially could affect their provision of EAS or WEA.[31]

9. We also recently proposed cybersecurity risk management plan requirements for submarine cable landing applicants and licensees. In that *Notice of Proposed Rulemaking*, we proposed to require all applicants to certify that they have created, updated, and implemented cybersecurity risk management plans and to delegate to the Office of International Affairs (OIA), in coordination with the Public Safety and Homeland Security Bureau (PSHSB or the Bureau), the authority to request submission of those plans to evaluate them for compliance with the Commission's rules.[32] Access to applicants' and licensees' cybersecurity risk management plans would allow the Commission to confirm whether plans are being regularly updated, review a specific plan as needed, or proactively review a sample of applicants' and licensees' plans to confirm they identify the cybersecurity risks to those applicants' and licensees' communications systems and services.

### C. The Communications Assistance for Law Enforcement Act

10. In response to concerns that emerging technologies such as digital and wireless communications were making it increasingly difficult for law enforcement agencies to execute authorized surveillance, Congress enacted CALEA on October 25, 1994.[33] CALEA was intended to preserve the ability of law enforcement agencies to conduct electronic surveillance by requiring that telecommunications carriers and manufacturers of telecommunications equipment modify and design their equipment, facilities, and services to ensure that they have the necessary surveillance capabilities.[34]

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[29] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 24-89 (2024) (*5G Fund Order*); *Connect America Fund; Alaska Connect Fund; Connect America Fund—Alaska Plan; Universal Service Reform—Mobility Fund; ETC Annual Reports and Certifications; Telecommunications Carriers Eligible to Receive Universal Service Support*, WC Docket Nos. 10-90, 23-328, 16-271, 10-208, 14-58, 09-197, Report and Order and Further Notice of Proposed Rulemaking, FCC 24-116 (2024) (*Alaska Connect Fund Order*).

[30] *Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert System; Wireless Emergency Alerts; Protecting the Nation's Communications Systems from Cybersecurity Threats*, PS Docket Nos. 15-94, 15-91, and 22-329, Notice of Proposed Rulemaking, 37 FCC Rcd 12932, 12943, 12948, paras. 23, 33 (2022) (*Alerting Security NPRM*).

[31] *Id.*, 37 FCC Rcd at 12944-45, 12948, paras. 25, 34; *see also id.*, 37 FCC Rcd at 12939-42, paras. 13-21 (proposing cyber incident reporting requirements for alerting participants). These proposals remain under consideration by the Commission.

[32] *Review of Submarine Cable Landing License Rules and Procedures to Assess Evolving National Security, Law Enforcement, Foreign Policy, and Trade Policy Risks*; *Amendment of the Schedule of Application Fees Set Forth in Sections 1.1102 through 1.1109 of the Commission's Rules*, OIA Docket No. 24-523, MD Docket No. 24-524, Notice of Proposed Rulemaking, FCC 24-119, at 58, 64, paras. 108, 116 (2024).

[33] Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.).

[34] 47 U.S.C. § 1002(a)(1)-(4). Jurisdiction to implement CALEA's provisions is shared by the Attorney General of the United States, who consults with state and local law enforcement agencies, and the Commission. Effective (continued….)

The Commission began its implementation of CALEA with the release of a Notice of Proposed Rulemaking in 1997 and adoption of initial rules in 1999.[35] Since that time, the Commission has taken several actions and released numerous orders implementing CALEA's requirements.[36] Notably, CALEA includes a "Substantial Replacement Provision," which requires the Commission to deem certain service providers "telecommunications carriers" for purposes of CALEA if the Commission finds that the service provided is "a replacement for the substantial portion of the local telephone exchange service" and that doing so is in the public interest.[37] Based on this Substantial Replacement Provision, in 2005, the Commission interpreted CALEA's definition of "telecommunications carrier" as "broader than that found in the Communications Act,"[38] and as including facilities-based broadband Internet access service (BIAS) providers and interconnected Voice over Internet Protocol (VoIP) service providers.[39]

## III. DECLARATORY RULING

11. We conclude that section 105 of CALEA affirmatively requires telecommunications carriers, as defined in CALEA, to secure their networks from unlawful access to or interception of communications. The Commission has previously found that section 105 of CALEA creates an affirmative obligation for a telecommunications carrier to avoid the risk that suppliers of untrusted equipment will "illegally activate interceptions or other forms of surveillance within the carrier's switching premises without its knowledge."[40] With this *Declaratory Ruling*, we clarify that telecommunications carriers' duties under section 105 of CALEA extend not only to the equipment they choose to use in their networks,[41] but also to how they manage their networks.

12. Our conclusion is compelled by a plain reading of the statutory text. Section 105 of CALEA provides that "[a] telecommunications carrier shall ensure that any interception of communications or access to call-identifying information effected within its switching premises can be activated only in accordance with a court order or other lawful authorization and with the affirmative intervention of an individual officer or employee of the carrier acting in accordance with regulations

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implementation of CALEA's provisions relies to a large extent on shared responsibility among these governmental agencies and the service providers and manufacturers subject to the law's requirements.

[35] *Communications Assistance for Law Enforcement Act*, Notice of Proposed Rulemaking, CC Docket No. 97-213, 13 FCC Rcd 3149 (1997); *Communications Assistance for Law Enforcement Act*, Report and Order, 14 FCC Rcd 4151 (1999) (*1999 Systems Security and Integrity Order*).

[36] *See, e.g., Communications Assistance for Law Enforcement Act and Broadband Access and Services*, Notice of Proposed Rulemaking and Declaratory Ruling, ET Docket No. 04-295, RM-10865, 19 FCC Rcd 15676, 15678-91, paras. 5-29 (2004) (*2004 Notice*) (providing a discussion of the history of the Commission's CALEA implementation actions and orders).

[37] 47 U.S.C. § 1001(8)(B)(ii).

[38] *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM-10865, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989, 14993, para. 10 (2005), *aff'd*, *American Council on Educ. v. FCC*, 451 F.3d 226 (D.C. Cir. 2006).

[39] *Id.*, 20 FCC Rcd at 14989, 14991-14992, 15002-15012, para. 8, 26-45.

[40] *See Supply Chain Order*, 34 FCC Rcd at 11436, para. 35 ("One of the dangers of allowing equipment from untrusted suppliers to be part of a network is the possibility that those suppliers will maintain the ability to illegally activate interceptions or other forms of surveillance within the carrier's switching premises without its knowledge, whether through the insertion of malicious hardware or software implants, remote network access maintained by providers of managed services, or otherwise. Telecommunications carriers. . . appear to have a duty to avoid such risks.").

[41] *See Supply Chain Order*, 34 FCC Rcd at 11436-37, paras. 35-36 (reasoning that choosing to use equipment from untrusted providers increases the likelihood of unauthorized surveillance).

prescribed by the Commission."[42] By mandating an affirmative duty requiring that carriers "shall ensure" that the "only" interception of communications or access to call-identifying information is that which is conducted pursuant to a lawful authorization and with the affirmative intervention of an individual officer of the carrier acting in accordance with the Commission's regulations, CALEA obligates carriers to *prevent* interception of communications or access to call-identifying information by any other means.[43]

13. We reiterate the Commission's previous conclusion that section 105 of CALEA affirmatively obligates carriers to take action to prevent all unauthorized interception and access to call-identifying information within their networks, whether by law enforcement or by other parties.[44] The statute refers to "*any* interception of communications or access to call-identifying information within its switching premises,"[45] without limitation, and thus as a textual matter is not limited to particular forms of interception or access. Moreover, Congress expressly defined "intercept" in CALEA to broadly include "the aural or other acquisition of the contents of *any* wire, electronic, or oral communication through the use of any electronic, mechanical, or other device"[46]—further emphasizing that the "interception of communications" referred to in section 105 is not limited to actions by law enforcement agencies. This view is supported by CALEA's legislative history, as the Commission showed in the *Protecting Against National Security Threats to the Communications Supply Chain Report and Order*;[47] earlier Senate and House bills had used different language, which would have expressly limited carriers' security obligation only to "any *court ordered or lawfully authorized* interception of communications or access to call-identifying information within its switching premises."[48] By discarding the italicized text and adopting broader language that simply required carriers to ensure that "any interception of communications or access to call-identifying information" occurred in a lawful manner, Congress required carriers' facilities to be secure against all unlawful interception.[49] Accordingly, we conclude that section 105 of CALEA independently obligates telecommunications carriers to prevent all incidents of unauthorized interception of communications and access to call-identifying information, not merely those carried out by law enforcement.

14. Even absent rules adopted by the Commission, such as those proposed below, we believe that telecommunications carriers would be unlikely to satisfy their statutory obligations under section 105 without adopting certain basic cybersecurity practices for their communications systems and services. For example, basic cybersecurity hygiene practices such as implementing role-based access controls, changing default passwords, requiring minimum password strength, and adopting multifactor

[42] 47 U.S.C. § 1004 (emphasis added).

[43] *See 1999 Systems Security and Integrity Order*, 14 FCC Rcd at 4163, para. 27 (confirming the tentative conclusion that "section 105 of CALEA imposes a duty upon each carrier to ensure that only lawful interceptions will occur on its premises").

[44] *See Supply Chain Order*, 34 FCC Rcd at 11437, para. 37.

[45] 47 U.S.C. § 1004 (emphasis added); *see also Supply Chain Order*, 34 FCC Rcd at 11436, para. 35 (explaining that "switching premises" includes "routers, soft switches, and other equipment that may provide addressing and intelligence functions for packet-based communications to manage and direct the communications along to their intended destinations").

[46] 18 U.S.C. § 2510(4) (emphasis added); *see* 47 U.S.C. § 1001(1) incorporating by reference terms defined in 18 U.S.C. § 2510 and "the meanings stated in" that provision).

[47] *Supply Chain Order*, 34 FCC Rcd at 11433, para. 37.

[48] *See* H.R. 4922, 103d Cong. § 2604 (1994) (as introduced on Aug. 9, 1994) (emphasis added); S. 2375, 103d Cong. § 2604 (1994) (as reported by S. Comm. On the Judiciary, Sept. 12, 1994) (emphasis added).

[49] *See* Communications Assistance for Law Enforcement Act, Pub. L. No. 103-414, § 105, 108 Stat. 4279 (1994).

authentication are necessary for any sensitive computer system.[50] Furthermore, a failure to patch known vulnerabilities or to employ best practices that are known to be necessary in response to identified exploits would appear to fall short of fulfilling this statutory obligation.[51] Enterprise-level implementation of these basic cybersecurity hygiene practices is necessary to prevent unlawful real-time access to communications because vulnerabilities in ancillary systems, operational networks, or administrative infrastructure can provide attackers with unauthorized access that can ultimately compromise surveillance systems and other network elements. For example, even well-protected switches within an otherwise unsecured network would be vulnerable to compromise through the integration of infected systems in the supply chain or lateral movement by threat actors within the network. The integration of cybersecurity best practices across an enterprise makes it less likely that attackers can gain unauthorized access to networks from more common points of entry, such as corporate IT systems, customer-facing portals, and third-party vendors.

15. Having concluded that section 105 of CALEA requires telecommunications carriers to affirmatively secure their networks from unlawful access or interception of communications, we turn to the Commission's statutory duty to implement section 105 through rulemaking. Section 229 of the Communications Act of 1934, as amended (the Act), directs the Commission to "prescribe such rules as are necessary to implement the requirements of [CALEA],"[52] including "rules to implement section 105 of [CALEA] that require common carriers . . . to establish appropriate policies and procedures . . . to require appropriate authorization [for officers and employees] to activate interception of communications or access to call-identifying information" and "to prevent any such interception or access without such authorization."[53] Section 229 further directs that such rules implementing section 105 must require carriers "to maintain secure and accurate records of any interception or access with or without such authorization," and "to submit to the Commission the policies and procedures adopted to comply with the[se] requirements."[54] In light of this statutory language, we conclude that Congress has authorized the Commission to adopt rules that require telecommunications carriers to take specific steps to secure their networks against unauthorized interception.

## IV. NOTICE OF PROPOSED RULEMAKING

### A. Scope of Communications Service Providers Subject to Cybersecurity Proposals

16. The Declaratory Ruling above establishes that telecommunications carriers subject to CALEA have a statutory obligation and is effective immediately. In this *Notice of Proposed Rulemaking*, we propose to adopt specific cybersecurity and supply chain risk management requirements, and we propose to apply them to a broader universe of service providers. As discussed in this section, we

[50] *See* CISA, Cybersecurity Performance Goals (CPGs), https://www.cisa.gov/cybersecurity-performance-goals-cpgs (last visited Dec. 4, 2024); Center for Internet Security, Critical Security Controls Version 8.1, https://www.cisecurity.org/controls (last visited Dec. 4, 2024).

[51] *See, e.g.*, CISA, Enhanced Visibility and Hardening Guidance for Communications Infrastructure (Dec. 4, 2024), https://www.cisa.gov/resources-tools/resources/enhanced-visibility-and-hardening-guidance-communications-infrastructure.

[52] 47 U.S.C. § 229(a).

[53] 47 U.S.C. § 229(b)(1). Note that, although subsection (b)(1) refers to "common carriers," subsection (a) does not. The Commission has confirmed that "section 229(a) provides broad authority for the Commission to adopt rules to implement CALEA and, unlike section 229(b) does not limit our rulemaking authority to common carriers." *2006 Second Report and Order*, 21 FCC Rcd at 5389-90, para. 66.

[54] 47 U.S.C. § 229(b)(2)-(3).

propose that the requirements would apply to facilities-based fixed and mobile BIAS providers;[55] all broadcasting stations[56]—including AM broadcast stations,[57] FM broadcast stations[58] (including low power FM broadcast stations and program originating FM booster stations), digital audio broadcasters,[59] all television stations[60]—including low power television stations,[61] television broadcast translator stations,[62] and all analog television[63] and digital television service providers;[64] all cable systems[65] (including digital cable systems[66] and wireless cable systems);[67] wireline video systems;[68] wireline communications

[55] *See* 47 CFR § 8.1(b) (defining "broadband Internet access service" as "[a] mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service").

[56] *See* 47 CFR § 2.1 (defining broadcasting station as a station in the broadcasting service, which is a radiocommunication service in which the transmissions are intended for direct reception by the general public).

[57] 47 CFR § 73.14 (defining AM broadcast stations as "[a] broadcast station licensed for the dissemination of radio communications intended to be received by the public and operated on a channel in the AM broadcast band").

[58] 47 CFR § 73.310(a) (defining FM broadcast station as "[a] station employing frequency modulation in the FM broadcast band and licensed primarily for the transmission of radiotelephone emissions intended to be received by the general public").

[59] 47 CFR § 73.402 (defining digital audio broadcast as "those radio stations licensed by the Commission and use the In-band On-channel ("IBOC") system for broadcasting purposes").

[60] 17 U.S.C. § 122(j)(7) (defining television broadcast station to include "over-the-air, commercial or noncommercial television broadcast station licensed by" the Commission); *see* 47 CFR § 76.5(b).

[61] 47 CFR § 74.701(f) (defining low power TV station as "[a] station authorized [by the Commission's rules] that may retransmit the programs and signals of a TV broadcast station and that may originate programming in any amount greater than 30 seconds per hour"); 17 U.S.C. § 122(j)(3) (low power television stations include Class A television licensees under the Commission's rules); *see also* 47 CFR § 74.701(k).

[62] 47 CFR § 74.701(a) (defining television broadcast translator stations as "[a] station in the broadcast service operated for the purpose of retransmitting the programs and signals of a television broadcast station, without significantly altering any characteristic of the original signal other than its frequency and amplitude, for the purpose of providing television reception to the general public"); *see also id.* § 74.701(j).

[63] 47 U.S.C. § 153(56)(A) (defining analog television service as "television service provided pursuant to the transmission standards prescribed by the Commission"); *see* 47 CFR § 76.5(b).

[64] 47 U.S.C. § 153(56)(B) (defining digital television service as "television service provided pursuant to the transmission standards prescribed by the Commission"); *see* 47 CFR § 76.5(b).

[65] 47 CFR § 76.5(a) (defining a cable system as "[a] facility consisting of a set of closed transmission paths and associated signal generation, reception, and control equipment that is designed to provide cable service which includes video programming and which is provided to multiple subscribers within a community . . .").

[66] *See* 47 CFR § 11.11(a) (defining digital cable systems for the purposes of the EAS rules).

[67] 47 CFR § 11.11(c)(1) (defining wireless cable system for the purposes of the EAS rules as "a collection of channels in the [Broadband Radio Service] or [Educational Broadband Service] used to provide video programming services to subscribers").

[68] 47 CFR § 11.2(c) (defining wireline video systems as the "system of a wireline common carrier used to provide video programming service").

providers;[69] commercial radio operators;[70] interconnected VoIP providers (including providers of outbound-only VoIP);[71] telecommunications relay service (TRS) providers;[72] satellite communications providers (including all space and earth station licensees, mobile satellite service providers,[73] Direct Broadcast Satellite (DBS) providers,[74] SDARS providers,[75] geostationary orbit (GSO) and GSO-like satellite operations,[76] non-geostationary orbit (NGSO) and NGSO-like satellite operations,[77] Fixed-

[69] *See* 47 CFR § 4.3(g) (defining "wireline communications providers" as those that "offer terrestrial communications through direct connectivity, predominantly by wire, coaxial cable, or optical fiber, between the serving central office (as defined in the appendix to part 36 of this chapter) and end user location(s). Also included are affiliated and non-affiliated entities that maintain or provide communications networks or services used by the provider in offering such communications").

[70] *See* 47 CFR §§ 13.3(b), 13.7(b) (defining a "commercial radio operator" as a person holding a license or license as specified in § 13.7(b), which enumerates the twelve types of commercial radio operator licenses).

[71] *See* 47 CFR § 9.3 (defining "interconnected Voice over Internet Protocol (VoIP) service" as "a service that: (i) enables real-time, two-way voice communications; (ii) requires a broadband connection from the user's location; (iii) requires internet protocol-compatible customer premises equipment (CPE); and (iv) permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network"); *see also Implementing Kari's Law and Section 506 of RAY BAUM'S Act; 911 Access, Routing, and Location in Enterprise Communications System; Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules*, PS Docket Nos. 18-261 and 17-239, GN Docket No. 11-117, Report and Order, 34 FCC Rcd 6607, 6675, para. 183 (2019) (amending the definition of "Interconnected VoIP Service" used for 911 purposes to include outbound-only interconnected VoIP services that generally permit users to initiate calls that terminate to the public switched telephone network).

[72] *See* 47 CFR § 9.3 (defining "telecommunications relay services" as "Telephone transmission services that provide the ability for an individual who has a hearing or speech disability to engage in communication by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual who does not have a hearing or speech disability to communicate using voice communication services by wire or radio . . . includ[ing] services that enable two-way communication between an individual who uses a text telephone or other nonvoice terminal device and an individual who does not use such a device, speech-to-speech services, video relay services and non-English relay services").

[73] *See* 47 CFR § 2.1 (defining "Mobile-Satellite Service" as "[a] radiocommunication service: (1) Between mobile earth stations and one or more space stations, or between space stations used by this service; or (2) Between mobile earth stations by means of one or more space stations").

[74] *See* 47 CFR § 25.103 (defining "Direct Broadcast Satellite Service" as "[a] radiocommunication service in which signals transmitted or retransmitted by Broadcasting-Satellite Service space stations in the 12.2-12.7 GHz band are intended for direct reception by subscribers or the general public. For the purposes of this definition, the term direct reception includes individual reception and community reception").

[75] *See* 47 CFR § 25.201 (defining "Satellite Digital Audio Radio Service" as "[a] radiocommunication service in which audio programming is digitally transmitted by one or more space stations directly to fixed, mobile, and/or portable stations, and which may involve complementary repeating terrestrial transmitters and telemetry, tracking and command facilities").

[76] *See* 47 CFR § 25.158 (defining "GSO-like satellite operations" as "operation of a GSO satellite to communicate with earth stations with directional antennas, including operation of GSO satellites to provide MSS feeder links").

[77] *See* 47 CFR § 25.157(a) (defining "NGSO-like satellite operations" as "[o]peration of any NGSO satellite system" and "[o]peration of a GSO MSS satellite to communicate with earth stations with non-directional antennas").

Satellite Services,[78] Earth Exploration-Satellite Services,[79] satellite operators,[80] and any other satellite communications provider that use space stations as a means of providing the public with communications); commercial mobile radio providers;[81] wireless resellers and Mobile Virtual Network Operators (MVNOs);[82] covered 911 service providers;[83] covered 988 service providers;[84] and international section 214 authorization holders.[85] We hereinafter refer to these entities collectively as "Covered Providers."[86]

[78] *See* 47 CFR § 25.103 (defining "Fixed-Satellite Service" as "[a] radiocommunication service between earth stations at given positions, when one or more satellites are used; the given position may be a specified fixed point or any fixed point within specified areas; in some cases this service includes satellite-to-satellite links, which may also be operated in the inter-satellite service; the Fixed-Satellite Service may also include feeder links of other space radiocommunication services").

[79] *See* 47 CFR § 2.1 (defining "Earth Exploration Satellite-Service" as "[a] radiocommunication service between earth stations and one or more space stations, which may include links between space stations, in which: (1) Information relating to the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment, is obtained from active sensors or passive sensors on Earth satellites; (2) Similar information is collected from airborne or Earth-based platforms; (3) Such information may be distributed to earth stations within the system concerned; and (4) Platform interrogation may be included. This service may also include feeder links necessary for its operation").

[80] *See* 47 CFR § 4.3 (defining "satellite operators" as "entities that operate space stations but do not necessarily provide communications services directly to end users").

[81] *See* 47 CFR § 20.3 (defining "Commercial Mobile Radio Service" as "a mobile service that is: (a)(1) provided for profit, i.e., with the intent of receiving compensation or monetary gain; (2) An interconnected service; and (3) Available to the public, or to such classes of eligible users as to be effectively available to a substantial portion of the public; or (b) The functional equivalent of such a mobile service described in paragraph (a)").

[82] Resellers and MVNOs are providers of commercial mobile radio services that generally do not use their own wireless facilities to provide the service. *See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 17-69, Twentieth Report, 32 FCC Rcd 8968, 8976, para. 15 (2017) ("Resellers and mobile virtual network operators (MVNOs) do not own any network facilities, but instead purchase mobile wireless services wholesale from facilities-based service providers and resell these services to consumers."); *see also Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1475-90, paras. 37, 164-213 (1994) (finding that "mobile resale service is included within the general category of mobile services as defined by Section 3(n) and for purposes of regulation under Section 332").

[83] *See* 47 CFR § 9.19(a)(4) (defining a "covered 911 service provider" as "[a]ny entity that [p]rovides 911, E911 or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), or the functional equivalent of those capabilities, directly to a public safety answering point (PSAP), statewide default answering point, or appropriate local emergency authority …; and/or [o]perates one or more central offices that directly serve a PSAP").

[84] *See* 47 CFR § 4.3 (defining "covered 988 service providers" providers that provide the 988 Suicide & Crisis Lifeline (988 Lifeline) with capabilities such as the ability to receive, process, or forward calls. "Covered 988 service provider" shall not include any entity that constitutes a crisis center that participates in the 988 Lifeline, or any entity that offers the capability to originate 988 calls where another service provider delivers those calls to the appropriate crisis center").

[85] *See generally* 47 CFR Part 63 (listing rules for domestic, international, and foreign entities authorized to provide communications services in the United States under Section 214 and the requirements listed in 47 CFR Part 63).

[86] Submarine cable landing licensees are excluded from the definition of "Covered Providers" because we have recently sought comment on whether they should comply with the cybersecurity risk management practices we (continued….)

17. We believe that applying the rules we propose today to these Covered Providers is necessary to achieve our national security policy objective of protecting the nation's communications networks while maximizing related public safety and economic security benefits.[87] These entities together provide the vast majority of the nation's communications services, supporting the transmission of public safety communications, dissemination of emergency information, economic activity, and other kinds of services that are widely relied upon by the general public. Their targeting by adversaries therefore risks significant harm that warrants commensurate efforts to protect them. As emphasized in Executive Order 13618, "[t]he Federal Government must have the ability to communicate at all times and under all circumstances to carry out its most critical and time sensitive missions."[88] Further, "[s]uch communications must be possible under all circumstances to ensure national security, effectively manage emergencies, and improve national resilience."[89] Also, among the Covered Providers are telecommunications carriers that are affirmatively required to secure their networks from unlawful access or interception of communications, as discussed in the above *Declaratory Ruling*. Additional benefits that are expected to arise from adopting the rules that we propose today are discussed below. Are there other types of communications service providers that should be considered Covered Providers for the purpose of this proceeding? Are there any types of providers that should be excluded from being a Covered Provider? In particular, should providers of resold services be excluded from the cybersecurity and supply chain risk management requirements if they do not operate networks, or should providers' obligations be limited to the network elements that they operate? Even providers of only resold services must have some systems that could be vulnerable to attack or compromise, but should they be excluded from our rules because the risks are lower or for other reasons?

### B. Protecting the Nation's Communications Systems through the Development, Implementation, and Certification of Cybersecurity and Supply Chain Risk

propose today. *Review of Submarine Cable Landing License Rules and Procedures to Assess Evolving National Security, Law Enforcement, Foreign Policy, and Trade Policy Risks*; *Amendment of the Schedule of Application Fees Set Forth in Sections 1.1102 through 1.1109 of the Commission's Rules*, OIA Docket No. 24-523, MD Docket No. 24-524, Notice of Proposed Rulemaking, FCC 24-119, at 58, para. 108 (2024) (*Submarine Cable NPRM*). While this *Notice of Proposed Rulemaking* does not seek additional comments to address the specific issues raised in that proceeding, we seek comment below on whether and to what extent the Commission should harmonize its approach to cybersecurity and supply chain risk management across communications services.

We also note that Participating CMS Providers and EAS Participants are the subject of a pending proceeding from 2022, the *Alerting Security NPRM*, in which the Commission previously sought comment on whether it should adopt cybersecurity risk management plan requirements for those providers. *See Alerting Security NPRM* at 12, 17, paras. 23, 33; *see also* 47 CFR § 10.10(f) (defining a "Participating Commercial Mobile Service Provider" as a "Commercial Mobile Service Provider that has voluntarily elected to transmit Alert Messages"); 47 CFR § 11.2(b) (defining EAS Participants as "[e]ntities required under the Commission's rules to comply with EAS rules, e.g., analog radio and television stations, and wired and wireless cable television systems, DBS, DTV, SDARS, digital cable and DAB, and wireline video systems"). Because the Covered Providers in this *Notice of Proposed Rulemaking* include all CMS Providers and EAS Participants, and in order to refresh the record on these issues, this *Notice of Proposed Rulemaking* subsumes those issues and the Commission will address the record generated on those issues in response to the *Alerting Security NPRM* in any subsequent order in the instant proceeding.

[87] *See, e.g.,* DHS, *Communications Sector-Specific Plan: An Annex to the NIPP 2013*, at 6, https://www.cisa.gov/sites/default/files/publications/nipp-ssp-communications-2015-508.pdf (last visited Apr. 26, 2024) (describing the five access segments of the communications sector as broadcast, cable, satellite, wireless, and wireline).

[88] Exec. Order No. 13618, *Assignment of National Security and Emergency Preparedness Communications Functions*, 77 Fed. Reg. 40799 (Jul. 11, 2012).

[89] *Id.*

**Management Plans**

18. We propose to require all Covered Providers to create, update, and implement cybersecurity and supply chain risk management plans. We also propose to require Covered Providers to take reasonable measures to protect the confidentiality, integrity, and availability of their systems and services that could affect their provision of communications service. In this regard, we propose that Covered Providers' cybersecurity and supply chain risk management plans must identify the cyber risks they face, the controls they use or plan to use to mitigate those risks, and how they ensure that these controls are applied effectively to their operations.[90] We believe that the mere act of creating, updating, and implementing cybersecurity and supply chain risk management plans would not be sufficient on its own, but rather that the cybersecurity and supply chain risk management plans must also be reasonable to avoid an independent breach of the proposed rules. We seek comment on this belief. The plans would also describe how the Covered Provider employs its organizational resources and processes to ensure the confidentiality, integrity, and availability of its systems and services, including with respect to its network and configuration management practices for its network equipment and devices. We seek comment on these proposals. We believe these proposals are consistent with the National Cybersecurity Strategy and, in that connection, are in keeping with a whole-of-government effort to "establish cybersecurity requirements to support national security and public safety."[91] We expect that creating, updating, and implementing cybersecurity and supply chain risk management plans would help protect Covered Providers' systems and services from serious threats to national security, public safety, and the economy.[92] We also expect these proposals to advance the National Security Memorandum on Critical Infrastructure and Resilience's objectives as relevant to the Commission's statutory and regulatory responsibilities, including under CALEA, by requiring specific actions to protect communications networks and infrastructure and collaborating with communications sector industry members to identify

[90] *See* Colorado Broadcasters' Association Comments at 8 (asking for guidance about what threat assessment elements must be included in a cybersecurity plan). While there are many ways that a Covered Provider may identify relevant cyber risks, we recommend to Covered Providers integrated threat intelligence from the Communications Information Sharing and Analysis Center (ISAC), CISA Known Exploited Vulnerabilities and white papers, and PSHSB public notices and other releases. *See* ISAO Standards Organization, *Communications ISAC*, https://www.isao.org/information-sharing-group/sector/communications-isac/ (last visited Feb. 14, 2024); CISA, *Reducing the Significant Risk of Known Exploited Vulnerabilities*, https://www.cisa.gov/known-exploited-vulnerabilities (last visited Feb. 14, 2024). To "identify" the cyber risks that an organization faces is the second of the NIST CSF 2.0's six functions: Govern, Identify, Protect, Detect, Respond, and Recover. *See* NIST, *Cybersecurity Framework*, https://doi.org/10.6028/NIST.CSWP.29 (last visited Feb. 27, 2024).

[91] White House, National Cybersecurity Strategy at 8 (2023), https://www.whitehouse.gov/wp-content/uploads/2023/03/National-Cybersecurity-Strategy-2023.pdf. Other federal agencies are likewise either requiring or proposing to require their regulated entities to take cybersecurity measures to protect their systems. For example, the Commodity Futures Trading Commission (CFTC) requires registrants to establish and maintain information security controls as part of their mandatory system safeguards and to implement five types of security testing through ongoing risk assessments and board oversight: (1) vulnerability testing; (2) penetration testing; (3) controls testing; (4) security incident response plan testing; and (5) enterprise technology risk assessment. *See generally* CFTC, *Fact Sheet: Final Rules on System Safeguards Testing Requirements* (Sept. 8, 2016), http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/syssafeguard_factsheet090816.pdf. The Securities and Exchange Commission (SEC) has proposed periodic cybersecurity reporting requirements that include disclosing a registrant's policies and procedures to identify and manage cybersecurity risks. The Securities and Exchange Commission (SEC) adopted cybersecurity reporting requirements that include disclosing a registrant's policies and procedures to identify and manage cybersecurity risks. *See* SEC, *Cybersecurity Risk Management, Strategy, Governance, and Incident Disclosure* (July 26, 2023), https://www.sec.gov/files/rules/final/2023/33-11216.pdf.

[92] *See infra* Section III.D.1.

best practices.[93] We seek comment on these expectations and on any national security, economic, and public safety benefits of effective cybersecurity practices and cybersecurity and supply chain risk management for Covered Providers.

19. We propose that each Covered Provider have flexibility to structure its cybersecurity and supply chain risk management plans in a manner that is tailored to its organization, provided that the plans demonstrate that the Covered Provider is taking affirmative steps to analyze security risks and improve its security posture. While we believe there are many ways that a Covered Provider may satisfy the cybersecurity risk management plan requirement, we propose that a Covered Provider could successfully demonstrate compliance with this proposed requirement by structuring its plan to follow an established risk management framework, such as the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF).[94] As CTIA, NTCA, and AT&T have observed, the NIST CSF is designed to be scalable and adaptable to the needs and capabilities of companies both large and small, is well understood by industry, and is flexible.[95] We seek comment on this flexible approach, including whether it would reduce the costs imposed on smaller and rural providers, which have different cybersecurity needs and resources than larger providers. What other risk management frameworks do Covered Providers implement other than the NIST CSF? To the extent commenters believe we should mandate a particular risk management framework or take a less flexible approach, we seek comment on their proposed alternative, as well as their rationale and why it would serve the public interest to diverge from the approach already adopted for certain USF recipients. We further seek comment on how a Covered Provider should demonstrate that it has taken affirmative steps to analyze security risks and improve its security posture after it has implemented a cybersecurity risk management plan.

20. We propose that a Covered Provider's CEO, Chief Financial Officer (CFO), Chief Technology Officer (CTO), or a similarly situated senior officer responsible for governance of the organization's security practices would be required to sign a Covered Provider's cybersecurity and supply chain risk management plans. We believe that executive endorsement of the plan's contents is necessary to ensure that the plan encompasses all necessary elements and is executed throughout the organization. Further, a signatory with visibility into the full network and organization is essential to ensure the plan encompasses all necessary elements and is executed through the organization. In recommendations made to Microsoft after the Cyber Safety Review Board's investigation of an incident resulting in compromise of Microsoft's systems as a result of a threat actor associated with the Chinese government, the Board noted the importance of "rigorous risk management" and focus on security at the executive level.[96] We

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[93] *See* National Security Memorandum on Critical Infrastructure and Resilience (Apr. 30, 2024), https://www.whitehouse.gov/briefing-room/presidential-actions/2024/04/30/national-security-memorandum-on-critical-infrastructure-security-and-resilience/.

[94] *See* NIST, NIST Cybersecurity Framework (CSF) 2.0 (2024), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.29.pdf.

[95] Letter from Amy Bender, Vice President Regulatory Affairs, CTIA, to Marlene Dortch, Secretary, FCC, PS Docket Nos. 22-329 et al., at 2 (Mar. 22, 2024) ("[T]he CSF is the best vehicle through which to facilitate robust cybersecurity programs: . . . It includes informative references to a range of "standards, guidelines, and practices" to achieve the outcomes laid out in its Functions and their associated Categories and Subcategories, while recognizing that there is no one-size-fits-all approach that is appropriate for cybersecurity risk management in an area as dynamic as cybersecurity. Moreover, the CSF has international reach and understanding, which is important in an increasingly global cybersecurity environment."); NTCA Comments at 5-6; Brian Daly, AT&T, Assistant Vice President, Wireless Technology & Standards, Alerting Security Roundtable, 1:51:36 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable.

[96] Cyber Safety Review Board, *Review of the Summer 2023 Microsoft Exchange Online Intrusion*, at iv (Mar. 20, 2024), https://www.cisa.gov/sites/default/files/2024-04/CSRB_Review_of_the_Summer_2023_MEO_Intrusion_Final_508c.pdf.

seek comment on this approach. Are there additional steps that we should take to ensure that cybersecurity is an integral part of corporate governance for Covered Providers?

21. We propose to require that Covered Providers' supply chain risk management plans include provisions for identifying, assessing, and mitigating cybersecurity threats to supply chains. According to NIST, "[g]iven the complex and interconnected relationships in this ecosystem, supply chain risk management . . . is critical for organizations."[97] To what extent do Covered Providers' cybersecurity risk management plans already identify and mitigate supply chain cybersecurity risks? We note that the Commission already requires participants in the Enhanced A-CAM, 5G Fund, and Alaska Connect Fund programs to submit supply chain risk management plans that incorporate best practices published by NIST, namely, *Key Practices in Cyber Supply Chain Risk Management: Observations from Industry (NISTIR 2876)* and *Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations (NIST 800-161)*, in addition to cybersecurity risk management plans.[98] We believe that it is possible for Covered Providers to satisfy both their cybersecurity and supply chain risk management plan obligations in a single document that reflects the NIST CSF and implements best practices for mitigating both cybersecurity and supply chain risks."[99] We seek comment on this view.

22. We recognize that some Covered Providers have already implemented baseline cybersecurity and supply chain risk management plans to qualify for certain USF support. For example, Enhanced A-CAM, 5G Fund, and Alaska Connect Fund participants must implement cybersecurity risk management plans that reflect the latest version of the NIST Framework for Improving Critical Infrastructure Cybersecurity, and that reflect an established set of cybersecurity best practices, such as CISA's Cross-Sector Cybersecurity Performance Goals (CPGs) or Center for Internet Security Critical Security Controls (CIS Controls), as well as supply chain risk management plans.[100] These USF participants must submit their plans to USAC for review and submit updated plans if they make a substantive modification to them.[101] In the interest of reducing burdens and harmonizing our cybersecurity and supply chain risk management plan requirements as they apply to the same category of provider, we propose that if a USF participant submits a plan that fulfills the cybersecurity and supply chain risk management plan requirements we propose today,[102] that plan will also be deemed to satisfy the USF cybersecurity and supply chain risk management requirements for the relevant program (assuming that the plan is timely submitted to USAC and kept up to date as the USF rules otherwise require).[103] We

[97] *See* NIST, NIST Cybersecurity Framework (CSF) 2.0, at 13 (2024), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.29.pdf.

[98] *See Enhanced A-CAM Program Order*, 38 FCC Rcd at 7086, para. 111; *5G Fund Order* at 65, para. 123; *Alaska Connect Fund Order* at 78, para. 182.

[99] *See* NIST, NIST Cybersecurity Framework (CSF) 2.0 (2024), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.29.pdf. Note that the CSF 2.0 adds a new "Govern" function, which involves establishing, communicating, and monitoring an organization's cybersecurity risk management strategy, expectations, and policy. *Id.* at 3. Supply chain risk management is a defined category in the Govern function. *Id.*

[100] *Enhanced A-CAM Program Order*, 38 FCC Rcd at 7084-86, paras. 109-11; *5G Fund Order* at 65, para. 123; *Alaska Connect Fund Order* at 78, para. 182 (requiring that plans reflect "at least" the NIST Framework version 1.1, or any successor version of the NIST Framework, and established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the CISA CPGs or CIS Controls).

[101] *See* 47 CFR § 54.208(e)(2), (e)(6) (E-ACAM); 47 CFR § 54.1022(b), (f) (5G Fund); 47 CFR § 54.306(h)(2), (h)(6) (Alaska Connect Fund).

[102] *See infra* Appendix A (proposed Section 12.2).

[103] *See* 47 CFR § 54.1022(d)-(f), (h) (5G Fund); 47 CFR § 54.306(h) (Alaska Connect Fund); 47 CFR § 54.308(e)(4)-(6) (E-ACAM).

seek comment on this approach to harmonization.[104] Is there any other way in which we should harmonize cybersecurity and supply chain risk management plan requirements across all the Commission's proceedings?[105] If so, how? Alternatively, are there reasons to distinguish networks supported with USF funds such that the continued use of a different standard is warranted? Would revising those requirements affect network security? If so, how, and should the existing requirements remain unchanged, effectively placing additional cybersecurity requirements on these providers receiving certain USF support?

23. We propose to require Covered Providers' risk management plans to describe the company's implementation of security controls sufficient to ensure the confidentiality, integrity, and availability of all aspects of its communications systems and services. We propose to define "communications systems and services" as a Covered Provider's equipment, architecture, networks and network elements, and any element of a Covered Provider's business that contributes to the provision of a service to the Covered Provider's subscribers or customers and affects how a Covered Provider's subscribers or customers receive that service. We seek comment on this definition. While we believe there are many ways for Covered Providers to satisfy this aspect of the requirement, we propose that Covered Providers will satisfy it if they demonstrate adherence to an established set of cybersecurity best practices, such as CISA's CPGs or CIS Controls.[106] As CISA states, the CPGs are "applicable to all sectors," including the communications sector.[107] The CIS Controls provide "a blueprint for network operators to improve cybersecurity by identifying specific actions to be done in priority order based on the current state of the global cybersecurity threat."[108] We do not propose to require the use of either of these sets of best practices, but instead propose to afford Covered Providers the flexibility to implement any established best practices, including those identified in the relevant Informative References published by NIST, based on individual Covered Providers' needs and circumstances, so long as they address each of the Core Functions of the NIST Framework (or similar principles from other established risk management frameworks), as the CISA CPGs and the CIS Controls do, and apply those principles to the greatest extent reasonable to protect against cyber threats.[109] NIST's whitepaper accompanying its release

[104] This proposed harmonization extends only to the content of cybersecurity and supply chain risk management plans themselves. We do not propose to alter other USF requirements, including the timing or means of submitting plans, plan implementation timelines, or non-compliance penalties. Furthermore, we note that the Alaska Connect Fund is the subject of an open proceeding, and that the Commission has not yet adopted plan requirements applicable to that program. *See Connect America Fund; Alaska Connect Fund; Connect America Fund—Alaska Plan; Universal Service Reform—Mobility Fund; ETC Annual Reports and Certifications; Telecommunications Carriers Eligible to Receive Universal Service Support*, WC Docket Nos. 10-90, 23-328, 16-271, 10-208, 14-58, 09-197, Report and Order and Further Notice of Proposed Rulemaking, FCC 24-116 (2024) (*Alaska Connect Fund Order*).

[105] *See*, *e.g.*, *Submarine Cable NPRM*, at 58, para. 108.

[106] *See* CISA, *Cross-Sector Cybersecurity Performance Goals*, https://www.cisa.gov/cross-sector-cybersecurity-performance-goals; Center for Internet Security, *Critical Security Controls Version 8,* https://www.cisecurity.org/controls (last visited Nov. 4, 2024).

[107] Christian Lowry, CISA, Section Chief of the National Risk Management Center, Alerting Security Roundtable, 1:59:54 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable.

[108] Center for Internet Security, *Critical Security Controls Version 8,* https://www.cisecurity.org/controls (last visited Nov. 4, 2024).

[109] We note that the Commission has also sought comment on whether applicants for international section 214 authority and modification, assignment, transfer of control, and renewal of international section 214 authority should be required to certify in the application that they will undertake to implement and adhere to baseline cybersecurity standards based on universally recognized standards such as those provided by CISA or NIST. *Review of International Authorizations to Assess Evolving National Security, Law Enforcement, Foreign Policy, and Trade* (continued….)

of the CSF 2.0 explains that "[t]he CSF should be used in conjunction with other resources (e.g., frameworks, standards, guidelines, leading practices) to better manage cybersecurity risks . . . ."[110] Therefore, rather than proposing to require the use of a complete set of best practices compiled by a third party, Covered Providers may implement best practices selected from a variety of sources, so long as they are established and, in aggregate, they address each of the NIST Framework's Core Functions (or similar principles from other established risk management frameworks) and apply those principles to reduce, to the greatest extent reasonable, the potential for harm arising from cyber threats. We seek comment on this proposal.

24. Alternatively, we seek comment on whether to require Covered Providers to implement the CPGs or another established body of best practices. CISA states that the CPGs are "designed and intended to be accessible, usable by small and medium-sized businesses,"[111] which suggests that it would be feasible for small businesses to implement them, but some commenters express concern that the CPGs are not intended to be mandatory and that requiring implementation of the CPGs would "freeze cybersecurity practices in time" and hamper providers' ability to adapt nimbly to evolving threats.[112] Would requiring implementation of all of CISA's CPGs improve national security outcomes relative to the more flexible approach that we propose? If we were to require the Covered Providers to implement the CPGs, should that requirement only apply to providers that are not considered "small" under the relevant Small Business Administration size standard? Or, should we require providers to implement some, highest value CPGs likely to be adaptable to a changing threat environment, but not others?

25. In this connection, we seek comment on whether to require Covered Providers to implement specific security controls sufficient to protect the confidentiality, integrity, and availability of their systems and services. In the *Alerting Security NPRM*, we proposed to require alerting participants to implement the following six controls, among other measures: (a) changing default passwords prior to operation, (b) installing security updates in a timely manner, (c) securing equipment behind properly configured firewalls or using other segmentation practices, (d) requiring multifactor authentication, where applicable, (e) addressing the replacement of end-of-life equipment (i.e., no longer receiving patches and security support), and (f) wiping, clearing, or encrypting user information before disposing of old devices.[113] These six controls were drawn from CISA's common baseline of cybersecurity controls. Are these six security controls relevant for all Covered Providers? We seek comment on whether we should require the implementation of these or some other subset of common security controls to protect Covered Providers' systems and services. Should any of these controls be modified? For example, should we require end-of-life equipment to be decommissioned within a reasonable timeframe (and, at a minimum, within 180 days)? Alternatively, are there distinct specific security controls that should be required for certain types of Covered Providers rather than all Covered Providers? We anticipate that certain Covered Providers may need to implement different cybersecurity controls that are specific to their networks and services. For example, are there certain types of cybersecurity risks that are specific to satellite communications providers that need to be addressed through specific security controls that would not be applicable to wireline communications providers? Finally, we observe that CISA's existing CPGs apply

*Policy Risks*; *Amendment of the Schedule of Application Fees*, IB Docket No. 23-119, MD Docket No. 23-134, Order and Notice of Proposed Rulemaking, FCC 23-28, at *4394-4395, paras. 122-123 (2023). The proposals in this *Notice of Proposed Rulemaking* are not intended to, and do not, limit any proposals in that proceeding.

[110] NIST, The NIST Cybersecurity Framework (CSF) 2.0, at 2 (2024), https://doi.org/10.6028/NIST.CSWP.29.

[111] Christian Lowry, CISA, Section Chief of the National Risk Management Center, Alerting Security Roundtable, 1:59:54 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable.

[112] NCTA Comments at 5; Digital Alert Systems Comments at 9.

[113] *Alerting Security NPRM* at 14, para. 25.

across sectors. CISA is in the process of developing sector-specific CPGs.[114] To the extent we were to require implementation of CISA's CPGs, should we allow covered providers to implement either the cross-sector CPGs as they exist today or have the option of implementing sector-specific CPGs that might be adopted in the future?

26. We propose to require supply chain risk management plans to reflect key practices discussed in *NIST 800-161* and *NISTIR 8276*,[115] as was required in the Enhanced A-CAM, 5G Fund, and Alaska Connect Fund programs. Such plans would be required to include provisions for identifying, assessing, and mitigating cybersecurity threats to the Covered Provider's supply chain, including establishing a process for identifying and measuring critical suppliers, products, and services, and establishing how supply chain risk management would be integrated into acquisition and/or procurement policies and procedures. We seek comment on this approach. Instead of requiring the implementation of specific practices, should we afford Covered Providers the flexibility to implement any established best practices based on individual Covered Providers' needs and circumstances, so long as they would enable the Covered Providers to identify, assess, and mitigate cybersecurity threats to their supply chains?

27. We seek comment on whether to require Covered Providers to routinely audit their organization's implementation of its cybersecurity and supply chain risk management plans. We believe that routine vulnerability assessments are an effective approach to ensuring that the controls that cybersecurity and supply chain risk management plans implement are sufficient to obtain an organization's cybersecurity goals. To what extent and how often do Covered Providers currently audit their network security controls? Is an annual audit sufficient?[116] If Covered Providers do not audit their network security controls, how do they ensure that the controls they implement are sufficient to protect the confidentiality, integrity, and availability of their systems and services, or to achieve other cybersecurity goals? If we were to require Covered Providers to audit their networks, should we require Covered Providers to contract with independent third parties to conduct those audits or should we allow them to audit themselves? Should we require or recommend a set of criteria that third-party auditors should meet? Should we require Covered Providers to report to the Commission if their audits reveal critical vulnerabilities?[117] We observe that NIST publishes guidance that could assist organizations with measuring their safeguards, including how to address ransomware, malware, malicious code, spyware, distributed denial-of-service (DDoS) attacks, phishing, securing networks, and threats to mobile phones.[118] We seek comment on the incremental benefit of audits for Covered Providers and on any steps that we could take to mitigate the attendant burden. We note that Covered Providers can benefit from free and low-cost resources that are available to help identify and implement best practices and improve their

[114] CISA, *Cybersecurity Performance Goals: Sector-Specific Goals* (July 26, 2023), https://www.cisa.gov/news-events/news/cybersecurity-performance-goals-sector-specific-goals ("Now that the cross-sector CPGs have been published, CISA is working with Sector Risk Management Agencies (SRMAs) to directly engage with each critical infrastructure sector to develop Sector-Specific Goals (SSGs).").

[115] NIST, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations (2022), https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-161r1-upd1.pdf; NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management (2021), https://nvlpubs.nist.gov/nistpubs/ir/2021/NIST.IR.8276.pdf.

[116] *See, e.g.*, Devin Partida, AT&T Business, *How Often Should Security Audits Be?* (Mar. 27, 2023), https://cybersecurity.att.com/blogs/security-essentials/how-often-should-security-audits-be ("There's no official schedule companies must follow for their cybersecurity audits, but in general, it's recommended that they perform audits at least once a year.").

[117] *See Cybersecurity Labeling for Internet of Things*, PS Docket No. 23-239, FCC 24-26, at para. 35, n. 151 (Mar. 15, 2024) (defining "critical vulnerability" as "one that must be corrected to reasonably protect against security failures").

[118] *See* NIST, *Cybersecurity Risks* (Nov. 3, 2023), https://www.nist.gov/itl/smallbusinesscyber/cybersecurity-basics/cybersecurity-risks.

security over time without requiring the hiring of outside experts. For example, CISA offers vulnerability scanning at no cost for critical infrastructure, which includes communications providers,[119] and also provides CPG Assessment Training with regional cybersecurity experts that will help communications providers better understand CPGs and the cybersecurity risk assessment process.[120] We assume that these resources, along with any number of other publicly available resources that we have not specifically identified or that may arise in the future, will assist Covered Providers' employees and their existing technical contractors, especially with regard to smaller and rural providers, in identifying and implementing appropriate security controls without needing specialized cybersecurity expertise. We seek comment on this assumption.

28. We propose to require that all Covered Providers submit an annual certification attesting that they have created, updated, and implemented cybersecurity and supply chain risk management plans.[121] We believe that annual certification strikes the appropriate balance between requiring Covered Providers to submit certifications whenever their risk management plans are substantively updated and a solely *post hoc* approach to compliance. We seek comment on this approach. We also seek comment on whether there are certain providers or circumstances for which a different certification periodicity would be advisable. For example, should we require more frequent certification from Covered Providers who are part of the defense industrial base or other sensitive economic or national security industry segments?[122] Should we, or the Bureau on delegated authority, have the ability to require providers to update their cybersecurity and supply chain risk management plans within 90 days when the Commission or Bureau provides notice of a serious threat or security incident that warrants rapid updates? If we were to require Covered Providers to conduct audits, should certification of those audits be included in the Covered Provider's annual cybersecurity and supply chain risk management plan certification?

29. We propose that Covered Providers submit certifications in the Network Outage Reporting System (NORS). NORS is a well-established system that facilitates filings in a streamlined and uniform manner.[123] It supports the filing of data through Application Programming Interfaces (API),

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[119] CISA, *CISA Vulnerability Scanning*, https://www.cisa.gov/resources-tools/services/cisa-vulnerability-scanning (last visited Feb. 28, 2024); Eric Goldstein, CISA, Executive Assistant Director for Cybersecurity, Alerting Security Roundtable, 2:07.53 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (stating that every single public safety organization across the country should be enrolled in CISA's vulnerability scanning services).

[120] CISA, *Cybersecurity Performance Goals (CPG) Assessment Training* (last visited Feb. 28, 2024), https://www.cisa.gov/resources-tools/training/cybersecurity-performance-goals-cpg-assessment-training; Eric Goldstein, CISA, Executive Assistant Director for Cybersecurity, Alerting Security Roundtable, 2:07.53 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (describing performance goal assessments to help companies "walk through the list, look at where you are, then figure out where to go next"). *See also* CISA, *Free Cybersecurity Services and Tools*, https://www.cisa.gov/resources-tools/resources/free-cybersecurity-services-and-tools (last visited Feb. 28, 2024).

[121] *Cf.* 47 § CFR 9.19 (requiring covered 911 service providers to certify to taking reasonable measures to provide reliable 911 service or implementing of reasonable alternative measures).

[122] The defense industrial base sector is "the worldwide industrial complex that enables research and development, as well as design, production, delivery, and maintenance of military weapons systems, subsystems, and components or parts, to meet U.S. military requirements." CISA, *Defense Industrial Base Sector*, https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/critical-infrastructure-sectors/defense-industrial-base-sector (last visited Apr. 26, 2024).

[123] *Ensuring the Reliability and Resiliency of the 988 Suicide & Crisis Lifeline*, *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, *Implementation of the National Suicide Hotline Improvement Act of 2018*, PS Docket Nos. 23-5, 15-80, WC Docket No. 18-336, Report and Order, FCC 23-57, at 13, para. 21 (2023).

which can facilitate the automated filing of reports.[124] NORS also is designed to provide the Commission with the ability to record historic data, and analyze trends.[125] The Commission also has resources available to help providers learn how to register in NORS.[126] We seek comment on this approach. Are there other approaches we should consider?

30. We propose that cybersecurity and supply chain risk management plans be made available to the Commission upon request. We propose to delegate to the Bureau the authority to request, at its discretion, submission of such cybersecurity and supply chain risk management plans to the Bureau and to evaluate them for compliance against the rules that are adopted under this proceeding. Access to Covered Providers' cybersecurity and supply chain risk management plans would allow the Commission to confirm whether plans are being regularly updated, review a specific plan as needed, or proactively review a sample of a Covered Provider's plans to confirm they identify the cybersecurity risks to that Covered Provider's communications systems and services. We would treat the cybersecurity and supply chain risk management plans as presumptively confidential under our rules.[127] We seek comment on this approach, including the types of information included in these plans that warrant confidential treatment and the reasons why that information should be considered confidential.[128] Do providers treat this information as confidential when it is used in other contexts? What harms could befall a provider if its plan were publicly disclosed? In addition, we seek comment on whether to adopt a rule that would allow the Commission to share the plans with relevant federal agencies, including information for which confidential treatment is requested, without the pre-notification procedures of section 0.442(d). Under section 0.442,[129] the Commission may disclose to other federal agencies, upon the Commission's own motion or another agency's request, records that have been submitted to the Commission in confidence subject to providing the filer notice of the proposed sharing and ten (10) days to object.[130] We believe that forgoing these procedures when sharing plans with relevant federal agencies will more rapidly facilitate the federal government's response to cyber incidents affecting the communications sector. We seek comment on all aspects of this approach.

31. As part of our efforts to increase the cybersecurity of Covered Providers, are there other actions the Commission could take that could promote trusted collaboration between the government and Covered Providers? What mechanisms exist today or should exist to permit Covered Providers and the government to share protected threat information? If they exist, are they being leveraged or do they need to be updated? Are there current barriers impacting trusted sharing and collaboration, such as liability? Are the right mechanisms in place to ensure providers have the proper credentials to receive actionable

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[124] *Id.*

[125] *Id.*

[126] FCC, *Network Outage Reporting System (NORS)* (Nov. 30, 2023), https://www.fcc.gov/network-outage-reporting-system-nors. The Commission's NORS website offers contact information for our NORS administrators, who are available to help new registrants navigate the system. In addition, the NORS User Manual contains step-by-step instructions for completing registration.

[127] *See* 47 CFR §§ 0.457 and 0.459.

[128] *See, e.g.*, *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-34, Report and Order and Further Notice of Proposed Rulemaking, FCC 08-144, at 5, para. 3 (2004) (concluding that outage reporting should be withheld from disclosure to the public to prevent use by hostile parties to attack vulnerable networks).

[129] 47 CFR § 0.442.

[130] 47 CFR § 0.442(b). In general, under federal law, the Commission may share with other federal government agencies information it has collected pursuant to an information collection and, if it does, all provisions of law that relate to the unlawful disclosure of information apply to the employees of the agency to which the information is released "to the same extent and in the same manner" as they do to employees of the collecting agency.

threat information and to collaborate with the government on threat reduction and mitigation? We believe that working together to protect our networks would supplement the proposals in this *Notice* and seek comment on how we can further facilitate trusted collaboration.

32. Are there certain providers that should be required to routinely submit their cybersecurity and supply chain risk management plans to the Commission? We also propose that Covered Providers must preserve data and records related to their cybersecurity and supply chain risk management plans, including any information that is necessary to show how the cybersecurity and supply chain risk management plans are implemented, for two years from the submission of the related risk management plan certification to the Commission. Two years reflects an approach consistent with CISA's approach to information related to cybersecurity incidents in its notice of proposed rulemaking implementing the Cyber Incident Reporting for Critical Infrastructure Act (CIRCIA) released April 4, 2024 (*CIRCIA NPRM*).[131] The *CIRCIA NPRM* proposes cyber incident reporting requirements across all critical infrastructure sectors, including the communications sector. We believe this rationale applies here as well. We seek comment on this approach. Should we require Covered Providers to retain prior versions of their cybersecurity and supply chain risk management plans for a shorter or longer period of time? If so, why?

33. We believe it would promote neither public safety nor national security if Covered Providers could escape responsibility for the cybersecurity of their systems and services by outsourcing the provision of those systems and services to third parties. Accordingly, if a Covered Provider relies on a third-party contractor for provision of a communications system or service, we propose to require that the Covered Provider's cybersecurity and supply chain risk management plans cover the systems, services, and equipment offered by the third-party contractor. We also propose to hold Covered Providers responsible for the acts, omissions, or failures of third-party contractors that impact the cybersecurity of the Covered Provider's systems and services. In connection with our requirement to take reasonable measures to protect the confidentiality, integrity, and availability of their communications systems and services, if a Covered Provider relies on a third-party contractor to provide equipment or services, and an unreasonable act or omission of that third-party contractor results in the Covered Provider's failure to protect the confidentiality, integrity, or availability of its systems and services, we propose to hold the Covered Provider responsible for that act or omission. We seek comment on this principle. We also seek comment on the extent to which Covered Providers must specifically include minimum cybersecurity requirements in their contracts with third parties. We seek comment on whether there are any additional steps that we should take to harmonize our cybersecurity and supply chain risk management requirements for communications service providers. To the extent that the cybersecurity and supply chain risk management requirements that we adopt in this proceeding differ from those proposed in the alerting security or submarine cable landing licensee proceedings, would it ease the burden of compliance or improve cybersecurity outcomes to adopt the same cybersecurity risk and supply chain management requirements for all communications service providers?

34. We propose a staggered implementation timeframe for cybersecurity and supply chain risk management plans that allows additional time for small providers. NIST states that full implementation of the NIST CSF could take anywhere from a few weeks to several years, depending on business needs and cybersecurity maturity.[132] We propose that small providers, as defined by the Small Business Administration,[133] must certify to the creation of cybersecurity and supply chain risk

[131] CISA, Cyber Incident Reporting for Critical Infrastructure Act (CIRCIA) Reporting Requirements, 89 Fed. Reg. 23644 (Apr. 4, 2024) (*CISA CIRCIA NPRM*).

[132] *See* NIST, *Cybersecurity Framework FAQs Using the Framework*, https://www.nist.gov/cyberframework/cybersecurity-framework-faqs-using-framework (last visited Feb. 19, 2024).

[133] *See infra* Appx. B, Section C.

management plans within 12 months of the publication in the *Federal Register* of notice that the Office of Management and Budget has completed its review of the modified information collection. Small providers would not need to complete implementation of their cybersecurity and supply chain risk management plans, however, until 24 months after publication in the *Federal Register* of notice that the Office of Management and Budget has completed its review of the modified information collection. We propose that small providers would be required to share information about their progress in implementing their plans with the Commission upon request. We propose that non-small providers must certify to the implementation of cybersecurity and supply chain risk management plans within 12 months of the publication in the Federal Register of notice that the Office of Management and Budget has completed its review of the modified information collection. We seek comment on this approach.

### C. Legal Authority

35. We believe that we have sufficient legal basis to adopt the cybersecurity requirements proposed herein for all Covered Providers. We address our authorities below, and seek comment on our preliminary analysis and any different or additional sources of authority that we might rely on here.

36. *Title II Authority.* We tentatively conclude that Title II of the Act provides us a number of bases of authority to protect the confidentiality, integrity, and availability of the systems and services subject to that authority. One foundational source of authority is section 201 of the Act. Among other things, section 201(b) requires common carriers' charges and practices for and in connection with their interstate and international common carrier services to be just and reasonable.[134] We believe that the actions that carriers take, the technologies and services that carriers employ, and the arrangements with third parties into which carriers enter to facilitate the provision of their common carrier services reasonably can be understood as practices "for or in connection with" common carrier services within the meaning of section 201(b).

37. Section 214 of the Act is another key Title II authority with respect to common carriers. Section 214(a) of the Act prohibits any carrier from constructing, acquiring, or operating any line, and from engaging in transmission through any such line, without first obtaining a certificate from the Commission "that the present or future public convenience and necessity require or will require the

[134] 47 U.S.C. § 201(b). "Common carriers" or "telecommunications carriers" are not limited to wireline carriers, but also encompass wireless carriers such as commercial mobile radio services (CMRS) providers. *See, e.g.*, 47 U.S.C. § 332(c)(1). MVNOs are included within our regulatory definition of CMRS providers. *See Supporting Survivors of Domestic and Sexual Violence; Lifeline and Link Up Reform Modernization; Affordable Connectivity Program*, WC Docket Nos. 22-238, 11-42, and 21-450, Report and Order, FCC 23-96, para. 17 (2023) ("We conclude that covered providers include both facilities-based mobile network operators and resellers/mobile virtual network operators") (citing *Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1475-90, paras. 37, 164-213 (1994) (finding that "mobile resale service is included within the general category of mobile services as defined by Section 3(n) and for purposes of regulation under Section 332" and that "there is no indication in the statute or the legislative history that resellers are not 'mobile service' providers or exempt from the Section 332 regulatory classification")). Section 332(d) defines "commercial mobile service" as "any mobile service . . . that is provided for profit and makes interconnected service available (A) to the public or (B) 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. § 153(11); *see also Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1475-90, paras. 164-213 (1994). The Commission has forborne from applying certain sections of Title II to CMRS, but has declined to forbear from applying sections 201 and 202 of the Act to MVNOs. *See* 47 CFR § 20.15. *See also Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1475-90, paras. 164-213 (1994). Therefore, our analysis of MVNOs is subject to the Title II analysis we provide herein.

construction, or operation, or construction and operation, of such . . . line . . . ."[135] Section 214(a) further provides that "[n]o carrier shall discontinue, reduce, or impair service . . . unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby . . . ."[136] In applying the public interest standard to carriers' operating authority under section 214(a), the Commission previously has accounted for national security and law enforcement risks, among other things.[137] Pursuant to section 214(c), the Commission "may attach to the issuance of the [section 214(a)] certificate such terms and conditions as in its judgment the public convenience and necessity may require."[138] Pursuant to section 214(d), the Commission may, "after full opportunity for hearing, in a proceeding upon complaint or upon its own initiative without complaint, authorize or require by order any carrier, party to such proceeding, to provide itself with adequate facilities for the expeditious and efficient performance of its service as a common carrier."[139] Similar to our preliminary assessment of section 201(b) above, we tentatively conclude that the Commission may evaluate the actions that carriers take, the technologies and services that carriers employ, and the arrangements with third parties into which carriers enter to facilitate the provision of their common carrier services as part of its consideration of the adequacy of carriers' facilities under section 214(d).

38. Our evaluation of the "just and reasonable" and "public interest" standards in this context is informed in part by other provisions of the Act. As explained above, for example, two of the core purposes for which the Commission was created are "for the purpose of the national defense [and] for the purpose of promoting safety of life and property through the use of wire and radio communication."[140] The Act also directs the Commission to seek to promote the "maximum effectiveness from the use of radio and wire communications in connection with safety of life and property," by "investigat[ing] and study[ing] all phases of the problem and the best methods of obtaining the cooperation and coordination of these [communications] systems."[141] We tentatively conclude that the rules contemplated by this *Notice of Proposed Rulemaking* will advance these statutory objectives, informing our application of Title II standards evaluating what is "just and reasonable" and in the "public interest."

39. We believe that other Title II provisions also can help inform the application of "just and reasonable" and "public interest" standards along with providing certain direct regulatory authority themselves. For example, section 214(d) not only authorizes the Commission to require a common carrier "to provide itself with adequate facilities for the expeditious and efficient performance of its service as a common carrier,"[142] but also, we believe, highlights the importance of adequate facilities and

[135] *Id.*

[136] 47 U.S.C. § 214(a).

[137] *See, e.g.*, *China Telecom (Americas)*, Order on Revocation and Termination, 36 FCC Rcd 15966 (2021) (revoking the section 214(a) operating authority of China Telecom (Americas) on public interest grounds based on national security and law enforcement risks) *aff'd China Telecom (Americas) Corp. v. FCC*, 57 F.4th 256 (D.C. Cir. 2023); *Pacific Networks Corp. and ComNet (USA) LLC*, Order on Revocation and Termination, 37 FCC Rcd 4220 (2022) (revoking the section 214(a) operating authority of Pacific Networks and ComNet on public interest grounds based on national security and law enforcement risks) *aff'd Pacific Networks Corp. and ComNet (USA) LLC v. FCC*, 77 F.4th 1160 (D.C. Cir. 2023).

[138] 47 U.S.C. § 214(c).

[139] 47 U.S.C. § 214(d). This rulemaking proceeding satisfies the statutory requirement for hearing under section 214(d).

[140] 47 U.S.C. § 151.

[141] 47 U.S.C. § 154(n).

[142] 47 U.S.C. § 214(d).

effective and efficient service more generally as a statutory goal to be considered in our "just and reasonable" and "public interest" analyses. Similarly, while section 254 of the Act provides direct authority to impose requirements on universal service support recipients, we believe that the section 254(b)(1) objective of "[q]uality services" represents a statutory objective that it is reasonable for us to weigh in our "just and reasonable" and "public interest" analyses more generally.[143]

40. We tentatively conclude that other Title II provisions reflect relevant Commission authority and responsibilities, as well. For example, section 222(a) of the Act imposes a duty on "[e]very telecommunications carrier" to "protect the confidentiality of proprietary information of" customers.[144] We tentatively conclude that the actions we propose today, if adopted, would follow from and implement this duty, because they will promote carrier practices that more effectively manage their systems and networks, to protect the confidentiality of that information. In addition, section 225 of the Act directs the Commission to promote TRS to enable people with hearing and speech disabilities to communicate "in a manner that is functionally equivalent to the ability of a hearing individual who does not have a speech disability to communicate using voice communication services by wire or radio."[145] This section also directs the Commission to "ensure that interstate and intrastate telecommunications relay services are available, to the extent possible and in the most efficient manner, to hearing-impaired and speech-impaired individuals in the United States."[146] The Commission is to do this by, among other things, "establish[ing] functional requirements, guidelines, and operations procedures" and "minimum standards" for TRS.[147] To the extent that we adopt the rules contemplated in this *Notice of Proposed Rulemaking* for carriers and other Covered Providers, would it advance section 225's functional equivalency mandate to exercise our section 225 authority to adopt comparable rules for TRS providers to protect TRS from cybersecurity threats?

41. We conclude that it is an appropriate exercise of our Title II authority to require Covered Providers subject to that authority to take affirmative steps to promote the confidentiality, integrity, and availability of telecommunications carriers' communications systems and services, including the requirements we propose today that carriers create, update, and implement cybersecurity and supply chain risk management plans. We seek comment on this conclusion. We further conclude that the long-term benefits to consumer interests that arise from more secure communications infrastructure are substantial.[148] Requiring Covered Providers to create, update, and implement cybersecurity and supply chain risk management plans for their communications systems and services will enable Covered Providers to operationalize goals of ensuring continued access to services that consumers rely on daily on their systems, such as medical and financial services. Further, we believe that by requiring Covered Providers to create, update, and implement cybersecurity and supply chain risk management plans, we will ensure that common carriers fulfill their statutory duty to protect consumer information. The risks cyberattacks pose to the confidentiality, integrity, and availability of Covered Providers' systems and services justify our proposals and make our action to address those risks comfortably within our authority. We further believe these rules are necessary to promote national security and public safety, consistent with the statutory purpose under section 1 of the Act. Are there other sources of Title II authority on

[143] 47 U.S.C. § 254(b)(1).

[144] 47 U.S.C. § 222(a). *See also* 47 U.S.C. § 218 (authorizing the Commission to "inquire into the management of the business of all carriers" and to obtain from them "full and complete information necessary to enable the Commission to perform the duties and carry out the objects for which it was created").

[145] 47 U.S.C. § 225(a)(3).

[146] 47 U.S.C. § 225(b)(1).

[147] 47 U.S.C. § 225(d)(1)(A), (B).

[148] *See infra* Section III.E.1.

which we may rely to require common carriers to comply with the rules contemplated by this *Notice of Proposed Rulemaking*? We note that certain Title II provisions like section 201(b) apply to wireless resellers and MVNOs, and we have included them as Covered Providers.[149]

42. *Title III Authority.* The Commission has the authority to issue licenses for and generally to regulate radio communications.[150] Section 303(b) of the Act, for example, directs the Commission, consistent with the public interest, to "[p]rescribe the nature of the service to be rendered" by licensees.[151] The rules we propose today do just that. Further, pursuant to section 303(r), the Commission may prescribe restrictions or conditions not inconsistent with law that may be necessary to carry out the provisions of the Act, authority that the Commission has consistently used to impose conditions on licensees to ensure that the licenses are being used in the public interest.[152] We believe that adopting rules to require the creation, updating, and implementation of cybersecurity and supply chain risk management plans will compel Covered Providers subject to Title III to take affirmative steps to protect their communications systems and services from cyberattacks. Further, creating, updating, and implementing cybersecurity and supply chain risk management plans will increase the resilience of Covered Providers' communications systems and services and better prepare Covered Providers to respond to cyberattacks and to keep the systems and services available. We further tentatively find that the "public convenience, interest, or necessity requires"[153] us to adopt these rules to fulfill the Commission's statutory purpose of "promoting safety of life and property through the use of wire and radio communications."[154] Based on our foregoing analysis of the benefits of these proposals, we believe requiring Commission licensees to create, update, and implement cybersecurity risk and supply chain management plans is also necessary to protecting the national defense and will serve public convenience, interest, and necessity. We seek comment on this belief. Are there other sources of Title III authority on which we may rely?

43. *Communications Assistance for Law Enforcement Act Authority.* As discussed in the Declaratory Ruling,[155] CALEA requires telecommunications carriers subject to CALEA affirmatively to secure their networks from unlawful access to call-identifying information or interception of communications. Section 105 of CALEA provides that "[a] telecommunications carrier shall ensure that any interception of communications or access to call-identifying information effected within its switching premises can be activated only in accordance with a court order or other lawful authorization and with the affirmative intervention of an individual officer or employee of the carrier acting in accordance with regulations prescribed by the Commission."[156] The Commission has explained that this provision

[149] *See supra* para. 16.

[150] 47 U.S.C. §§ 301, 303.

[151] 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").

[152] 47 U.S.C. § 303(r).

[153] 47 U.S.C. § 303.

[154] 47 U.S.C. § 151.

[155] *See supra* Part III.

[156] *See* 47 U.S.C. § 1004. The U.S. Court of Appeals for the D.C. Circuit has upheld the Commission's decision that CALEA applies to facilities-based broadband Internet access service providers and to providers of interconnected VoIP services. *See American Council on Educ. v. FCC*, 451 F.3d 226 (D.C. Cir. 2006) (affirming *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM-10865, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989 (2005)); *see also id.*, 451 F.3d at 312 ("Drawing on [CALEA and the Act's] different texts, structures, legislative histories, and purposes, the FCC decided to resolve the ambiguities in CALEA and the . . . Act differently. In light of 'Congress's deliberate extension of CALEA's [substantive] requirements to providers satisfying the [substantial replacement provision] . . . (continued….)

requires telecommunications carriers, as defined by CALEA,[157] to secure their networks against unauthorized interception of communications.[158] In addition to imposing that independent statutory duty directly on telecommunications carriers, CALEA added section 229(a) to the Communications Act. That section directs the Commission to "prescribe such rules as are necessary to implement the requirements of [CALEA],"[159] including but not limited to rules that require a common carrier "to establish appropriate policies and procedures for the supervision and control of its officers and employees … to prevent any such interception or access without [appropriate] authorization."[160] We believe that this authority supports applying the cybersecurity measures proposed in this proceeding to entities subject to CALEA. This reflects an intent by Congress that the Commission maintain an active role in adopting and enforcing safeguards that protect the security of communications networks where the public interest so requires.

44. The recent PRC-based cyberattacks underscore the critical need and urgency for robust security measures to defend against advanced, persistent threats to America's communications infrastructure.[161] Those attacks include Salt Typhoon's attack on three of the nation's largest service providers, reportedly gaining unauthorized access to information and network infrastructure crucial to lawful federal wiretap and data collection requests pursuant to authority under CALEA;[162] and Flax Typhoon's attack on over 200,000 Cisco routers, cameras, and other Internet-connected consumer devices, which created vulnerable pathways into U.S. networks.[163] These breaches highlight vulnerabilities that could allow adversaries to intercept U.S. communications and exploit critical network infrastructure, representing a potentially catastrophic security breach designed to enhance intelligence collection capabilities while positioning to disrupt infrastructure operations through cyberattacks. Reports of PRC-affiliated hackers gaining and maintaining undetected access to core network components, such as routers, demonstrate both the high level of sophistication and the persistent threat posed by these adversarial entities. These incidents raise significant concerns about the resilience of U.S. networks and reinforce the need for enhanced CALEA safeguards. As such, we believe requiring all telecommunications carriers subject to CALEA—including facilities-based BIAS providers—to create,

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, the FCC concluded that a telecommunications carrier should *not* escape the Act's reach altogether simply because the carrier's service offering has an 'informational' component") (emphasis in original) (citing *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM-10865, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989, 14989, para. 18 (2005)).

[157] *See American Council on Educ.,* 451 F.3d at 232-234.

[158] *See Supply Chain Order*, 34 FCC Rcd at 11436-37, paras. 35-37.

[159] 47 U.S.C. § 229(a).

[160] 47 U.S.C. § 229(b)(1)(B).

[161] CISA et al., Enhanced Visibility and Hardening Guidance for Communications Infrastructure (2024), https://www.cisa.gov/resources-tools/resources/enhanced-visibility-and-hardening-guidance-communications-infrastructure (highlighting the threat PRC-affiliated actors pose after they "compromised networks of major global telecommunications providers to conduct a broad and significant cyber espionage campaign" and "provid[ing] network engineers and defenders of communications infrastructure with best practices to strengthen their visibility and harden their network devices against successful exploitation carried out by PRC-affiliated and other malicious cyber actors.").

[162] Sarah Krouse et. al, *U.S. Wiretap Systems Targeted in China-Linked Hack*, Wall Street Journal (Oct. 5, 2024), https://www.wsj.com/tech/cybersecurity/u-s-wiretap-systems-targeted-in-china-linked-hack-327fc63b.

[163] Press Release, U.S. Dept. of Justice, Court-Authorized Operation Disrupts Worldwide Botnet Used by People's Republic of China State-Sponsored Hackers (Sept. 18, 2024), https://www.justice.gov/opa/pr/court-authorized-operation-disrupts-worldwide-botnet-used-peoples-republic-china-state; *see also* Sarah Krouse et. al, *U.S. Wiretap Systems Targeted in China-Linked Hack*, Wall Street Journal (Oct. 5, 2024), https://www.wsj.com/tech/cybersecurity/u-s-wiretap-systems-targeted-in-china-linked-hack-327fc63b.

update, and implement cybersecurity risk and supply chain management plans with security controls that are sufficient to ensure the confidentiality, integrity, and availability of all aspects of their communications systems and services, including their facilities and equipment, will further secure these networks against unauthorized access. We seek comment on this analysis.

45. *Authority Over Cable Service and Satellite Carriers.* With limited exceptions, a cable operator[164] shall not disclose personally identifiable information concerning its subscribers and "shall take such actions as are necessary to prevent unauthorized access to such information[.]"[165] Similarly, subject to certain exceptions, a satellite carrier[166] shall not disclose personally identifiable information of its subscribers and "shall take such actions as are necessary to prevent unauthorized access to such information."[167] Cox Media Group recently experienced a ransomware attack resulting in a data breach affecting radio and television stations and was attributed to adversaries associated with Iran.[168] Xfinity[169] and Dish Network similarly reported data breaches in 2023. NIST notes that organizations can prevent data breaches by identifying, protecting, detecting, and responding to data breaches by leveraging security technology and controls.[170] Further, CISA has emphasized the importance of the integrity of one-way communications (such as cable television and satellite providers) to national security and public safety, and cyberattacks to these services would cripple the government's ability to effectively manage emergencies and distribute information quickly.[171] The cable and satellite television industry is not

[164] "[T]he term 'cable operator' means any person or group of persons (A) who provides cable service over a cable system and directly or through one or more affiliates owns a significant interest in such cable system, or (B) who otherwise controls or is responsible for, through any arrangement, the management and operation of such a cable system." 47 U.S.C. § 522(5).

[165] 47 U.S.C. § 551.

[166] "The term 'satellite carrier' means an entity that uses the facilities of a satellite or satellite service licensed by the Federal Communications Commission and operates in the Fixed-Satellite Service under part 25 of title 47, Code of Federal Regulations, or the Direct Broadcast Satellite Service under part 100 of title 47, Code of Federal Regulations, to establish and operate a channel of communications for point-to-multipoint distribution of television station signals, and that owns or leases a capacity or service on a satellite in order to provide such point-to-multipoint distribution, except to the extent that such entity provides such distribution pursuant to tariff under the Communications Act of 1934, other than for private home viewing pursuant to this section." 17 U.S.C. § 119(d)(6); *see* 47 U.S.C. § 338(k)(7). In addition, "the term 'satellite carrier' includes, in addition to persons within the definition of satellite carrier, any person who: (i) is owned or controlled by, or under common ownership or control with, a satellite carrier; and (ii) provides any wire or radio communications service." 47 U.S.C. § 338(i)(2)(C).

[167] 47 U.S.C. § 551(c)(1).

[168] Data Breach Notification Letter from Alysia Long, Vice President and Associate General Counsel, Cox Media Group, to Affected Individuals at 1 (Oct. 8, 2021), https://www.documentcloud.org/documents/21081005-cox-media-group-data-breach-notification-bc-june-ransomware-attack; Catalin Cimpanu, *Iranian Hackers Behind Cox Media Group Ransomware Attack*, The Record (Dec. 28, 2021), https://therecord.media/iranian-hackers-behind-cox-media-group-ransomware-attack.

[169] Joe Warminsky, *36 Million People Affected by Data Breach at Xfinity* (Dec. 19, 2023), https://therecord.media/millions-affected-by-xfinity-data-breach.

[170] NIST, NIST Special Publication 1800-28, *Data Confidentiality: Identifying and Protecting Assets Against Data Breaches*, at 1 (Feb. 2024), https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1800-28.pdf.

[171] *CISA CIRCIA NPRM*, 89 Fed. Reg. at 23686. ("[T]he disruption of compromise of either one-way or two-way communications systems could significantly impact national security, economic security, and public health and safety."). *See also* DHS, *Communications Sector-Specific Plan: An Annex to the NIPP 2013* at 3 (2015), https://www.cisa.gov/sites/default/files/publications/nipp-ssp-communications-2015-508.pdf ("[O]ur Nation's economic and national security relies on the security of the assets and operations of critical communications infrastructure.").

immune from these increasing risks. Indeed, Congress has already given the Commission the responsibility to adopt safeguards necessary to preserve the technical quality of cable service to subscribers. In the 1992 Cable Act, for example, Congress directed the Commission to "prescribe regulations which establish minimum technical standards relating to cable systems' technical operation and signal quality."[172] In that same legislation, Congress required the Commission to "establish standards by which cable operators may fulfill their customer service requirements."[173] At a minimum, those standards were to include, among other things, those relating to outages.[174] A requirement directed at ensuring the security of a cable system is directed to its "technical operation," and our proposal of such a requirement is consistent with Congress's intent that cable systems be subject to flexible but national (not state-level) standards.[175] Congress also provided that "no person shall intercept or receive or assist in intercepting or receiving any communications service offered over a cable system" where that person has no authority to so.[176] And, Congress gave the Commission authority to adopt rules that "impose, on providers of direct broadcast satellite service, public interest or other requirements for providing video programming."[177]

46. Accordingly, we tentatively conclude that the Commission may, and there is a need to, require cable operators and satellite television carriers to create, update, and implement cybersecurity and supply chain risk management plans with security controls that are sufficient to ensure the confidentiality, integrity, and availability of all aspects of their communications systems and services, including their facilities and equipment, which will also help prevent unauthorized access to subscriber information and promote reliable customer service.[178] We seek comment on this belief.

47. *Entities Subject to 911 and 988 Service Requirements and Conditions.* We believe that our statutory duties with respect to 911 and 988 service augments our authority to require Covered Providers to create, update, and implement cybersecurity and supply chain risk management plans. We tentatively conclude that these proposed rules are well-grounded in our broad authority to "promot[e] safety of life and property through the use of wire and radio communications,"[179] including through use of the nation's 911 system.[180] Congress has enacted numerous provisions in the Act and other 911-related

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[172] 47 U.S.C. § 544(e). *See also id.* § 534(b)(4)(A) (directing the Commission to adopt standards "to ensure that, to the extent technically feasible, the quality of signal processing and carriage provided by a cable system for the carriage of local commercial television stations will be no less than that provided by the system for carriage of any other type of signal.").

[173] 47 U.S.C. § 552(b).

[174] *Id.* § 552(b).

[175] *See* H.R. Rep. No. 102-628, at 109 (1992).

[176] *Id.* § 553(a)(1).

[177] *Id.* § 335(a).

[178] *Cox Communications, Inc.*, EB-IHD-14-00017829, Order, DA 15-1241 at 1-2, paras. 1-3 (EB 2015) (attributing the data breach to a lack of technical safeguards).

[179] 47 U.S.C. § 151. The Communications Act of 1934, as amended (the Communications Act) authorizes the Commission to make rules and regulations, issue orders, and prescribe restrictions and conditions that are consistent with the provisions of the Act. *See, e.g.*, 47 U.S.C. §§ 154(i), 303(r).

[180] *See*, *e.g.*, *Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems; Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements; Petition of the National Telecommunications and Information Administration to Amend Part 25 of the Commission's Rules to Establish Emissions Limits for Mobile and Portable Earth Stations Operating in the 1610-1660.5 MHz Band*, CC Docket No. 94-102, IB Docket No. 99-67, Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 25340, 25345, para. 13 (continued….)

statutes "that, taken together, establish an overarching federal interest in ensuring the effectiveness of the 911 system."[181] Beyond this general mandate, section 251(e)(3) of the Communications Act confirms the Commission's authority and responsibility for designating 911 as the universal emergency telephone number for both wireline and wireless telephone service,[182] demonstrating Congress's intent to grant the Commission broad authority for "ensuring that 911 service is available throughout the country."[183] The D.C. Circuit consistently has affirmed the Commission's duty to consider public safety under the Communications Act and to impose obligations to protect public safety in the public interest.[184]

48. We believe that the Commission also has broad authority under the Twenty-First Century Communications and Video Accessibility Act (CVAA) to regulate the provision of 911 services, including Next Generation 911 (NG911).[185] Congress enacted the CVAA to ensure that people with disabilities have "equal access to emergency services . . . as a part of the migration to a national [IP]-enabled emergency network[.]"[186] To further that goal, Congress required the Commission to establish an Emergency Access Advisory Committee (EAAC) to recommend "the most effective and efficient technologies and methods" by which to achieve the CVAA's purpose, and Congress provided the Commission "the authority to promulgate regulations to implement the recommendations proposed by the [EAAC]."[187] Importantly, Congress also authorized the Commission to promulgate "any other regulations, technical standards, protocols, and procedures as are necessary to achieve reliable, interoperable communication that ensures access by individuals with disabilities to an [IP]-enabled emergency network, where achievable and technically feasible."[188] Ensuring the reliability of the nation's

(2003) ("We find that Congress has given the Commission broad authority to deal with public safety concerns in wire and radio communications."); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Notice of Proposed Rule Making, 9 FCC Rcd 6170, 6171, para. 7 (1994) ("It is difficult to identify a nationwide wire or radio communication service more immediately associated with promoting safety of life and property than 911."); H.R. Rep. No.110-442, at 13 (In the Net 911 Act's legislative history, Congress recognized that "[s]hould changes in the marketplace or in technology merit, the Committee expects that the Commission will reexamine its regulations as necessary, consistent with the Commission's general authority under section 1 of the Communications Act of 1934 to promote the 'safety of life and property' through the use of wire and radio communications."); *Nuvio Corp. v. FCC*, 473 F.3d 302, 312 (Kavanaugh, J., concurring) (stating that Congress has granted the Commission "broad public safety and 911 authority").

[181] *See*, *e.g.*, *911 Fee Diversion*; *New and Emerging Technologies 911 Improvement Act of 2008*, PS Docket Nos. 20-291 and 09-14, Report and Order, 36 FCC Rcd 10804, 10810-11, para. 16 & n.41 (2021) (*911 Fee Diversion Order*); *Facilitating Implementation of Next Generation 911 Services (NG911)*; *Location-Based Routing for Wireless 911 Calls*, PS Docket Nos. 21-479 and 18-64, Report and Order, FCC 24-78, at 70, para. 154, (July 19, 2024) (*2024 NG911 Transition Order*).

[182] 47 U.S.C. § 251(e)(3).

[183] *Nuvio Corp.*, 473 F.3d at 311 (Kavanaugh, J., concurring).

[184] *See, e.g.*, *Nuvio Corp.*, 473 F.3d at 307-08 (upholding new E911 requirements on the basis of, in part, the Commission's statutory duty to "'promot[e] safety of life and property through the use of wire and radio communications'" (quoting 47 U.S.C. § 151; emphasis omitted)); *U.S. Cellular Corp. v. FCC*, 254 F.3d 78, 85 (upholding the Commission's E911 default cost allocation rule based, in part, on the fact that "the Commission . . . imposed upon wireless carriers an obligation to implement a service in the public interest").

[185] Twenty-First Century Communications and Video Accessibility Act of 2010, Public Law 111-260, 124 Stat. 2751.

[186] 47 U.S.C. § 615c(a).

[187] 47 U.S.C. § 615c(c), (g).

[188] 47 U.S.C. § 615c(g).

911 network therefore is one of the Commission's key mandates under the CVAA.

49. As the Commission has recognized consistently in prior rulemakings, the Commission's regulatory authority under the CVAA is not limited to services that are used exclusively by people with disabilities.[189] Nor does the CVAA "requir[e] the FCC to ensure that any rules we adopt confer zero benefits on consumers outside the disability community[.]"[190] Moreover, the EEAC concluded that, in emergency situations, people with disabilities may depend on the same wireline, CMRS, covered text, and interconnected VoIP services as those without disabilities,[191] or they may rely on a caretaker or other persons using such services.[192]

50. In addition to the CVAA, we believe that the other 911-related statutes discussed above confirm the Commission's authority and responsibility to establish and maintain a comprehensive and effective 911 system.[193] The NET 911 Act also indicated the congressional goal to "promote and enhance public safety by facilitating the rapid deployment of IP-enabled 911 and E-911 services, [and] encourage the Nation's transition to a national IP-enabled emergency network."[194] The RAY BAUM'S Act directed the Commission to consider adopting rules to ensure that dispatchable location is conveyed with 911 calls "regardless of the technological platform used" and defined the term "9-1-1 call" to include a voice call "or a message that is sent by other means of communication."[195] Together, these statutes give the Commission broad authority to ensure that the 911 system is available and accessible and functions effectively to process and deliver 911 calls and texts from all people in need of aid using any type of service; authorize the Commission to adopt the rules proposed herein; and represent the repeated

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[189] *2024 NG911 Transition Order* at 72, para. 157; *see also*, *e.g.*, *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, PS Docket Nos. 11-153, 10-255, Report and Order, 28 FCC Rcd 7556, 7598, para. 119 (2013) (*Bounce-Back Order*) ("[T]he FCC has authority under the CVAA to require action that is not limited to the disability community."); *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, PS Docket Nos. 11-153, 10-255, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd 9846, 9878, para. 71 (2014) (*T911 Second Report and Order*) (affirming that "the CVAA vests the Commission with direct authority to impose 911 bounce-back requirements on both CMRS providers and other providers of interconnected text messaging applications, including [over-the-top] providers").

[190] *911 Second Report and Order*, 29 FCC Rcd at 9878, para 71.

[191] Emergency Access Advisory Committee (EAAC) Report and Recommendations at 19 (2011), https://docs.fcc.gov/public/attachments/DOC-312161A1.pdf (Recommendation P1.2); *see id.* at 14 (finding that 14.7% of persons with disabilities have a "mobility disability that does not affect [their] ability to use communications devices"). EAAC found that the respondents to its survey "overwhelmingly want to be able to call PSAPs using the same technologies they use daily and know how to use reliably (just as all other citizens can)." *Id.* at 19 ("Users need to use familiar technologies and methods, such as text/ audio/ video communication, when calling in an emergency and therefore both want and need to be able to access NG9-1-1 from the same devices they will use every day.").

[192] *See also Bounce-Back Order*, 28 FCC Rcd at 7598, para. 120 ("In emergency situations, persons with disabilities may need to access emergency services quickly and this may require them to use mobile devices owned by others.").

[193] *911 Fee Diversion Order*, 36 FCC Rcd at 10810-11, para. 16 (stating that federal 911-related statutes and the Communication Act's provisions "establish an overarching federal interest in ensuring the effectiveness of the 911 system").

[194] New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620, Preamble § 102 (2008).

[195] *Consolidated Appropriations Act of 2018*, Pub. L. No. 115-141, 132 Stat. 348; *Division P, Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018* (RAY BAUM'S Act), § 506(a), (c)(1) (codified at 47 U.S.C. § 615 Notes).

endorsement by Congress of the Commission's ability to act in this context.[196] The Commission previously concluded that "[i]n light of these express statutory responsibilities, regulation of additional capabilities related to reliable 911 service, both today and in an NG911 environment, would be well within [the] Commission's . . . statutory authority."[197] The Commission also has stated that "[t]he Commission already has sufficient authority to regulate the 911 and NG911 activity of, *inter alia*, wireline and wireless carriers, interconnected VoIP providers, and other IP-based service providers" and that its jurisdiction to regulate 911 extends to the regulation of NG911 across different technologies.[198] Based on the above analysis, we tentatively conclude that we have the authority to adopt rules requiring cybersecurity and supply chain risk management plans for entities subject to 911 requirements, including covered 911 service providers, and to ensure that the 911 system functions effectively and its services remain available to the public, particularly in light of the threat posed by cyberattacks can disrupt the availability of these potentially life-saving services.[199] We seek comment on this analysis.

51. We also tentatively conclude that we have the authority to adopt rules requiring cybersecurity and supply chain risk management plans for all entities that transmit calls to the 988 Suicide and Crisis Lifeline[200] under Title II and Title III of the Act, and section 104 of the CVAA, and we seek comment on this analysis.[201] We believe that rules requiring cybersecurity and supply chain risk management plans will confer significant public interest benefits by promoting the availability of the 988 Suicide and Crisis Lifeline and safeguarding the connection of those experiencing a mental health crisis with local public safety and counseling resources that could save lives. We seek comment on this assessment.

52. *Title I Authority.* We tentatively conclude the authorities discussed above, coupled with our responsibilities and authority under section 4(i) and (n), provide additional authorization for the Commission to impose the requirements we propose today.[202] We tentatively conclude that the rules we

[196] *911 Fee Diversion Order*, 36 FCC Rcd at 10810-11, para. 16.

[197] *Improving 911 Reliability*; *Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75 and 11-60, Report and Order, 28 FCC Rcd 17476, 17529, para. 150 (2013) (*Improving 911 Reliability Order*).

[198] 2013 NG911 Framework Report, Section 4.1.2.2 at 28-29; *911 Governance and Accountability*; *Improving 911 Reliability*, PS Docket Nos. 14-193 and 13-75, Policy Statement and Notice of Proposed Rulemaking, 29 FCC Rcd 14208, 14223, para. 34 (2014) ("[T]he Commission has the public safety imperative to oversee each of the increasingly complex component pieces of the nation's 911 infrastructure.").

[199] *See* CISA, Cyber Risks to 911: Telephony Denial of Service, https://www.cisa.gov/sites/default/files/2023-02/Cyber%20Risks%20to%20911%20TDoS_6.4.2020%20-%20%28508c%29_1.pdf (last visited Apr. 10, 2024).

[200] 988 is the three-digit, nationwide phone number that connects to the 988 Suicide and Crisis Lifeline. It consists of a network of more than 200 crisis centers that provides assistance with overcoming mental-health related crises. *See* FCC, *988 Suicide and Crisis Lifeline*, https://www.fcc.gov/988-suicide-and-crisis-lifeline (last visited Apr. 26, 2024).

[201] 47 U.S.C. §§ 201, 218, 251(e)(4), 301, 303, 307, 309, 316, and 332; CVAA, Pub. L. No. 111-260, 124 Stat. 2751 § 104 (2010) (codified at 47 U.S.C. §§ 617, 618, and 619).

[202] 47 U.S.C. 154(i), (n). To exercise ancillary jurisdiction, "two conditions [must be] satisfied: (1) the Commission's general jurisdictional grant under Title I [of the Communications Act] covers the regulated subject and (2) the regulations are reasonably ancillary to the Commission's effective performance of its statutorily mandated responsibilities." *Comcast Corp. v. FCC*, 600 F.3d 642, 646 (D.C. Cir. 2010) (quoting *Am. Library Assn. v. FCC*, 406 F.3d 689, 691-92 (D.C. Cir. 2005)); 47 U.S.C. § 154(i) ("The Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.").

propose are necessary for the effective performance of our statutory responsibilities as described above.[203] We further tentatively conclude that these rules are consistent with the purposes of the Act[204] and would support our duty to "investigate and study all aspects of the problem" to obtain "maximum effectiveness from the use of radio and wire communications in connection with safety of life and property."[205] We seek comment on our analysis and these tentative conclusions.

53. *Other Covered Providers and Authorities.* We note that there may be other proceedings the Commission is engaged in that may result in other types of providers becoming subject to these proposed requirements at some point in the future. If the Commission concludes that other service providers are subject to our authority, we anticipate that such services would be subject to the rules we propose today and seek comment on this analysis. Are there active proceedings that, depending on their disposition, may result in other types of providers being subject to the rules we propose? Does our authority to require cyber risk management plans extend to other types of providers that we have not identified in this proceeding? Are there other sources of legal authority that we have not identified on which we can rely? Is our authority broad enough to encompass other entities or providers of telecommunications services that we have not identified in this proceeding? If so, which entities or providers? We seek comment on whether we have the authority under the Act to expand the cybersecurity rules we propose today to apply to any additional telecommunications providers.

54. *Section 705 Authority*. Section 705 of the Communications Act of 1934, as amended, 47 U.S.C. § 605, prohibits any person "receiving, assisting in receiving, transmitting, or assisting in transmitting, any interstate or foreign communication by wire or radio" from "divulg[ing] or publish[ing] the existence, contents, substance, purport, effect, or meaning thereof, except through authorized channels of transmission or reception, . . . to any person other than the addressee, his agent, or attorney," with certain exceptions.[206] This statutory obligation is not limited to service providers that are classified as common carriers, and as part of the Communications Act, it is subject to the Commission's authority to adopt rules to implement the Act.[207] We tentatively conclude that the rules we propose here implement these obligations as well, and we seek comment on this tentative conclusion.

### D. Costs and Benefits Analysis

55. We believe that the benefits of these proposals, if adopted, would outweigh the costs associated with compliance. We seek comment on this belief. While we believe that it is not possible to quantify the precise dollar value of improvements to national security, the national economy, public safety, life, and health, as a general matter,[208] we believe the rules we propose today will promote these goods. In particular, we believe the proposed rules will lead to significant benefits such as the protection of the nation's communications systems from cyberattacks, reduced vulnerability to cyber threats, and improved operational efficiencies. We provide an analysis to support these beliefs below and seek

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[203] *See* 47 U.S.C. § 151.

[204] *See* 47 U.S.C. § 154(i)

[205] 47 U.S.C. § 154(n).

[206] 47 U.S.C. § 605(a).

[207] *See* 47 U.S.C. §§ 154(i), 201(b), 303(r). *Cf. Alliance for Cmty. Media v. FCC*, 529 F.3d 763, 772-774 (6th Cir. 2008) (holding that, "pursuant to section 201(b), the FCC possesses clear jurisdictional authority to formulate rules and regulations interpreting the contours of section 621(a)(1)," 47 U.S.C. § 541(a)(1)); *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999).

[208] *Resilient Networks*, PS Docket 21-346, Report and Order, 37 FCC Rcd 8059, 8075, para. 46 (2022) (*Resilient Networks Order*) ("[I]t would be impossible to quantify the precise financial value of these health and safety benefits.").

comment on our analysis.

### 1. Benefits

56. *Development, Implementation, and Certification of Cybersecurity and Supply Chain Risk Management Plans*. By requiring carriers to implement cybersecurity and supply chain risk management plans, we expect to deliver significant national security, public safety, and economic security benefits to the public. The 2024 *IBM Security X Force Threat Intelligence Index* indicates that media and telecommunications entities have consistently experienced cybersecurity incidents.[209] CISA identifies the communications sector as a historically common target for malicious actors.[210] The telecommunications industry is also likely to remain a target of foreign government-affiliated cyber actors from nation states such as Russia, China, North Korea, and Iran.[211] The rules we propose are essential to ensure that Covered Providers defend against loss, damage, disruption, and unauthorized access to their networks, and to prevent cascading impacts to national critical functions.[212] We believe the rules proposed today will lead to significant benefits, including increasing the resiliency and reliability of the nation's communications networks, reducing vulnerability to cyber threats, and improving operational efficiency. The communications sector provides enabling functions across all critical infrastructure sectors, including the operations of "all businesses, public safety organizations, and government."[213] For example, the healthcare industry has recently experienced several attacks on its communications networks, leading to widespread strains on its operations, including patient care, internet access, and costs.[214] Similarly, a February 2024 joint advisory issued by CISA, the NSA, the FBI warned the public of Russian state-

[209] IBM, *2024 IBM Security X-Force Threat Intelligence Index* at 47 (2024), https://www.ibm.com/reports/threat-intelligence.

[210] *CISA CIRCIA NPRM,* 89. Fed. Reg. at 23686.

[211] Dept. of Homeland Security, *2024 Homeland Security Threat Assessment*, at 20, https://www.dhs.gov/sites/default/files/2023-09/23_0913_ia_23-333-ia_u_homeland-threat-assessment-2024_508C_V6_13Sep23.pdf ("Russian government□affiliated cyber espionage likely will remain a persistent threat to federal, state, and local governments, as well as entities in the defense, energy, nuclear, aviation, transportation, healthcare, education, media, and telecommunications industries. Chinese government cyber actors likely will continue to target key critical infrastructure sectors in the United States, including healthcare and public health, financial services, the defense industrial base, government facilities, and communications. . . .").

[212] *See CISA CIRCIA NPRM*, 89. Fed. Reg. at 23686. *See also* Dept. of Homeland Security, *Harmonization of Cyber Incident Reporting to the Federal Government*, at 4, n. 8, https://www.dhs.gov/publication/harmonization-cyber-incident-reporting-federal-government (Sept. 19, 2023) (describing national critical functions as functions of the government and the private sector "so vital to the United States that their disruption, corruption, or dysfunction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof."); CISA, *Guide to Critical Infrastructure Security and Resilience*, at 4 (2019), https://www.cisa.gov/resources-tools/resources/guide-critical-infrastructure-security-and-resilience ("There are four designated lifeline functions—transportation, water, energy, and communications, which means that their reliable operations are so critical that a disruption or loss of one of these functions will directly affect the security and resilience of critical infrastructure within and across numerous sectors.").

[213] CISA, *Communications Sector*, https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/critical-infrastructure-sectors/communications-sector#:~:text=The%20Communications%20Sector,critical%20infrastructure%20sectors (last visited Apr. 2, 2024).

[214] *See, e.g.*, Kristen Schorsch, *Lurie Children's Outage Being Felt Beyond the Near North Side Pediatric Hospital*, Chicago Sun Times (Feb. 12, 2024), https://chicago.suntimes.com/2024/02/12/lurie-childrens-hospital-outage-system-impact-doctors-patients (describing how the outage forced the children's hospital to shut down its phone, email, electronic health record system, and patient portal after being subject to a cyberattack); *see also* Andy Rose & Sara Smart, *Cyberattack on a Chicago Children's Hospital Has Shut Down Its Systems for a Week*, CNN (Feb. 6, 2024), https://www.cnn.com/2024/02/06/tech/cybersecurity-incident-chicago-lurie-childrens-hospital/index.html.

sponsored threat actors' use of compromised Ubiquiti EdgeRouters to facilitate malicious cyber operations worldwide, which specifically has had an impact on various industries, including the education, manufacturing, oil and gas, and transportation sectors.[215] We believe these proposed rules will enhance the resiliency of communications systems and services that may be at increased risk of cyberattacks, such as smaller providers within rural communities.[216]

57. In what other ways would the rules we propose today help protect Covered Providers against potential cybersecurity incidents? What benefits would these proposed rules have for consumers and customers of Covered Providers, including by protecting their data, personally identifiable information, and consumer proprietary network information, and facilitating continued access to services, such as financial and medical services, through Covered Providers' networks? Similarly, what benefits would these proposed rules have for consumers and customers of Covered Providers related to continued access to 911, 988, or other public safety services? We seek comment on authoritative models that we might use to quantify the extent to which cyber risk management planning makes the nation's communications networks more resilient.

58. The Commission has previously found that "a foreign adversary's access to American communications networks could result in hostile actions to disrupt and surveil our communications networks, impacting our nation's economy generally and online commerce specifically, and result in the breach of confidential data."[217] Our annual national gross domestic product was over $29 trillion in 2023.[218] Accordingly, if the requirement to create and implement cybersecurity and supply chain risk management plans to Covered Providers prevents even an additional 0.005% disruption to our economy, we believe the cyber risk management plan certification requirement we adopt today would generate $1.45 billion in annual benefits. Similarly, the digital economy accounted for $3.7 trillion of our economy in 2021,[219] and so we believe preventing a disruption of even 0.05% would produce annual benefits of $1.85 billion. As a check on our analysis, consider the impact of existing malicious cyber

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[215] *See* Joint Cybersecurity Advisory, Russian Cyber Actors Use Compromised Routers to Facilitate Cyber Operations (2024), https://www.ic3.gov/Media/News/2024/240227.pdf; *see also* Luke Barr, ABC News, *Russian Hackers Using 'Compromised' Internet Routers for Cyber Operations, US, International Law Enforcement Warn* (Feb. 28, 2024), https://abcnews.go.com/US/russian-hackers-compromised-internet-routers-cyber-operations-us/story?id=107616396.

[216] Terry Young, *The Rural broadband Security Gap, Challenges in Addressing It*, Network Computing (Aug. 30, 2023), https://www.networkcomputing.com/network-security/rural-broadband-security-gap-challenges-addressing-it. *See, e.g.*, David Russell, *Cybersecurity: A Crucial Need in Rural Communities*, NMPP Energy (July 11, 2023), https://www.nmppenergy.org/news/cybersecurity-crucial-need-rural-communities; Terry Young, *Why Cybersecurity in Rural Broadband Buildout Strategies is Critical* (Dec. 1, 2022), https://www.lightreading.com/broadband/why-cybersecurity-in-rural-broadband-buildout-strategies-is-critical (emphasizing that the scarcity of alternative healthcare facilities in rural communities makes hospitals a prime and easy target for cyber attackers).

[217] *Supply Chain Order*, 34 FCC Rcd at 11465, para. 109; *see also China Telecom Americas Order on Revocation and Termination*, 36 FCC Rcd at 16019-20, para. 81, *aff'd*, *China Telecom (Ams.) Corp. v. FCC*.

[218] *See* Press Release, Bureau of Economic Analysis, U.S. Department of Commerce, Gross Domestic Product (Second Estimate), Corporate Profits (Preliminary Estimate), Third Quarter 2024 at 2 (Nov. 27, 2024), https://www.bea.gov/sites/default/files/2024-11/gdp3q24-2nd.pdf ("Current-dollar GDP increased by 4.7 percent at an annual rate, or $337.6 billion, in the third quarter to a level of $29.35 trillion").

[219] *See* Tina Highfill & Christopher Surfield, Bureau of Economic Analysis, U.S. Department of Commerce, *New and Revised Statistics of the U.S. Digital Economy, 2005-2022* at 1 (Nov. 2022), https://www.bea.gov/system/files/2022-05/New%20and%20Revised%20Statistics%20of%20the%20U.S.%20Digital%20Economy%202005-2020.pdf.

activity on the U.S. economy: $57 billion to $109 billion in 2016.[220] Given the incentives and documented actions of hostile nation-state actors, reducing this activity (or preventing an expansion of such damage) by even 1% would produce annual benefits of $0.57 billion to $1.09 billion. Given this analysis, we believe the benefits of our rule to the American economy, commerce, and consumers is likely to be substantial. We seek comment on this analysis and ask commenters to be specific by providing data to illustrate the benefits our proposed rules would have to national security, public safety, and the economy.

### 2. Costs

59. We estimate a total of 69,574 Covered Providers would be affected by this rulemaking. To estimate this population, we use the full population under North American Industry Classification System (NAICS) code 517, which covers the full telecommunications sector, including cable television operators, satellite operators, telecommunications carriers, fixed and mobile wireless service providers, VoIP providers, and Internet carriers.[221] We also use the full population under NAICS code 5151, which covers radio and television broadcasting stations.[222] Based on data from the U.S. Census Bureau, we estimate that there are 62,105 establishments in telecommunications and 7,469 establishments in radio and television broadcasting.[223] Are NAICS codes 517 and 5151 the correct approach to understanding the number of Covered Providers that would be under the scope of this rulemaking? What other metrics should be used to estimate the number of Covered Providers subject to this rulemaking? We expect that many of these entities may be in compliance with the cybersecurity and supply chain risk management plan requirements we propose today and would not need to bear any costs in response to this rulemaking.

60. We estimate that these proposed rules would incur a maximum of $502 million total per year for implementing new cybersecurity and supply chain risk management plans. Alternatively, based on National Television Association's estimate, the cost for an initial cybersecurity assessment plan is $10,000.[224] Taking National Television Association's cost estimate, the alternative total initial cost for developing cybersecurity risk management plans would be $556,592,000 total cost per year = 80% × (69,574) entities × $10,000 per entity in the first year. Although we believe the cost estimates are an upper bound of true costs, we believe they are still well below the potential benefits of the proposed rules. These cost estimates are outlined below.

61. *Development, Implementation, and Certification of Cybersecurity and Supply Chain Risk Management Plans*. We estimate the annual cost of compliance with our proposed cybersecurity and supply chain risk management plan requirements to not exceed $502 million.[225] We estimate that it

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[220] *See* Council of Economic Advisers, *The Cost of Malicious Cyber Activity to the U.S. Economy* at 36 (Feb. 2018) , https://www.bea.gov/system/files/2022-11/new-and-revised-statistics-of-the-us-digital-economy-2005-2021.pdf .

[221] U.S. Census Bureau, 2021 SUSB. Based on 2017 NAICS code 517, Telecommunications.

[222] U.S. Census Bureau, 2021 SUSB. Based on 2017 NAICS code 5151, Radio and Television Broadcasting Stations.

[223] U.S. Census Bureau, 2021 SUSB Annual Data Tables by Establishment Industry (December 2023), https://www.census.gov/data/tables/2021/econ/susb/2021-susb-annual.html (showing, in line 11,794, that there are 7,469 establishments in the Radio and Television Broadcasting industry; and in line 11,875 that there are 62,105 establishments in the Telecommunications industry)

[224] National Television Association Comments, PS Docket Nos. 15-94, 15-91, and 22-329, at 7 (rec. Dec. 23, 2022).

[225] We estimate the total cost of developing cybersecurity and supply chain risk management plans as follows: 80% × (69,574) Covered Providers × (100 hours per Covered Provider per year) × ($62.18 mean hourly wage) × (1 + 45% benefit mark-up) = $501,828,913 of total cost per year, which we round to $502 million. We propose to assume 20% of carriers have a cybersecurity and supply chain risk management plan already so only 80% of covered provided need to develop a plan. *See* Bureau of Labor Statistics, *Occupational Employment and Wages,* (continued….)

would take Covered Providers around 100 hours to create a cybersecurity and supply chain risk management plan. Further, we observe that some entities may already have risk management plans or may be already implementing measures to protect their systems from cyberattacks. To the extent that these entities already have cybersecurity and supply chain risk management plans, we expect that the additional time required to comply with the rules we adopt today would be low. To the extent that these entities are making cybersecurity improvements to their systems, we expect that they are already conducting some level of risk assessment and mitigation planning that they can formalize into a cybersecurity and supply chain risk management plan. For these reasons, we expect that the time spent on these existing cybersecurity efforts will offset at least some of the burden associated with creating and updating cybersecurity and supply chain risk management plans. We expect that many Covered Providers may be in compliance with the cybersecurity and supply chain risk management plan requirements we propose today and would not need to bear any costs in response to this rulemaking. Given that there are types of Covered Providers that already have cybersecurity and supply chain risk management plans in place, are those plans sufficient to comply with these proposed rules (i.e., sufficient to ensure the confidentiality, integrity, and availability of all aspects of their communications systems and services)? If not, what steps would be necessary for them to take to bring those plans to compliance with these propose rules? If we take action to harmonize cybersecurity and supply chain risk management plan requirements across all Commission proceedings, should we omit those providers receiving USF support from this analysis to avoid double counting? We similarly expect that many Covered Providers make cybersecurity improvements and implement risk management already, and seek comment on the costs that would be incurred for such providers to move from their current state of operations to the state that would be required by our proposed rules. Are there other costs that we are not considering? We ask commenters to be specific in their estimates and to provide data supporting their analysis.

62. We do not believe that annual recurring costs of implementing plans outweigh the substantial benefits described above. After the first year, a Covered Provider will likely need less work to comply with these proposed rules, so the ongoing annual costs of maintaining plans will likely be less than initial cost of compliance. Therefore, the cost of implementing a cybersecurity and supply chain risk management plan in the first year of required compliance is an upper bound on the annual costs of new or revised cybersecurity plans. How much does it cost for Covered Providers to maintain cybersecurity and supply chain risk management plans after their initial creation? We recognize that there is a great diversity in cybersecurity postures among Covered Providers, and the rules we adopt today are meant to allow the flexibility of adopting different security controls based on Covered Providers' needs. We do not believe it is possible to accurately estimate the costs of implementing the plans, including any necessary changes to hardware and software, employee training, continual monitoring, and other similar costs. Is there an approach that would allow us to accurately generalize estimated costs across the communications industry? Can costs be identified for specific alternatives we have sought comment on, such as requiring end-of-life equipment be decommissioned within 180 days? What measures can we

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*May 2023, 11-1021 General and Operations Managers* (May 2023), https://www.bls.gov/oes/current/oes111021.htm (mean hourly wage is $62.18 for occupation code 11-1021 General and Operations Managers) (*General and Operation Managers Mean Hourly Wage*). According to the Bureau of Labor Statistics, as of December 2023, civilian wages and salaries averaged $31.29/hour and benefits averaged $14.13/hour. Total compensation therefore averaged $31.80 + $14.41 = $46.21. *See* Press Release, Bureaus of Labor Statistics, Employer Costs for Employee Compensation – June 2024 (Sep. 10, 2024), https://www.bls.gov/news.release/archives/ecec_09102024.pdf. Using these figures, benefits constitute a markup of $14.41/$31.80 = 45%. We therefore markup wages by 45% to account for benefits (*Compensation Benefit Mark-up*). Alternatively, based on National Television Association's estimate, the cost for an initial cybersecurity assessment plan is $10,000. National Television Association Comments, PS Docket Nos. 15-94, 15-91, and 22-329, at 7 (rec. Dec. 23, 2022). Taking National Television Association's cost estimate, the alternative total initial cost for developing cybersecurity and supply chain risk management plans is $556,592,000 total cost per year = 80% × (69,574) entities × $10,000 per entity in the first year. We seek comment on these calculations and estimates.

take to minimize costs? We note that Covered Providers can benefit from free and low-cost resources that are available to help identify and implement best practices and improve their security over time without requiring the hiring of outside experts. For example, CISA offers vulnerability scanning at no cost for critical infrastructure, which includes communications providers,[226] and also provides CPG Assessment Training with regional cybersecurity experts that will help communications providers better understand CPGs and the cybersecurity risk assessment process.[227] We believe that these resources, along with any number of other publicly available resources that we have not specifically identified or that may arise in the future, will assist Covered Providers' employees and their existing technical contractors in identifying and implementing appropriate security controls without needing specialized cybersecurity expertise. Are there any costs that would be specific to smaller or rural providers? We ask commenters to provider specific cost estimates to illustrate the burdens these proposed rules would impose. We ask smaller or rural providers to include a description of other regulatory burdens already imposed on them to provide context of the cumulative burdens faced by these proposals.

### E. Promoting Digital Equity

63. The Commission, as part of its continuing effort to advance digital equity for all,[228] including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations[229] and benefits (if any) that may be associated with the proposals and issues discussed herein. Specifically, we seek comment on how our proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority.

## V. PROCEDURAL MATTERS

64. *Ex Parte Rules - Permit-But-Disclose*. This proceeding this *Notice of Proposed Rulemaking* initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the

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[226] CISA, *Cyber Hygiene Services*, https://www.cisa.gov/cyber-hygiene-services (last visited May 13, 2024) (offering vulnerability scanning and web application scanning); Eric Goldstein, CISA, Executive Assistant Director for Cybersecurity 2:07:53 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (stating that every single public safety organization across the country should be enrolled in CISA's vulnerability scanning services).

[227] CISA, *Cybersecurity Performance Goals (CPG) Assessment Training*, https://www.cisa.gov/resources-tools/training/cybersecurity-performance-goals-cpg-assessment-training (last visited Feb 28, 2024); Eric Goldstein, CISA, Executive Assistant Director for Cybersecurity, 2:09:13 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (describing performance goal assessments to help companies "walk through the list, look at where you are, then figure out where to go next"). *See also* CISA, *Free Cybersecurity Services and Tools*, https://www.cisa.gov/resources-tools/resources/free-cybersecurity-services-and-tools (last visited Feb. 28, 2024).

[228] Section 1 of the Communications Act of 1934 as amended provides that the FCC "regulat[es] interstate and foreign commerce in communication by wire and radio so as to make [such service] available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sec." 47 U.S.C. § 151.

[229] The term "equity," as used here, is consistent with Executive Order 13985 as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. See Exec. Order No. 13985, 86 Fed. Reg. 7009, Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (Jan. 20, 2021).

Commission's ex parte rules.[230] Persons making ex parte presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the ex parte presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with Rule 1.1206(b). In proceedings governed by Rule 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's ex parte rules.

65. *Regulatory Flexibility Act*. The Regulatory Flexibility Act of 1980, as amended (RFA),[231] 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."[232] Accordingly, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning the possible impact of the rule and policy changes contained in this *Notice of Proposed Rulemaking*. The IRFA is set forth in Appendix B. Written public comments are requested on the IRFA. Comments must be filed by the deadlines for comments on the *Notice of Proposed Rulemaking* indicated on the first page of this document and must have a separate and distinct heading designating them as responses to the IRFA.

66. *Paperwork Reduction Act*. This document contains proposed new and modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. § 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

67. *Providing Accountability Through Transparency Act.* Consistent with the Providing Accountability Through Transparency Act, Public Law 118-9, a summary of this document will be available on https://www.fcc.gov/proposed-rulemakings.

68. *Filing Requirements—Comments and Replies*. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. All comments must be filed in PS Docket No. 22-329. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).

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[230] 47 CFR § 1.1200 *et seq.*

[231] *See* 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601–612, was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[232] *Id.*

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: https://www.fcc.gov/ecfs/.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
    - Filings can be sent by hand or messenger delivery, by commercial courier, or by the U.S. Postal Service. All filings must be addressed to the Secretary, Office of the Secretary, Federal Communications Commission.
    - Hand-delivered or messenger-delivered paper filings for the Commission's Secretary are accepted between 8:00 a.m. and 4:00 p.m. by the FCC's mailing contractor at 9050 Junction Drive, Annapolis Junction, MD 20701. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
    - Commercial courier deliveries (any deliveries not by the U.S. Postal Service) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
    - Filings sent by U.S. Postal Service First-Class Mail, Priority Mail, and Priority Mail Express must be sent to 45 L Street NE, Washington, DC 20554.

69. *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 or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice).

70. *Further Information*. For further information regarding this *Declaratory Ruling and Notice of Proposed Rulemaking*, please contact Haille Laws of the Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau, (202) 418-7934 or haille.laws@fcc.gov, or Joshua Gehret of the Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau, (202) 418-7816 or joshua.gehret@fcc.gov.

## VI. ORDERING CLAUSES

71. Accordingly, IT IS ORDERED that pursuant to sections 1, 2, 3, 4(i), 4(n), 201, 214, 217, 218, 220, 222, 225, 229, 251, 301, 302, 303, 307, 309, 316, 332, 335, 338, 403, 624, 631(c), 632, 633, 706, 713, 716, 717, and 718 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 153, 154(i), 154(n), 201, 214, 217, 218, 220, 222, 225, 229, 251, 301, 302a, 303, 307, 309, 316, 332, 335, 338, 403, 544, 551(c), 552, 553, 606, 613, 617, 618, 619; the Wireless Communications and Public Safety Act of 1999, as amended, 47 U.S.C. §§ 615 note, 615, 615a, 615a-1, 615b; section 106 of the Twenty-First Century Communications and Video Accessibility Act of 2010, 47 U.S.C. § 615c; section 105 of the Communications Assistance for Law Enforcement Act, 47 U.S.C. § 1004; sections 602, 603, 604, and 605 of the Warning, Alert, and Response Network Act, 47 U.S.C. §§ 1201, 1202, 1203, 1204; section 9201 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, 47 U.S.C. § 1206; and section 5(a) of Executive Order 10530, 3 U.S.C. § 301, this *Declaratory Ruling and Notice of Proposed Rulemaking* IS hereby ADOPTED.

72. IT IS FURTHER ORDERED that the Commission's Office of the Secretary, SHALL SEND a copy of this *Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

## APPENDIX A

## Proposed Rules

For the reasons set forth above, the Federal Communications Commission proposes to amend Title 47 of the Code of Federal Regulations as follows:

### PART 12 – CYBERSECURITY

1. Add part 12, consisting of §§ 12.1 through 12.3, to read as follows:

### PART 12 – CYBERSECURITY

**AUTHORITY:** 47 U.S.C. §§ 35, 151, 152, 153, 154(i), 154(n), 201, 214, 217, 218, 220, 222, 225, 229, 251, 301, 302a, 303, 307, 309, 316, 332, 335, 338, 403, 544, 551(c), 552, 553, 602, 603, 604, 606, 613, 615, 615a-1, 615c, 617, 618, 619, 1004, 1201, 1202, 1203, 1204, 1206; and Executive Order 10530.

**§ 12.1 Definitions.**

(a) *Covered Providers.* Covered Providers include:

*Broadcasters*, including AM broadcast stations (as defined by 47 CFR § 73.14) FM broadcast stations—including low power FM broadcast stations and program originating FM booster stations (as defined by 47 CFR § 73.310(a)), digital audio broadcasters (as defined by 47 CFR § 73.402), and any radio broadcast station subject to the Commission's Emergency Alert System rules (as defined in 47 CFR § 11.11(a));

*Cable system operators*, as defined in 47 CFR § 76.5(cc). Cable systems, as defined in 47 CFR § 76.5(a) include analog cable systems and digital cable systems (as defined in 47 CFR § 11.11(a));

*Commercial mobile radio service providers*, as defined in 47 CFR § 20.3;

*Commercial radio operators*, as defined in 47 CFR § 13.3(b);

*Covered 911 service providers*, as defined in 47 CFR § 9.19(a)(4);

*Covered 988 service providers*, as defined in 47 CFR § 4.3;

*Facilities-Based Broadband Internet Access Service providers*, defined as:

(i) Any facilities-based provider of any type of broadband Internet access service, including but not limited to wireline, cable modem, satellite, wireless, fixed wireless, and broadband access via powerline; and

(ii) That meets the definition of "telecommunications carrier" in 47 CFR § 1.20002(e);

*Interconnected Voice over Internet Protocol (VoIP) providers*, as defined in 47 CFR § 9.3;

*International section 214 authorization holders*, as defined in 47 CFR §§ 63.09 through 63.24;

*Satellite Communications Providers*, which include all earth and space stations licensed by the Commission pursuant to 47 CFR § 25.201 *et seq.*, including Mobile-Satellite Service providers (as defined in 47 CFR § 2.1), Direct Broadcast Satellite Service providers (as defined in 47 CFR § 25.103), Satellite Digital Audio Radio Service providers (as defined in 47 CFR § 25.201), Geostationary Orbit (GSO) and GSO-like Satellite Operations (as defined in 47 CFR § 25.158), Non-Geostationary Orbit (NGSO) and NGSO-like Satellite Operations (as defined in 47 CFR § 25.157(a)), Fixed-Satellite Services (as defined in 47 CFR § 25.103), Earth Exploration-Satellite Services (as defined in 47 CFR § 2.1), Satellite Operators (as defined in 47 CFR § 4.3),

and any other satellite communications provider that use space stations as a means of providing the public with communications;

*Telecommunications Relay Service Providers*, as defined in 47 CFR § 9.3;

*Television providers*, which include low power television stations (as defined in 47 CFR § 74.701(f)), television broadcast translator stations (as defined in 47 CFR § 74.701(a)), and all other television broadcast stations, including analog television service providers and digital television service providers (see 47 CFR § 76.5(b));

*Wireline communications providers*, as defined in 47 CFR § 4.3(g);

*Wireless cable operators,* as defined in 47 CFR § 11.11(c)(2);

*Wireline Video Systems,* as defined in 47 CFR § 11.2(c); and

*Wireless Resellers and Mobile Virtual Network Operators*, defined as providers of commercial mobile radio services that generally do not use their own wireless facilities to provide the service.

(b) *Communications systems and services*. A Covered Provider's equipment, architecture, networks and network elements, and any element of a Covered Provider's business that contributes to the provision of a service to the Covered Provider's subscribers or customers and affects how a Covered Provider's subscribers or customers receive that service.

**§ 12.2 Cybersecurity and Supply Chain Risk Management Plan Certification.**

(a) Covered Providers shall take reasonable measures to protect the confidentiality, integrity, and availability of their communications systems and services that potentially could affect their provision of services; failure to do so shall be, in addition to a violation of any specific provisions of this section and this chapter, an independent breach of this duty.

(b) Each Covered Provider shall annually submit a certification to the Commission's Network Outage Reporting System (NORS) that it has created, updated, and implemented cybersecurity and supply chain risk management plans. The Covered Provider's Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Technology Officer (CTO), or a similarly senior officer responsible for governance of the organization's security practices must sign its cybersecurity and supply chain risk management plans. The cybersecurity and supply chain risk management plans shall be made available to the Commission's Public Safety and Homeland Security Bureau upon request.

(c) For purposes of this section, a "cybersecurity risk management plan" shall describe how the Covered Provider employs its organizational resources, security controls, and processes to ensure the confidentiality, integrity, and availability of all aspects of their communications systems and services. The plan shall discuss how the Covered Provider identifies the cyber risks that it faces, the controls it uses to mitigate those risks, and how it ensures that these controls are applied effectively to its operations. The plan shall address, but not be limited to, the following security controls:

(1) Changing default passwords prior to operation;

(2) Installing security updates in a timely manner;

(3) Securing equipment behind properly configured firewalls or using other segmentation practices;

(4) Requiring multifactor authentication where applicable;

(5) Addressing the replacement of end-of-life equipment; and

(6) Wiping, clearing, or encrypting user information before disposing of old devices.

(d) For purposes of this section, a "supply chain risk management plan" shall reflect the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161.

(e) Covered Providers shall preserve data and records related to their risk management plans, including any information that is necessary to show how the risk management plan is implemented. Such data and records should be preserved for no less than two years from the submission of the related risk management plan certification to the Commission.

(f) The Commission, in its discretion, may share cybersecurity and supply chain risk management plans with federal agencies, subject to the provisions of 44 U.S.C. 3510. Any information submitted by a Covered Provider will be held in confidence pursuant to § 0.457 or § 0.459 of this chapter. A party who furnishes cybersecurity and supply chain risk management plans to the Commission in confidence will not be afforded prior notice when the disclosure is made with federal agencies. Such a party will instead be notified of disclosure of the records either individually or by public notice.

**PART 54 – UNIVERSAL SERVICE**

2. The authority citation for part 54 continues to read as follows:

**AUTHORITY:** 47 U.S.C. §§ 35, 151, 152, 153, 154(i), 154(n), 155, 201, 205, 214, 217, 218, 219, 220, 222, 225, 229, 251, 254, 301, 302a, 303, 307, 309, 316, 332, 335, 338, 403, 544, 551(c), 552, 553, 602, 603, 604, 606, 613, 615, 615a-1, 615c, 617, 618, 619, 1004, 1201, 1202, 1203, 1204, 1206, 1302, 1601-1609, and 1752; and Executive Order 10530, unless otherwise noted.

3. Revise § 54.308(e)(4)-(5) to read as follows:

* * * * *

(e)

(4) An Enhanced A-CAM carrier's cybersecurity risk management plans shall reflect the latest version of the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity, and shall reflect an established set of cybersecurity best practices, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security Controls. A cybersecurity risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

(5) Enhanced A-CAM carrier's supply chain risk management plans shall incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161. A supply chain risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

4. Revise proposed § 54.308(h)(4)-(5) to read as follows:

* * * * *

(h)

(4) An Alaska Connect Fund mobile support recipient's cybersecurity risk management plan must reflect at least the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework) or any successor version of the NIST Framework, that may be adopted by the Wireline Competition Bureau, the Wireless Telecommunications Bureau, and the Public Safety and Homeland Security Bureau after notice and comment, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security Controls. A cybersecurity risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

(5) An Alaska Connect Fund mobile support recipient's supply chain risk management plan must reflect the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161. A supply chain risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

5. Revise § 54.1022(d)-(e) to read as follows

* * * * *

(d) A 5G Fund support recipient's cybersecurity risk management plan must reflect at least the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework) or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security Controls. A cybersecurity risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

(e) A 5G Fund support recipient's supply chain risk management plan must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161. A supply chain risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

6. Revise proposed § 54.2101(k)(4)-(5) to read as follows

* * * * *

(4) A Fixed ACF carrier's cybersecurity risk management plans shall reflect at least the National Institute of Standards and Technology's Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework), or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives (CISA CPGs) or the Center for Internet Security Critical Security Controls (CIS Controls). A cybersecurity risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

(5) A Fixed ACF carrier's supply chain risk management plans shall reflect the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161. A supply chain risk management plan that meets the requirements of § 12.2 of this chapter will be deemed to have satisfied this requirement.

## APPENDIX B

## Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Federal Communications Commission (Commission) has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the *Declaratory Ruling and Notice of Proposed Rulemaking (Notice)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadline for comments specified on the first page of the *Notice*. The Commission will send a copy of the *Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[2] In addition, the *Notice* and IRFA (or summaries thereof) will be published in the *Federal Register*.[3]

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

2. The *Notice* proposes rules to safeguard the cybersecurity posture of our nation's communications critical infrastructure and promote national security, public safety, and economic security. Congress created the Commission, among other reasons, "for the purpose of the national defense [and] for the purpose of promoting safety of life and property through the use of wire and radio communication . . . ."[4] A February 2024 joint advisory issued by the Critical Infrastructure Security Agency (CISA), National Security Agency (NSA), the Federal Bureau of Investigation (FBI), other U.S. federal agencies, and the "Five Eyes"[5] intelligence alliance warns that "People's Republic of China (PRC) state-sponsored cyber actors are seeking to pre-position themselves on IT networks for disruptive or destructive cyberattacks against U.S. critical infrastructure in the event of a major crisis or conflict with the United States," and include the communications sector among critical infrastructure segments.[6] The communications industry has been subject to an increasing number of cyberattacks in the last several years.[7] "In the fifteen years that Verizon has been publishing its Data Breach Investigations Report, it has

[1] 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, Pub. L. No. 104-121, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *See id*.

[4] 47 U.S.C. § 151.

[5] The "Five Eyes" intelligence alliance is composed of non-political intelligence oversight, review, and security entities from Australia, Canada, New Zealand, the United Kingdom, and the United States. Office of the Director of National Intelligence, *Five Eyes Intelligence Oversight and Review Council (FIORC)*, https://www.dni.gov/index.php/who-we-are/organizations/enterprise-capacity/chco/chco-related-menus/chco-related-links/recruitment-and-outreach/217-about/organization/icig-pages/2660-icig-fiorc (last visited Apr. 23, 2024).

[6] *See* Joint Cybersecurity Advisory, PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure (2024), https://media.defense.gov/2024/Feb/07/2003389935/-1/-1/1/CSA-PRC-COMPROMISE-US-CRITICAL-INFRASTRUCTURE.PDF; *see also* Brian Scott, Office of the National Cyber Director, Deputy Assistant, National Cyber Director for Cyber Policy and Program, Alerting Security Roundtable, 11:19 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (describing "pervasive" cybersecurity threats to the communications sector, including threats from foreign adversaries).

[7] *See* Communications Sector Coordinating Council, Annual Report (2023), https://www.comms-scc.org/2023/02/07/2023-cscc-annual-report/.

'collected and analyzed in total over 914,547 incidents, 234,638 breaches and 8.9 TBs of cybersecurity data.' And the number of incidents is increasing every year."[8]

3. The Commission has taken measures to protect the nation's communications infrastructure from potential security threats,[9] including by adopting measures to bolster the security of certain Universal Service Fund recipients,[10] and proposing cybersecurity measures for submarine cable landing applicants and licensees.[11] Consistent with and in furtherance of these priorities, in the *Notice*, the Commission acts to improve the cybersecurity of the nation's communications systems by proposing and seeking comment on rules requiring the creation, updating, and implementation of cybersecurity and supply chain risk management plans. Specifically, the Commission proposes to apply cybersecurity and supply chain risk management requirements to a broader set of Commission licensees and regulatees. The requirements would specifically be applicable to facilities-based fixed and mobile broadband Internet access service (BIAS) providers; all broadcasting stations—including AM broadcast stations, FM broadcast stations (including low power FM broadcast stations and program originating FM booster stations), digital audio broadcasters, all televisions stations—including low power television stations, television broadcast translator stations, and all analog television and digital television service providers; all cable systems (including digital cable systems and wireless cable systems); wireline video systems; wireline communications providers; commercial radio operators; interconnected VoIP providers (including providers of outbound-only VoIP); telecommunications relay service (TRS) providers; satellite communications providers (including all space and earth station licensees, mobile satellite service providers, Direct Broadcast Satellite (DBS) providers, SDARS providers, geostationary orbit (GSO) and GSO-like satellite operations, non-geostationary orbit (NGSO) and NGSO-like satellite operations, Fixed-Satellite Services, Earth Exploration-Satellite Services, satellite operators, and any other satellite communications provider that use space stations as a means of providing the public with communications); commercial mobile radio service providers; wireless resellers and Mobile Virtual Network Operators (MVNOs); covered 911 service providers; covered 988 service providers; and international 214 authorization holders. These licensees and regulatees are referred to collectively as

[8] Center For Internet Security Reply, PS Docket Nos. 15-94, 15-91, and 22-329, at 2 (rec. Jan. 23, 2023) (citing Verizon, Data Breach Investigation Report at 10 (2022), https://www.verizon.com/business/en-gb/resources/2022-data-breach-investigations-report-dbir.pdf) (CIS Reply).

[9] *See, e.g., Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs; Huawei Designation; ZTE Designation*, WC Docket No. 18-89; PS Docket Nos. 19-351 and 19-352, Report and Order, Further Notice of Proposed Rulemaking, and Order, 34 FCC Rcd 11423 (2019).

[10] *Connect America Fund: A National Broadband Plan for Our Future High-Cost Universal Service Support; ETC Annual Reports and Certifications; Telecommunications Carriers Eligible to Receive Universal Service Support; Connect America Fund – Alaska Plan; Expanding Broadband Service Through the ACAM Program*, WC Docket Nos. 10-90, 14-58, 09-197, and 16-271, and RM-11868, Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, 38 FCC Rcd 7040, 7086-88, paras. 109-14 (2023) (*Enhanced A-CAM Program Order*); *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 24-89 (2024) (*5G Fund Order*); *Connect America Fund; Alaska Connect Fund; Connect America Fund—Alaska Plan; Universal Service Reform—Mobility Fund; ETC Annual Reports and Certifications; Telecommunications Carriers Eligible to Receive Universal Service Support*, WC Docket Nos. 10-90, 23-328, 16-271, 10-208, 14-58, 09-197, Report and Order and Further Notice of Proposed Rulemaking, FCC 24-116 (2024) (*Alaska Connect Fund Order*).

[11] *Review of Submarine Cable Landing License Rules and Procedures to Assess Evolving National Security, Law Enforcement, Foreign Policy, and Trade Policy Risks*; *Amendment of the Schedule of Application Fees Set Forth in Sections 1.1102 through 1.1109 of the Commission's Rules*, OIA Docket No. 24-523, MD Docket No. 24-524, Notice of Proposed Rulemaking, FCC 24-119 (2024).

"Covered Providers." The Commission proposes and seeks comment on requiring Covered Providers to submit an annual certification attesting that they have created, updated, and implemented cybersecurity and supply chain risk management plans, which includes a description of how the provider plans to protect the confidentiality, integrity, and availability of all aspects of their communications systems and services.

### B. Legal Basis

4. The proposed action is authorized under sections 1, 2, 3, 4(i), 4(n), 201, 214, 217, 218, 220, 222, 225, 229, 251, 301, 302, 303, 307, 309, 316, 332, 335, 338, 403, 624, 631(c), 632, 633, 706, 713, 716, 717, and 718 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 153, 154(i), 154(n), 201, 214, 217, 218, 220, 222, 225, 229, 251, 301, 302a, 303, 307, 309, 316, 332, 335, 338, 403, 544, 551(c), 552, 553, 606, 613, 617, 618, 619; sections 3 and 6 of the Wireless Communications and Public Safety Act of 1999, as amended, 47 U.S.C. §§ 615 note, 615, 615a, 615a-1, 615b; section 106 of the Twenty-First Century Communications and Video Accessibility Act of 2010, 47 U.S.C. § 615c; section 105 of the Communications Assistance for Law Enforcement Act, 47 U.S.C. § 1004; sections 602, 603, 604, and 605 of the Warning, Alert, and Response Network Act, 47 U.S.C. §§ 1201, 1202, 1203, 1204; section 9201 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, 47 U.S.C. § 1206; and section 5(a) of Executive Order 10530, 3 U.S.C. § 301.

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

5. The RFA directs agencies to provide a description and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules and policies, adopted.[12] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[13] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act."[14] 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.[15]

6. *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, at the outset, three broad groups of small entities that could be directly affected herein.[16] 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.[17] These types of small businesses represent 99.9% of all businesses in the United States, which translates to 33.2 million

[12] 5 U.S.C. § 603(b)(3).

[13] *Id.* § 601(6).

[14] *Id.* § 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."

[15] 15 U.S.C. § 632.

[16] 5 U.S.C. § 601(3)-(6).

[17] *See* SBA, Office of Advocacy, "What's New With Small Business?," https://advocacy.sba.gov/wp-content/uploads/2023/03/Whats-New-Infographic-March-2023-508c.pdf (Mar. 2023).

businesses.[18]

7. 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."[19] 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.[20] Nationwide, for tax year 2022, there were approximately 530,109 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.[21]

8. 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."[22] U.S. Census Bureau data from the 2022 Census of Governments[23] indicate there were 90,837 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.[24] Of this number, there were 36,845 general purpose governments (county,[25] municipal, and town or township[26]) with populations of

[18] *Id*.

[19] 5 U.S.C. § 601(4).

[20] 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 of small organizations in this small entity description. S*ee* 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.

[21] *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 2022 with revenue less than or equal to $50,000 for Region 1-Northeast Area (71,897), Region 2-Mid-Atlantic and Great Lakes Areas (197,296), and Region 3-Gulf Coast and Pacific Coast Areas (260,447) that includes the continental U.S., Alaska, and Hawaii. This data includes information for Puerto Rico (469).

[22] 5 U.S.C. § 601(5).

[23] 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/economic-census/year/2022/about.html.

[24] *See* U.S. Census Bureau, 2022 Census of Governments – Organization Table 2. Local Governments by Type and State: 2022 [CG2200ORG02], https://www.census.gov/data/tables/2022/econ/gus/2022-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. CG2200ORG02 Table Notes_Local Governments by Type and State_2022.

[25] *See id.* at tbl.5. County Governments by Population-Size Group and State: 2022 [CG2200ORG05], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 2,097 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

[26] *See id.* at tbl.6. Subcounty General-Purpose Governments by Population-Size Group and State: 2022 [CG2200ORG06], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 18,693 municipal and 16,055 town and township governments with populations less than 50,000.

less than 50,000 and 11,879 special purpose governments (independent school districts[27]) with enrollment populations of less than 50,000.[28] Accordingly, based on the 2022 U.S. Census of Governments data, we estimate that at least 48,724 entities fall into the category of "small governmental jurisdictions."[29]

9. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves.[30] 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.[31] The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[32] U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.[33] Of that number, 2,837 firms employed fewer than 250 employees.[34] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 594 providers that reported they were engaged in the provision of wireless services.[35] Of these providers, the Commission estimates that 511 providers have 1,500 or fewer employees.[36] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

10. *Wireless Carriers and Service Providers*. Wireless Telecommunications Carriers (*except* Satellite) is the closest industry with a SBA small business size standard applicable to these service

[27] *See id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2022 [CG2200ORG10], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 11,879 independent school districts with enrollment populations less than 50,000. *See also* tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2022 [CG2200ORG04], CG2200ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2022.

[28] While the special purpose governments category also includes local special district governments, the 2022 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.

[29] 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 (36,845) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (11,879), from the 2022 Census of Governments - Organizations tbls. 5, 6 & 10.

[30] *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.

[31] *Id.*

[32] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[33] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[34] *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.

[35] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[36] *Id.*

providers.[37] The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[38] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[39] Of this number, 2,837 firms employed fewer than 250 employees.[40] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 594 providers that reported they were engaged in the provision of wireless services.[41] Of these providers, the Commission estimates that 511 providers have 1,500 or fewer employees.[42] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

11. *Low Power Auxiliary Station (LPAS) Licensees.* LPAS licensees utilize devices authorized as low power auxiliary stations which are intended to transmit over distances of approximately 100 meters for uses such as wireless microphones, cue and control communications, and synchronization of TV camera signals.[43] Wireless Telecommunications Carriers (*except* Satellite)[44] is the closest industry with a SBA small business size standard applicable for the spectrum used by these licensees. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[45] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[46] Of this total, 2,837 firms employed fewer than 250 employees.[47] Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

12. *Broadband Personal Communications Service.* The broadband personal communications services (PCS) spectrum encompasses services in the 1850-1910 and 1930-1990 MHz bands.[48] The closest industry with a SBA small business size standard applicable to these services is Wireless

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[37] *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.

[38] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[39] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[40] *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.

[41] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[42] *Id.*

[43] 47 CFR § 74.801.

[44] *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.

[45] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[46] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[47] *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.

[48] *See* 47 CFR § 24.200.

Telecommunications Carriers (except Satellite).[49] The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[50] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[51] Of this number, 2,837 firms employed fewer than 250 employees.[52] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

13. Based on Commission data as of November 2021, there were approximately 5,060 active licenses in the Broadband PCS service.[53] The Commission's small business size standards with respect to 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.[54] Winning bidders claiming small business credits won Broadband PCS licenses in C, D, E, and F Blocks.[55]

14. 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.

15. *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.[56] PCS services are radio communications that encompass mobile and ancillary fixed communication that provide services to individuals and businesses and can be integrated

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[49] *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.

[50] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[51] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[52] *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.

[53] 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.

[54] *See* 47 CFR § 24.720(b).

[55] *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.

[56] *See* 47 CFR § 24.5.

with a variety of competing networks.[57] Wireless Telecommunications Carriers (*except* Satellite)[58] 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.[59] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[60] Of this number, 2,837 firms employed fewer than 250 employees.[61] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

16. According to Commission data as of December 2021, there were approximately 4,211 active *Narrowband PCS* licenses.[62] 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" 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.[63] 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.[64] Pursuant to these definitions, 7 winning bidders claiming small and very small bidding credits won approximately 359 licenses.[65] 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.[66]

17. 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

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[57] *Id*.

[58] *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.

[59] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[60] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[61] *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.

[62] 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.

[63] *See* 47 CFR § 24.321(a)(1)-(2).

[64] *Id.*

[65] *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.

[66] 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.

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.

18. *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.[67] Wireless Telecommunications Carriers (*except* Satellite)[68] is the closest industry with an 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.[69] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[70] Of this number, 2,837 firms employed fewer than 250 employees.[71] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

19. The Commission's small business size standards with respect to WCS involve eligibility 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.[72]

20. 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.

21. *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

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[67] *See* 47 CFR §§ 27.1 – 27.1607.

[68] *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.

[69] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[70] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[71] *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.

[72] *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.

Carriers (*except* Satellite)[73] 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.[74] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[75] Of this number, 2,837 firms employed fewer than 250 employees.[76] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

22. According to Commission data as of December 2021, there were approximately 224 active 700 MHz Guard Band licenses.[77] 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.[78] 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 licenses.[79] 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.[80]

23. 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

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[73] *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.

[74] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[75] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[76] *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.

[77] 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.

[78] *See* 47 CFR § 27.502(a).

[79] *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.

[80] 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.

business size standard.

24. *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.[81] Wireless Telecommunications Carriers (*except* Satellite)[82] 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.[83] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[84] Of this number, 2,837 firms employed fewer than 250 employees.[85] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

25. According to Commission data as of December 2021, there were approximately 2,824 active Lower 700 MHz Band licenses.[86] The Commission's small business size standards with respect to 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.[87] In auctions for Lower 700 MHz Band licenses seventy-two winning bidders claiming a small business classification won 329

[81] *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.

[82] *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.

[83] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[84] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[85] *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.

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

[87] *See* 47 CFR § 27.702(a)(1)-(3).

licenses,[88] twenty-six winning bidders claiming a small business classification won 214 licenses,[89] and three winning bidders claiming a small business classification won all five auctioned licenses.[90]

26. 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.

27. *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.[91] 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.[92] Wireless Telecommunications Carriers (*except* Satellite)[93] 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.[94] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[95] Of that number, 2,837 firms employed fewer than 250 employees.[96] Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

28. According to Commission data as of December 2021, there were approximately 152

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[88] *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.

[89] *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.

[90] *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.

[91] *See* 47 CFR § 27.4.

[92] *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.

[93] *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.

[94] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[95] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[96] *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.

active Upper 700 MHz Band licenses.[97] 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.[98] Pursuant to these definitions, three winning bidders claiming very small business status won five of the twelve available licenses.[99]

29. 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.

30. *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.[100] Wireless Telecommunications Carriers (*except* Satellite)[101] 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.[102] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[103] Of this number, 2,837 firms employed fewer than 250 employees.[104] Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

31. According to Commission data as of December 2021, there were approximately 4,472

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[97] 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.

[98] *See* 47 CFR § 27.502(a).

[99] *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.

[100] *See* 47 CFR § 27.1(b).

[101] *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.

[102] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[103] *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&hidePreview=false.

[104] *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.

active AWS licenses.[105] 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.[106] Pursuant to these definitions, 57 winning bidders claiming status as small or very small businesses won 215 of 1,087 licenses.[107] In the most recent auction of AWS licenses 15 of 37 bidders qualifying for status as small or very small businesses won licenses.[108]

32. 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.

33. *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,"[109] 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)).[110] Wireless cable operators that use spectrum in the BRS 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.[111]

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[105] 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.

[106] *See* 47 CFR §§ 27.1002, 27.1102, 27.1104, 27.1106.

[107] *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.

[108] *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).

[109] The use of the term "wireless cable" does not imply that it constitutes cable television for statutory or regulatory purposes.

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

[111] 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.

34. 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).[112] The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[113] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[114] Of this number, 2,837 firms employed fewer than 250 employees.[115] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

35. According to Commission data as of December 2021, there were approximately 5,869 active BRS and EBS licenses.[116] 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.[117] 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.[118] One of the winning bidders claiming a small business status classification in the BRS license auction has an active licenses as of December 2021.[119]

36. 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

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[112] *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.

[113] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[114] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[115] *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.

[116] 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.

[117] *See* 47 CFR § 27.1218(a).

[118] *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.

[119] 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.

controlling interests, has average gross revenues that are not more than $20 million for the preceding five (5) years.[120] 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.

37. *Wireless Telephony*. Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. The closest applicable industry with an SBA small business size standard is Wireless Telecommunications Carriers (except Satellite).[121] The size standard for this industry under SBA rules is that a business is small if it has 1,500 or fewer employees.[122] For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated for the entire year.[123] Of this number, 2,837 firms employed fewer than 250 employees.[124] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 331 providers that reported they were engaged in the provision of cellular, personal communications services, and specialized mobile radio services.[125] Of these providers, the Commission estimates that 255 providers have 1,500 or fewer employees.[126] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

38. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks.[127] Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution, and wired broadband Internet services.[128] By exception, establishments providing satellite television distribution services using

[120] *See* 47 CFR § 27.1219(a).

[121] *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.

[122] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[123] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[124] *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.

[125] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[126] *Id.*

[127] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[128] *Id.*

facilities and infrastructure that they operate are included in this industry.[129] Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.[130]

39. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[131] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[132] Of this number, 2,964 firms operated with fewer than 250 employees.[133] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 4,590 providers that reported they were engaged in the provision of fixed local services.[134] Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees.[135] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

40. *Operator Service Providers (OSPs).* Neither the Commission nor the SBA has developed a small business size standard specifically for operator service providers. The closest applicable industry with a SBA small business size standard is Wired Telecommunications Carriers.[136] The SBA small business size standard classifies a business as small if it has 1,500 or fewer employees.[137] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[138] Of this number, 2,964 firms operated with fewer than 250 employees.[139] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were

[129] *Id.*

[130] Fixed Local Service Providers include the following types of providers: Incumbent Local Exchange Carriers (ILECs), Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, and Other Local Service Providers. Local Resellers fall into another U.S. Census Bureau industry group and therefore data for these providers is not included in this industry.

[131] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[132] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[133] *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.

[134] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[135] *Id.*

[136] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[137] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[138] *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&hidePreview=false.

[139] *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.

20 providers that reported they were engaged in the provision of operator services.[140] Of these providers, the Commission estimates that all 20 providers have 1,500 or fewer employees.[141] Consequently, using the SBA's small business size standard, all of these providers can be considered small entities.

41. *Competitive Access Providers (CAPs).* Neither the Commission nor the SBA have developed a definition of small entities specifically applicable to CAPs. The closest applicable industry with a SBA small business size standard is Wired Telecommunications Carriers.[142] Under the SBA small business size standard a Wired Telecommunications Carrier is a small entity if it employs 1,500 employees or less.[143] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[144] Of that number, 2,964 firms operated with fewer than 250 employees.[145] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 659 CAPs and competitive local exchange carriers (CLECs), and 69 cable/coax CLECs that reported they were engaged in the provision of competitive local exchange services.[146] Of these providers, the Commission estimates that 633 providers have 1,500 or fewer employees.[147] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

42. *Competitive Local Exchange Carriers (CLECs).* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include several types of competitive local exchange service providers.[148] Wired Telecommunications Carriers[149] is the closest industry with a SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[150] U.S. Census Bureau data for 2017 show that there were 3,054

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[140] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[141] *Id.*

[142] *See,* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017 https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[143] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[144] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[145] *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.

[146] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[147] *Id.*

[148] Competitive Local Exchange Service Providers include the following types of providers: Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, Local Resellers, and Other Local Service Providers.

[149] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[150] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

firms that operated in this industry for the entire year.[151] Of this number, 2,964 firms operated with fewer than 250 employees.[152] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 3,378 providers that reported they were competitive local service providers.[153] Of these providers, the Commission estimates that 3,230 providers have 1,500 or fewer employees.[154] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

43. *The Educational Broadcasting Services.* Cable-based educational broadcasting services fall under the broad category of the Wired Telecommunications Carriers industry.[155] 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.[156] Transmission facilities may be based on a single technology or a combination of technologies.[157] 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."[158]

44. The SBA small business size standard for this industry classifies businesses having 1,500 or fewer employees as small.[159] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[160] Of this total, 2,964 firms operated with fewer than 250 employees.[161] Thus, under this size standard, the majority of firms in this industry can be considered

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[151] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[152] *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.

[153] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[154] *Id.*

[155] *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).

[156] *Id.*

[157] *Id.*

[158] *Id.*

[159] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[160] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[161] *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.

small. Additionally, according to Commission data as of December 2021, there were 4,477 active EBS licenses.[162] The Commission estimates that the majority of these licenses are held by non-profit educational institutions and school districts and are likely small entities.

45. *Television Broadcasting.* This industry is comprised of "establishments primarily engaged in broadcasting images together with sound."[163] These establishments operate television broadcast studios and facilities for the programming and transmission of programs to the public.[164] 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 $47 million or less in annual receipts as small.[165] 2017 U.S. Census Bureau data indicate that 744 firms in this industry operated for the entire year.[166] Of that number, 657 firms had revenue of less than $25 million per year.[167] Based on this data we estimate that the majority of television broadcasters are small entities under the SBA small business size standard.

46. As of September 30, 2024, there were 1,384 licensed commercial television stations.[168] Of this total, 1,307 stations (or 94.4%) had revenues of $47 million or less in 2023, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Television Database (BIA) on October 15, 2024, and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates as of September 30, 2024, there were 382 licensed noncommercial educational (NCE) television stations, 379 Class A TV stations, 1,812 LPTV stations and 3,092 TV translator stations.[169] 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.

47. *Noncommercial Educational (NCE) and Public Broadcast Stations.* Noncommercial educational broadcast stations and public broadcast stations are television or radio broadcast stations

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[162] 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.

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

[164] *Id.*

[165] *See* 13 CFR § 121.201, NAICS Code 515120 (as of 10/1/22 NAICS Code 516120).

[166] *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. At this time, the 2022 Economic Census data is not available.

[167] *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.

[168] *Broadcast Station Totals as of September 30, 2024*, Public Notice, DA 24-1034 (rel. October 7, 2024) (*October 2024 Broadcast Station Totals PN*), https://docs.fcc.gov/public/attachments/DA-24-1034A1.pdf.

[169] *Id.*

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.

48. The SBA small business size standards and U.S. Census Bureau data classify radio stations[170] and television broadcasting[171] 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 $47 million or less in annual receipts as small.[172] 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.[173] 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 million per year.[174] 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.

49. According to Commission data as of September 30, 2024, there were 4,759 licensed noncommercial educational radio and television stations[175] In addition, the Commission estimates as September 30, 2024, there were 382 licensed noncommercial educational (NCE) television stations, 379 Class A TV stations, 1,812 LPTV stations and 3,092 TV translator stations.[176] The Commission does not compile and otherwise does not have access to financial information for these stations that permit it to

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

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

[172] *See* 13 CFR § 121.201, NAICS Code 515112 (Radio Stations) (as of 10/1/22 NAICS Code 516110); NAICS Code 515120 (Television Broadcasting) (as of 10/1/22 NAICS Code 516120).

[173] *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. At this time, the 2022 Economic Census data is not available. 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 that 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.

[174] *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. At this time, the 2022 Economic Census data is not available. 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.

[175] *Broadcast Station Totals as of September 30, 2024*, Public Notice, DA 24-1034 (rel. October 7, 2024) (*October 2024 Broadcast Station Totals PN*), https://docs.fcc.gov/public/attachments/DA-24-1034A1.pdf.

[176] *Id*.

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.

50. *Radio Stations*. This industry is comprised of "establishments primarily engaged in broadcasting aural programs by radio to the public."[177] Programming may originate in their own studio, from an affiliated network, or from external sources.[178] The SBA small business size standard for this industry classifies firms having $47 million or less in annual receipts as small.[179] U.S. Census Bureau data for 2017 show that 2,963 firms operated in this industry during that year.[180] Of this number, 1,879 firms operated with revenue of less than $25 million per year.[181] Based on this data and the SBA's small business size standard, we estimate a majority of such entities are small entities.

51. The Commission estimates that as of September 30, 2024, there were 4,400 licensed commercial AM radio stations and 6,618 licensed commercial FM radio stations, for a combined total of 11,018 commercial radio stations.[182] Of this total, 11,017 stations (or 99.99 %) had revenues of $47 million or less in 2023, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Database (BIA) on October 15, 2024, and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates that as of September 30, 2024, there were 4,377 licensed noncommercial (NCE) FM radio stations, 1,967 low power FM (LPFM) stations, and 8,894 FM translators and boosters.[183] 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 radio station licensees, we presume that all of these entities qualify as small entities under the above SBA small business size standard.

52. We note, however, that in assessing whether a business concern qualifies as "small" under the above definition, business (control) affiliations[184] must be included. Our estimate, therefore,

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

[178] *Id.*

[179] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

[180] *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. At this time, the 2022 Economic Census data is not available.

[181] *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 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.

[182] *Broadcast Station Totals as of September 30, 2024*, Public Notice, DA 24-1034 (rel. Oct. 7, 2024) (*October 2024 Broadcast Station Totals PN*), https://docs.fcc.gov/public/attachments/DA-24-1034A1.pdf.

[183] *Id*.

[184] "[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).

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.

53. *Amateur Radio Service.* Amateur service is a radiocommunication service intended for self-training, intercommunication and technical investigations carried out by amateurs, that is, duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.[185] Amateur radio service encompasses amateur service, amateur-satellite service and radio amateur civil emergency service.[186] Licenses are generally held by individuals but can also be held by clubs, associations and other non-profit entities. Radio Stations[187] is the closest industry with a SBA small business size standard applicable to this service. The SBA small business size standard for this industry classifies a small entity as one that has $47 million or less in annual receipts.[188] U.S. Census Bureau data for 2017 show that 2,963 firms operated in this industry during that year.[189] Of this number, 1,879 firms operated with revenue of less than $25 million per year.[190] Therefore, based on the SBA's size standard the majority of firms are small entities. Additionally, according to Commission data as of December 2021, there were approximately 841,734 active licenses for this service.[191] While the majority of these licenses are held by individuals, the Commission estimates that the licenses in this service held by clubs, associations and other non-profit entities are small entities under the SBA small business size standard.

54. *Personal Radio Services.* Personal radio services provide short-range, low-power radio

[185] *See* 47 CFR § 97.3(a)(4).

[186] See id. § 97.3(a)(2).

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

[188] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

[189] *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. At this time, the 2022 Economic Census data is not available. We note that the US Census Bureau withheld publication of the number of firms that operated for the entire year.

[190] *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 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.

[191] Based on a FCC Universal Licensing System search on December 9, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = HV, HA; Authorization Type = All; Status = Active.

for personal communications, radio signaling, and business communications not provided for in other services. Personal radio services include services operating in spectrum licensed under Part 95 of our rules.[192] These services include Citizen Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service.[193] There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. All such services utilize are wireless frequencies, therefore we apply the industry definition of Wireless Telecommunications Carriers (except Satellite).[194] The SBA small business size standard for this industry classifies firms employing 1,500 or fewer persons as small.[195] U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.[196] Of this number, 2,837 firms employed fewer than 250 employees.[197] Thus, under the SBA size standard, the Commission estimates that the majority of firms in this industry can be considered small. We note however, that many of the licensees in this category are individuals and not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities that may be affected by our actions in this proceeding.

55. *Auxiliary, Special Broadcast and Other Program Distribution Services*. This service involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the station). Neither the SBA nor the Commission have developed a small business size standard applicable to broadcast auxiliary licensees. The closest applicable industries with a SBA small business size standard fall within two industries - Radio Stations[198] and Television Broadcasting.[199] The SBA small business size standard for Radio Stations classifies firms having $47 million or less in annual receipts as small.[200] U.S. Census Bureau data for 2017 show that 2,963 firms operated in this industry

[192] 47 CFR Part 90.

[193] The Citizens Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service are governed by subpart D, subpart A, subpart C, subpart B, subpart H, subpart I, subpart G, and subpart J, respectively, of Part 95 of the Commission's rules. See generally 47 CFR Part 95.

[194] *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.

[195] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[196] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[197] *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.

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

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

[200] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

during that year.[201] Of that number, 1,879 firms operated with revenue of less than $25 million per year.[202] For Television Broadcasting, the SBA small business size standard also classifies firms having $47 million or less in annual receipts as small.[203] U.S. Census Bureau data for 2017 show that 744 firms in this industry operated for the entire year.[204] Of that number, 657 firms had revenue of less than $25 million per year.[205] Accordingly, based on the U.S. Census Bureau data for Radio Stations and Television Broadcasting, the Commission estimates that the majority of Auxiliary, Special Broadcast and Other Program Distribution Services firms are small under the SBA size standard.

56. *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.[206] 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.[207] The SBA small business size standard for this industry classifies businesses having 1,250 employees or less as small.[208] U.S. Census Bureau data for 2017 show that there were 656 firms in this industry that operated for the entire year.[209] Of this number, 624 firms had fewer than 250

[201] *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. At this time, the 2022 Economic Census data is not available. We note that the US Census Bureau withheld publication of the number of firms that operated for the entire year.

[202] *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 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.

[203] *See* 13 CFR § 121.201, NAICS Code 515120 (as of 10/1/22 NAICS Code 516120).

[204] *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. At this time, the 2022 Economic Census data is not available.

[205] *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.

[206] *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.

[207] *Id*.

[208] *See* 13 CFR § 121.201, NAICS Code 334220.

[209] *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. At this time, the 2022 Economic Census data is not available. https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/31SG2//naics~334220

employees.[210] Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

57. *Semiconductor and Related Device Manufacturing*. This industry comprises establishments primarily engaged in manufacturing semiconductors and related solid state devices.[211] Examples of products made by these establishments are integrated circuits, memory chips, microprocessors, diodes, transistors, solar cells and other optoelectronic devices.[212] The SBA small business size standard for this industry classifies entities having 1,250 or fewer employees as small.[213] U.S. Census Bureau data for 2017 show that there were 729 firms in this industry that operated for the entire year.[214] Of this total, 673 firms operated with fewer than 250 employees.[215] Thus under the SBA size standard, the majority of firms in this industry can be considered small.

58. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the Gulf of Mexico.[216] Wireless Telecommunications Carriers (*except* Satellite)[217] is the closest industry with a SBA small business size standard applicable to this service. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[218] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[219] Of this number, 2,837 firms employed fewer than 250 employees.[220] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small. Additionally, based on Commission data, as of December 2021, there was one licensee with an active license in this

[210] *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.

[211] *See* U.S. Census Bureau, *2017 NAICS Definition, "334413 Semiconductor and Related Device Manufacturing,"* https://www.census.gov/naics/?input=334413&year=2017&details=334413.

[212] *Id.*

[213] *See* 13 CFR § 121.201, NAICS Code 334413.

[214] *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 334413, https://data.census.gov/cedsci/table?y=2017&n=334413&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[215] *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.

[216] This service is governed by Subpart I of Part 22 of the Commission's Rules. *See* 47 CFR §§ 22.1001-22.1037.

[217] *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.

[218] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[219] *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&hidePreview=false.

[220] *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.

service.[221] However, since the Commission does not collect data on the number of employees for this service, at this time we are not able to estimate the number of licensees that would qualify as small under the SBA's small business size standard.

59. *Rural Radiotelephone Service.* Neither the Commission nor the SBA have developed a small business size standard specifically for small businesses providing Rural Radiotelephone Service. Rural Radiotelephone Service is radio service in which licensees are authorized to offer and provide radio telecommunication services for hire to subscribers in areas where it is not feasible to provide communication services by wire or other means.[222] A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio System (BETRS).[223] Wireless Telecommunications Carriers (*except* Satellite),[224] is the closest applicable industry with a SBA small business size standard. The SBA small business size standard for Wireless Telecommunications Carriers (*except* Satellite) classifies firms having 1,500 or fewer employees as small.[225] For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated for the entire year.[226] Of this total, 2,837 firms employed fewer than 250 employees.[227] Thus under the SBA size standard, the Commission estimates that the majority of Rural Radiotelephone Services firm are small entities. Based on Commission data as of December 27, 2021, there were approximately 119 active licenses in the Rural Radiotelephone Service.[228] The Commission does not collect employment data from these entities holding these licenses and therefore we cannot estimate how many of these entities meet the SBA small business size standard.

60. *Public Safety Radio Licensees.* As a general matter, Public Safety Radio Pool licensees include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[229] Because of the vast array of public safety licensees, the Commission has not

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[221] 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 = CO; 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.

[222] 47 CFR § 22.99.

[223] BETRS is defined in 47 CFR §§ 22.757, 22.759.

[224] *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.

[225] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[226] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[227] *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.

[228] Based on a FCC Universal Licensing System search on December 27, 2021. https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = CR; 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.

[229] *See* subparts A and B of Part 90 of the Commission's Rules, 47 CFR §§ 90.1-90.22. Police licensees serve state, county, and municipal enforcement through telephony (voice), telegraphy (code), and teletype and facsimile (printed material). Fire licensees are comprised of private volunteer or professional fire companies, as well as units under governmental control. Public Safety Radio Pool licensees also include state, county, or municipal entities that use radio for official purposes. State departments of conservation and private forest organizations comprise forestry service licensees that set up communications networks among fire lookout towers and ground crews. State and local (continued….)

developed a small business size standard specifically applicable to public safety licensees. Wireless Telecommunications Carriers (*except* Satellite)[230] 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.[231] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[232] Of this number, 2,837 firms employed fewer than 250 employees.[233] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

61. With respect to local governments, in particular, since many governmental entities comprise the licensees for these services, we include under public safety services the number of government entities affected. According to Commission records as of December 2021, there were approximately 127,019 active licenses within these services.[234] Included in this number were 3,577 active licenses in the Public Safety 4.9 GHz band.[235] Since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are therefore not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

62. *Experimental Radio Service (Other Than Broadcast)*. Neither the SBA nor the Commission have developed a size standard for this industry. Experimental Radio Service is a service in which radio waves are employed for purposes of experimentation in the radio art or for purposes of providing essential communications for research projects that could not be conducted without the benefit of such communications.[236] The majority of experimental licenses are issued to companies such as Motorola and Department of Defense contractors such as Northrop, Lockheed and Martin Marietta. Large businesses such as these are the primary applicants for such licenses and may have as many as 200

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governments are highway maintenance licensees that provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. Emergency medical licensees use these channels for emergency medical service communications related to the delivery of emergency medical treatment. Additional licensees include medical services, rescue organizations, veterinarians, persons with disabilities, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

[230] *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.

[231] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[232] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[233] *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.

[234] Based on a FCC Universal Licensing System search on December 13, 2021. https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = GE, GF, GP, PA, PW, YE, YF, YP, YW; 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.

[235] Based on a FCC Universal Licensing System search on December 13, 2021. https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = PA; 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.

[236] 47 CFR § 5.5.

licenses at one time. For the purposes of this regulatory flexibility analysis, using the SBA's Office of Advocacy's general definition that a small business is an independent business having fewer than 500 employees,[237] the Commission estimates that 30 percent of applications, will be awarded to small entities. The Commission processes approximately 1,000 applications a year for experimental radio operations. About half, or 500 of these are renewals and the other half are for new licenses. We do not have adequate information to predict precisely how many of these are from small entities. However, based on the above figures we estimate that as many as 300 of these applications could be from small entities and could potentially be impacted.

63. *FM Translator Stations and Low Power FM Stations*. FM translators and Low Power FM Stations are classified in the industry for Radio Stations.[238] The Radio Stations industry comprises establishments primarily engaged in broadcasting aural programs by radio to the public.[239] Programming may originate in their own studio, from an affiliated network, or from external sources.[240] The SBA small business size standard for this industry classifies firms having $47 million or less in annual receipts as small.[241] U.S. Census Bureau data for 2017 show that 2,963 firms operated during that year.[242] Of that number, 1,879 firms operated with revenue of less than $25 million per year.[243] 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 September 30, 2024, there were 8,894 FM Translator Stations and 1,967 Low Power FM licensed broadcast stations.[244] 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.

64. *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

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[237] *See* SBA, Office of Advocacy, "What's New With Small Business?,"

https://advocacy.sba.gov/wp-content/uploads/2023/03/Whats-New-Infographic-March-2023-508c.pdf. (Mar. 2023)

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

[239] *Id.*

[240] *Id.*

[241] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

[242] *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. At this time, the 2022 Economic Census data is not available.

[243] *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 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.

[244] *Broadcast Station Totals as of September 30, 2024*, Public Notice, DA 24-1034 (rel. October 7, 2024) (*October 2024 Broadcast Station Totals PN*), https://docs.fcc.gov/public/attachments/DA-24-1034A1.pdf.

programs on a subscription or fee basis.[245] 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.[246] The programming material is usually delivered to a third party, such as cable systems or direct-to-home satellite systems, for transmission to viewers.[247] The SBA small business size standard for this industry classifies firms with annual receipts less than $47 million as small.[248] Based on U.S. Census Bureau data for 2017, 378 firms operated in this industry during that year.[249] 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.[250] Based on this data, the Commission estimates that a majority of firms in this industry are small.

65. *Home Satellite Dish (HSD) Service.* HSD or the large dish segment of the satellite industry is the original satellite-to-home service offered to consumers and involves the home reception of signals transmitted by satellites operating generally in the C-band frequency. Unlike DBS, which uses small dishes, HSD antennas are between four and eight feet in diameter and can receive a wide range of unscrambled (free) programming and scrambled programming purchased from program packagers that are licensed to facilitate subscribers' receipt of video programming. Because HSD provides subscription services, HSD falls within the industry category of Wired Telecommunications Carriers.[251] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[252] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated for the entire year.[253] Of this total, 2,964 firms operated with fewer than 250 employees.[254]

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[245] *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.

[246] *Id.*

[247] *Id.*

[248] *See* 13 CFR § 121.201, NAICS Code 515210 (as of 10/1/22, NAICS Code 516210).

[249] *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. At this time, the 2022 Economic Census data is not available. 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).

[250] *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.

[251] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[252] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[253] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[254] *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.

Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

66. *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.[255] Based on industry data, there are about 420 cable companies in the U.S.[256] Of these, only seven have more than 400,000 subscribers.[257] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[258] Based on industry data, there are about 4,139 cable systems (headends) in the U.S.[259] Of these, about 639 have more than 15,000 subscribers.[260] Accordingly, the Commission estimates that the majority of cable companies and cable systems are small.

67. *Cable Companies and Systems (Rate Regulation)*. 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.[261] Based on industry data, there are about 420 cable companies in the U.S.[262] Of these, only seven have more than 400,000 subscribers.[263] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[264] Based on industry data, there are about 4,139 cable systems (headends) in the U.S.[265] Of these, about 639 have more than 15,000 subscribers.[266] Accordingly, the Commission estimates that the majority of cable companies and cable systems are small.

68. *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."[267] For purposes of the Telecom Act Standard, the Commission determined that a cable system operator that serves fewer than 498,000 subscribers, either directly or through affiliates, will meet

[255] 47 CFR § 76.901(d).

[256] S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

[257] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022); S&P Global Market Intelligence, Multichannel Video Subscriptions, Top 10 (April 2022).

[258] 47 CFR § 76.901(c).

[259] S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

[260] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q (*last visited May 26, 2022).

[261] 47 CFR § 76.901(d).

[262] S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

[263] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022); S&P Global Market Intelligence, Multichannel Video Subscriptions, Top 10 (April 2022).

[264] 47 CFR § 76.901(c).

[265] S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

[266] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q (*last visited May 26, 2022).

[267] 47 U.S.C. § 543(m)(2).

the definition of a small cable operator.[268] Based on industry data, only six cable system operators have more than 498,000 subscribers.[269] 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.[270] 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.

69. *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."[271] Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with $44 million or less in annual receipts as small.[272] U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year.[273] Of this number, 242 firms had revenue of less than $25 million.[274] Consequently, using the SBA's small business size standard most satellite telecommunications service providers can be considered small entities. The Commission notes however, that the SBA's revenue small business size standard is applicable to a broad scope of satellite telecommunications providers included in the U.S. Census Bureau's Satellite Telecommunications industry definition. Additionally, the Commission neither requests nor collects annual revenue information from satellite telecommunications providers, and is therefore unable to more accurately estimate the number of satellite telecommunications providers that would be classified as a small business under the SBA size standard.

70. *Fixed Satellite Small Transmit/Receive Earth Stations.* Neither the SBA nor the Commission have developed a small business size standard specifically applicable to Fixed Satellite Small Transmit/Receive Earth Stations. Satellite Telecommunications[275] is the closest industry with an

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[268] *FCC Announces Updated Subscriber Threshold for the Definition of Small Cable Operator*, Public Notice, DA 23-906 (MB 2023) (*2023 Subscriber Threshold PN*). In this Public Notice, the Commission determined that there were approximately 49.8 million cable subscribers in the United States at that time using the most reliable source publicly available. *Id*. This threshold will remain in effect until the Commission issues a superseding Public Notice.. *See* 47 CFR § 76.901(e)(1).

[269] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 06/23Q (*last visited Sept. 27, 2023); S&P Global Market Intelligence, Multichannel Video Subscriptions, Top 10 (April 2022).

[270] 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).

[271] *See* U.S. Census Bureau, *2017 NAICS Definition, "517410 Satellite Telecommunications,"* https://www.census.gov/naics/?input=517410&year=2017&details=517410.

[272] *See* 13 CFR § 121.201, NAICS Code 517410.

[273] *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. At this time, the 2022 Economic Census data is not available.

[274] *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.

[275] *See* U.S. Census Bureau, *2017 NAICS Definition, "517410 Satellite Telecommunications,"* https://www.census.gov/naics/?input=517410&year=2017&details=517410.

SBA small business size standard. The SBA size standard for this industry classifies a business as small if it has $44 million or less in annual receipts.[276] For this industry, U.S. Census Bureau data for 2017 show that there was a total of 275 firms that operated for the entire year.[277] Of this total, 242 firms had revenue of less than $25 million.[278] Consequently, using the SBA's small business size standard most fixed satellite small transmit/receive earth stations can be considered small entities. The Commission notes however, that the SBA's revenue small business size standard is applicable to a broad scope of satellite telecommunications providers included in the U.S. Census Bureau's Satellite Telecommunications industry definition. Additionally, the Commission does not request nor collect annual revenue information from satellite telecommunications providers, and is therefore unable to more accurately estimate the number of fixed satellite small transmit/receive earth stations that would be classified as a small business under the SBA size standard.

71. *Fixed Satellite Very Small Aperture Terminal (VSAT) Systems.* Neither the SBA nor the Commission have developed a small business size standard specifically applicable to Fixed Satellite Very Small Aperture Terminal (VSAT) Systems. A VSAT is a relatively small satellite antenna used for satellite-based point-to-multipoint data communications applications.[279] VSAT networks provide support for credit verification, transaction authorization, and billing and inventory management.[280] Satellite Telecommunications[281] is the closest industry with an SBA small business size standard. The SBA size standard for this industry classifies a business as small if it has $44 million or less in annual receipts.[282] For this industry, U.S. Census Bureau data for 2017 show that there were a total of 275 firms that operated for the entire year.[283] Of this total, 242 firms had revenue of less than $25 million.[284] Thus, for this industry under the SBA size standard, the Commission estimates that the majority of Fixed Satellite Very Small Aperture Terminal (VSAT) System licensees are small entities. The Commission notes however, that the SBA's revenue small business size standard is applicable to a broad scope of satellite telecommunications providers included in the U.S. Census Bureau's Satellite Telecommunications industry definition. Additionally, the Commission does not request nor collect annual revenue information from satellite telecommunications providers, and is therefore unable to more accurately estimate the number of Fixed Satellite Very Small Aperture Terminal (VSAT) System licenses that would

[276] *See* 13 CFR § 121.201, NAICS Code 517410.

[277] *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. At this time, the 2022 Economic Census data is not available.

[278] *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.

[279] HARRY NEWTON WITH STEVE SCHOEN, NEWTON'S TELECOM DICTIONARY 1382 (31st ed. 2018).

[280] *Id.*

[281] *See* U.S. Census Bureau, *2017 NAICS Definition, "517410 Satellite Telecommunications,"* https://www.census.gov/naics/?input=517410&year=2017&details=517410.

[282] *See* 13 CFR § 121.201, NAICS Code 517410.

[283] *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. At this time, the 2022 Economic Census data is not available.

[284] *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.

be classified as a small business under the SBA size standard.

72. *Mobile Satellite Earth Stations.* Neither the SBA nor the Commission have developed a small business size standard specifically applicable to Mobile Satellite Earth Stations. Satellite Telecommunications[285] is the closest industry with a SBA small business size standard. The SBA small business size standard classifies a business with $44 million or less in annual receipts as small.[286] For this industry, U.S. Census Bureau data for 2017 show that there were 275 firms that operated for the entire year.[287] Of this number, 242 firms had revenue of less than $25 million.[288] Thus, for this industry under the SBA size standard, the Commission estimates that the majority of Mobile Satellite Earth Station licensees are small entities. The Commission notes however, that the SBA's revenue small business size standard is applicable to a broad scope of satellite telecommunications providers included in the U.S. Census Bureau's Satellite Telecommunications industry definition. Additionally, based on Commission data as of February 1, 2024, there were 16 Mobile Satellite Earth Stations licensees.[289] The Commission does not request nor collect annual revenue information from satellite telecommunications providers, and is therefore unable to estimate the number of Mobile Satellite Earth Station licensees that would be classified as a small business under the SBA size standard.

73. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.[290] 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.[291] 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.[292] The SBA small business size standard for this industry classifies firms with annual receipts of $40 million or less as small.[293] U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry

[285] *See* U.S. Census Bureau, *2017 NAICS Definition, "517410 Satellite Telecommunications,"* https://www.census.gov/naics/?input=517410&year=2017&details=517410.

[286] *See* 13 CFR § 121.201, NAICS Code 517410.

[287] *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. At this time, the 2022 Economic Census data is not available.

[288] *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.

[289] Based on a FCC Space Bureau, International Communication Filing System (ICFS), Advanced Search on February 1, 2024, https://licensing.fcc.gov/cgi-bin/ws.exe/prod/ib/forms/reports/swr030b.hts?set=. Search Terms used - Nature of Application Service = SES - Satellite Earth Station; Application Type = All; Class of Station = MES – Mobile Earth Station; and under "Filing Status" = Current.

[290] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517919 All Other Telecommunications,*" https://www.census.gov/naics/?input=517919&year=2017&details=517919.

[291] *Id.*

[292] *Id*.

[293] *See* 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

that operated for the entire year.[294] Of those firms, 1,039 had revenue of less than $25 million.[295] Based on this data, the Commission estimates that the majority of "All Other Telecommunications" firms can be considered small.

74. *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.[296] Transmission facilities may be based on a single technology or combination of technologies.[297] 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.[298] By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.[299]

75. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[300] U.S. Census Bureau data for 2017 show that 3,054 firms operated in this industry for the entire year.[301] Of this number, 2,964 firms operated with fewer than 250 employees.[302] 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.[303] DIRECTV and DISH Network both exceed the SBA size standard for

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[294] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[295] *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.

[296] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[297] *Id.*

[298] *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).

[299] *Id*.

[300] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[301] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[302] *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.

[303] *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).

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.

76. *Wired Broadband Internet Access Service Providers (Wired ISPs)*.[304] Providers of wired broadband Internet access service include various types of providers except dial-up Internet access providers. Wireline service that terminates at an end user location or mobile device and enables the end user to receive information from and/or send information to the Internet at information transfer rates exceeding 200 kilobits per second (kbps) in at least one direction is classified as a broadband connection under the Commission's rules.[305] Wired broadband Internet services fall in the Wired Telecommunications Carriers industry.[306] The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small.[307] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[308] Of this number, 2,964 firms operated with fewer than 250 employees.[309]

77. Additionally, according to Commission data on Internet access services as of June 30, 2019, nationwide there were approximately 2,747 providers of connections over 200 kbps in at least one direction using various wireline technologies.[310] The Commission does not collect data on the number of employees for providers of these services, therefore, at this time we are not able to estimate the number of providers that would qualify as small under the SBA's small business size standard. However, in light of the general data on fixed technology service providers in the Commission's *2022 Communications Marketplace Report*,[311] we believe that the majority of wireline Internet access service providers can be considered small entities.

78. *Wireless Broadband Internet Access Service Providers (Wireless ISPs or WISPs)*.[312] Providers of wireless broadband Internet access service include fixed and mobile wireless providers. The Commission defines a WISP as "[a] company that provides end-users with wireless access to the

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[304] Formerly included in the scope of the Internet Service Providers (Broadband), Wired Telecommunications Carriers and All Other Telecommunications small entity industry descriptions.

[305] *See* 47 CFR § 1.7001(a)(1).

[306] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[307] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[308] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[309] *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.

[310] *See* Federal Communications Commission, Internet Access Services: Status as of June 30, 2019 at 27, Fig. 30 *(IAS Status 2019)*, Industry Analysis Division, Office of Economics & Analytics (March 2022). The report can be accessed at https://www.fcc.gov/economics-analytics/industry-analysis-division/iad-data-statistical-reports. The technologies used by providers include aDSL, sDSL, Other Wireline, Cable Modem and FTTP). Other wireline includes: all copper-wire based technologies other than xDSL (such as Ethernet over copper, T-1/DS-1 and T3/DS-1) as well as power line technologies which are included in this category to maintain the confidentiality of the providers.

[311] *See Communications Marketplace Report*, GN Docket No. 22-203, 2022 WL 18110553 at 10, paras. 26-27, Figs. II.A.5-7. (2022) (*2022 Communications Marketplace Report*).

[312] Formerly included in the scope of the Internet Service Providers (Broadband), Wireless Telecommunications Carriers (except Satellite) and All Other Telecommunications small entity industry descriptions.

Internet[.]"[313] Wireless service that terminates at an end user location or mobile device and enables the end user to receive information from and/or send information to the Internet at information transfer rates exceeding 200 kilobits per second (kbps) in at least one direction is classified as a broadband connection under the Commission's rules.[314] Neither the SBA nor the Commission have developed a size standard specifically applicable to Wireless Broadband Internet Access Service Providers. The closest applicable industry with an SBA small business size standard is Wireless Telecommunications Carriers (except Satellite).[315] The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[316] U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.[317] Of that number, 2,837 firms employed fewer than 250 employees.[318]

79. Additionally, according to Commission data on Internet access services as of June 30, 2019, nationwide there were approximately 1,237 fixed wireless and 70 mobile wireless providers of connections over 200 kbps in at least one direction.[319] The Commission does not collect data on the number of employees for providers of these services, therefore, at this time we are not able to estimate the number of providers that would qualify as small under the SBA's small business size standard. However, based on data in the Commission's *2022 Communications Marketplace Report* on the small number of large mobile wireless nationwide and regional facilities-based providers, the dozens of small regional facilities-based providers and the number of wireless mobile virtual network providers in general,[320] as well as on terrestrial fixed wireless broadband providers in general,[321] we believe that the majority of wireless Internet access service providers can be considered small entities.

80. *All Other Information Services.* This industry comprises establishments primarily engaged in providing other information services (except news syndicates, libraries, archives, Internet publishing and broadcasting, and Web search portals).[322] The SBA small business size standard for this industry classifies firms with annual receipts of $47 million or less as small.[323] U.S. Census Bureau data

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[313] Federal Communications Commission, Internet Access Services: Status as of June 30, 2019 at 27, Fig. 30 *(IAS Status 2019)*, Industry Analysis Division, Office of Economics & Analytics (March 2022). The report can be accessed at https://www.fcc.gov/economics-analytics/industry-analysis-division/iad-data-statistical-reports.

[314] *See* 47 CFR § 1.7001(a)(1).

[315] *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.

[316] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[317] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[318] *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.

[319] *See IAS Status 2019,* Fig. 30.

[320] *See Communications Marketplace Report*, GN Docket No. 22-203, 2022 WL 18110553 at 27, paras. 64-68. (2022) (*2022 Communications Marketplace Report*).

[321] *Id.* at 8, para. 22.

[322] *See* U.S. Census Bureau, *2017 NAICS Definition, "519190 All Other Information Services,"* https://www.census.gov/naics/?input=519190&year=2017&details=519190.

[323] *See* 13 CFR § 121.201, NAICS Code 519190 (as of 10/1/22, NAICS Codes 519290).

for 2017 show that there were 704 firms in this industry that operated for the entire year.[324] Of those firms, 556 had revenue of less than $25 million.[325] Consequently, we estimate that the majority of firms in this industry are small entities.

81. *Internet Service Providers (Non-Broadband).* Internet access service providers using client-supplied telecommunications connections (e.g., dial-up ISPs) as well as VoIP service providers using client-supplied telecommunications connections fall in the industry classification of All Other Telecommunications.[326] The SBA small business size standard for this industry classifies firms with annual receipts of $40 million or less as small.[327] For this industry, U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.[328] Of those firms, 1,039 had revenue of less than $25 million.[329] Consequently, under the SBA size standard a majority of firms in this industry can be considered small.

82. *Interexchange Carriers (IXCs).* Neither the Commission nor the SBA have developed a small business size standard specifically for Interexchange Carriers. Wired Telecommunications Carriers[330] is the closest industry with a SBA small business size standard.[331] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[332] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry

[324] *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 519190, https://data.census.gov/cedsci/table?y=2017&n=519190&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[325] *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 of less than $100,000 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in this category). Therefore, the number of firms 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.

[326] *See* U.S. Census Bureau, *2017 NAICS Definition, "517919 All Other Telecommunications,"* https://www.census.gov/naics/?input=517919&year=2017&details=517919.

[327] *See* 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

[328] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[329] *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.

[330] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[331] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[332] *Id.*

for the entire year.[333] Of this number, 2,964 firms operated with fewer than 250 employees.[334] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 127 providers that reported they were engaged in the provision of interexchange services. Of these providers, the Commission estimates that 109 providers have 1,500 or fewer employees.[335] Consequently, using the SBA's small business size standard, the Commission estimates that the majority of providers in this industry can be considered small entities.

83. *Facilities-Based Carriers (International Telecom Services)*. Facilities-based providers of international telecommunications services fall into the larger category of interexchange carriers. Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. Wired Telecommunications Carriers[336] is the closest industry with a SBA small business size standard.[337] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[338] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[339] Of this number, 2,964 firms operated with fewer than 250 employees.[340] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 127 providers that reported they were engaged in the provision of interexchange services.[341] Of these providers, the Commission estimates that 109 providers have 1,500 or fewer employees.[342] Consequently, using the SBA's small business size standard, the Commission estimates that the majority of providers in this industry can be considered small entities.

84. *Operators of Common Carrier/Non-Common Carrier Undersea Cable Systems*. Neither the Commission nor the SBA have developed a small business size standard specifically for common carrier or non-common carrier operators of undersea cable systems. Section 43.82 of the Commission's rules which applies to operators of undersea cable systems, requires all submarine cable licensees to file data on their circuits on submarine cable facilities. Wired Telecommunications Carriers which classifies

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[333] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[334] *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.

[335] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[336] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[337] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[338] *Id.*

[339] *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&hidePreview=false.

[340] *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.

[341] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[342] *Id.*

a business having 1,500 or fewer employees as small, is the closest applicable industry with a SBA small business size standard for common carrier or non-common carrier operators of undersea cable systems. For the Wired Telecommunications Carriers' industry, U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Thus under the SBA size standard, the majority of firms in this industry can be considered small. Additionally, according to internally developed data from the Commission's International Bureau, in 2019, 37 entities filed cable operations data pursuant to the reporting requirements of section 43.82. The Commission is unable to determine how many of the filing entities are small under the SBA size standard since the cable systems operations data does not include employee statistical information.

85. *Incumbent Local Exchange Carriers (Incumbent LECs).* Neither the Commission nor the SBA have developed a small business size standard specifically for incumbent local exchange carriers. Wired Telecommunications Carriers[343] is the closest industry with an SBA small business size standard.[344] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[345] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[346] Of this number, 2,964 firms operated with fewer than 250 employees.[347] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 1,212 providers that reported they were incumbent local exchange service providers.[348] Of these providers, the Commission estimates that 916 providers have 1,500 or fewer employees.[349] Consequently, using the SBA's small business size standard, the Commission estimates that the majority of incumbent local exchange carriers can be considered small entities.

86. *Local Resellers*. Neither the Commission nor the SBA have developed a small business size standard specifically for Local Resellers. Telecommunications Resellers is the closest industry with a SBA small business size standard.[350] The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.[351] Establishments in this industry resell telecommunications; they

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[343] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[344] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[345] *Id.*

[346] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[347] *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.

[348] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[349] *Id.*

[350] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[351] Id.

do not operate transmission facilities and infrastructure.[352] Mobile virtual network operators (MVNOs) are included in this industry.[353] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[354] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[355] Of that number, 1,375 firms operated with fewer than 250 employees.[356] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 207 providers that reported they were engaged in the provision of local resale services.[357] Of these providers, the Commission estimates that 202 providers have 1,500 or fewer employees.[358] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

87. *Telecommunications Resellers*. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.[359] Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[360] Mobile virtual network operators (MVNOs) are included in this industry.[361] The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[362] U.S. Census Bureau data for 2017 show that 1,386 firms operated in this industry for the entire year.[363] Of that number, 1,375 firms operated with fewer than 250 employees.[364] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 666 providers that reported they were engaged

[352] *Id*.

[353] *Id*.

[354] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[355] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[356] *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.

[357] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[358] *Id.*

[359] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[360] *Id.*

[361] *Id.*

[362] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[363] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[364] *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.

in the provision of local or toll resale services.[365] Of these providers, the Commission estimates that 640 providers have 1,500 or fewer employees.[366] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

88. *Wireless Resellers.* Neither the Commission nor the SBA have developed a small business size standard specifically for Wireless Resellers. The closest industry with a SBA small business size standard is Telecommunications Resellers.[367] The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.[368] Establishments in this industry resell telecommunications and they do not operate transmission facilities and infrastructure.[369] Mobile virtual network operators (MVNOs) are included in this industry.[370] Under the SBA size standard for this industry, a business is small if it has 1,500 or fewer employees.[371] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services during that year.[372] Of that number, 1,375 firms operated with fewer than 250 employees.[373] Thus, for this industry under the SBA small business size standard, the majority of providers can be considered small entities.

89. *Toll Resellers*. Neither the Commission nor the SBA have developed a small business size standard specifically for Toll Resellers. Telecommunications Resellers[374] is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[375] Mobile virtual network operators (MVNOs) are included in this industry.[376] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[377] U.S. Census Bureau data for 2017

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[365] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[366] *Id.*

[367] *See* U.S. Census Bureau, *2017 NAICS Definition, "517911 Telecommunications Resellers,"* https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[368] *Id.*

[369] *Id.*

[370] *Id.*

[371] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[372] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[373] *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.

[374] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[375] *Id.*

[376] *Id*.

[377] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

show that 1,386 firms in this industry provided resale services for the entire year.[378] Of that number, 1,375 firms operated with fewer than 250 employees.[379] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 457 providers that reported they were engaged in the provision of toll services.[380] Of these providers, the Commission estimates that 438 providers have 1,500 or fewer employees.[381] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

90. *Other Toll Carriers*. Neither the Commission nor the SBA has developed a definition for small businesses specifically applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. Wired Telecommunications Carriers[382] is the closest industry with a SBA small business size standard.[383] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[384] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[385] Of this number, 2,964 firms operated with fewer than 250 employees.[386] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 90 providers that reported they were engaged in the provision of other toll services.[387] Of these providers, the Commission estimates that 87 providers have 1,500 or fewer employees.[388] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

91. *1670–1675 MHz Services*. These wireless communications services can be used for fixed

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[378] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[379] *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.

[380] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[381] *Id.*

[382] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[383] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[384] *Id.*

[385] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[386] *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.

[387] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[388] *Id.*

and mobile uses, except aeronautical mobile.[389] Wireless Telecommunications Carriers (except Satellite)[390] is the closest industry with an SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[391] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[392] Of this number, 2,837 firms employed fewer than 250 employees.[393] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

92. According to Commission data as of November 2021, there were three active licenses in this service.[394] The Commission's small business size standards with respect to 1670–1675 MHz Services involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For licenses in the 1670-1675 MHz service band, a "small business" is 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 a "very small business" is defined 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.[395] The 1670-1675 MHz service band auction's winning bidder did not claim small business status.[396]

93. 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.

94. *1.4 GHz Band Licensees.* Licenses in this band include 1.4 GHz band licenses in the paired 1392-1395 MHz and 1432-1435 MHz bands, and in the unpaired 1390-1392 MHz band.[397]

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[389] *See* 47 CFR § 27.902.

[390] *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.

[391] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[392] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[393] *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.

[394] Based on a FCC Universal Licensing System search on November 8, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = BC; 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.

[395] *See* 47 CFR § 27.906(a).

[396] *See 1670–1675 MHz Band Auction Closes; Winning Bidder Announced*; *FCC Form 600s Due May 12,2003,* Public Notice, DA-03-1472, Report No. AUC-03-46-H (Auction No.46) (May 2, 2003).

[397] *See* 47 CFR § 27.802.

Wireless Telecommunications Carriers (except Satellite)[398] is the closest industry with an SBA small business size standard applicable to 1.4 GHz band licensees. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[399] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[400] Of this number, 2,837 firms employed fewer than 250 employees.[401] Thus under the SBA small business size standard, the Commission estimates that a majority of the licensees in this industry can be considered small.

95. Based on Commission data as of November 2021, one licensee currently holds the 64 active licenses in this band.[402] The Commission's small business size standards with respect to 1.4 GHz Band Licensees involve eligibility for bidding credits and installment payments in the auction of 1.4 GHz band licenses. For the auction of these licenses, an entity with average annual gross revenues for the three preceding years not exceeding $40 million is defined as a "small business," and an entity with average annual gross revenues for the three preceding years not exceeding $15 million is defined as a "very small business."[403]

96. 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, the Commission does not know whether the licensee with the active licenses qualifies as small under the SBA's small business size standard.

97. *2.3 GHz Wireless Communications Services*. These services can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. Wireless Telecommunications Carriers (*except* Satellite)[404] is the closest industry with an SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[405] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in

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[398] *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.

[399] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[400] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[401] *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.

[402] Based on a FCC Universal Licensing System search on November 8, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = BA, BB; 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.

[403] *See* 47 CFR § 27.807.

[404] *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.

[405] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

this industry for the entire year.[406] Of this number, 2,837 firms employed fewer than 250 employees.[407] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

98. Based on Commission data as of December 2021, there were approximately 10 licensees with 628 active licenses in this service.[408] The Commission's small business size standards with respect to 2.3 GHz Wireless Communications Services (WCS) involve eligibility for bidding credits and installment payments in the auction of 2.3 GHz WCS licenses. For these licenses a "small business" is defined as an entity with average gross revenues of $40 million for each of the three preceding years, and a "very small business" is defined as an entity with average gross revenues of $15 million for each of the three preceding years.[409] Pursuant to these definitions, seven bidders who won 31 licenses qualified as very small business entities, and one bidder that won one license qualified as a small business entity.[410] Of these small and very small businesses that won licenses, none had active licenses in December 2021.[411]

99. In frequency bands where licenses were subject to auctions, 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.

100. *218-219 MHz Service.* The 218-219 MHz Service is a service where commercial and private radio stations are licensed and used in Wireless Telecommunications Services.[412] The service is designated as a point-to-multipoint, multipoint-to-point, short-distance private radio service in which licensees may provide information or services to individual subscribers within a service area, and subscribers may provide interactive responses.[413] These systems use radio channels in the 218-219 MHz band for fixed and mobile services between the licensee's cell transmitter station (CTS) and the

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[406] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[407] *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.

[408] 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 = WS; 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.

[409] *See* 47 CFR **§** 27.210 (b)**.**

[410] S*ee* Federal Communications Commission, Economics and Analytics, Auctions, Auction 14: Wireless Communications Service, Summary, Closing Charts, All Markets, https://www.fcc.gov/sites/default/files/wireless/auctions/14/charts/14_cht2.xls.

[411] *Id.; see also* FCC Universal Licensing System search on Dec. 10, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = WS; 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.

[412] *See* 47 CFR § 95.1901.

[413] *See id.* § 95.1903(a).

subscriber's response transmitter unit (RTU), or between two CTSs.[414] Wireless Telecommunications Carriers (except Satellite)415 is the closest industry with an SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[416] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[417] Of this number, 2,837 firms employed fewer than 250 employees.[418] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

101. According to Commission data as of July 2021, there were approximately 25 licensees with 32 active licenses in this service.[419] The Commission's small business size standards with respect to the 218-219 MHz service involves eligibility for bidding credits and installment payments in the auction of 218-219 MHz spectrum licenses. In the auction for these licenses where the Commission defined "small business" as an entity that, together with its affiliates, had no more than a $6 million net worth and, after federal income taxes (excluding any carry over losses), had no more than $2 million in annual profits each year for the previous two years, 146 entities qualifying as a small business won 557 of the 594 available licenses.[420] Of the 25 licensees for this service, 4 of the licensees that claimed small or very small business status in the initial auction had active licenses as of July 2021.[421]

102. Subsequently, for auctions of 218-219 MHz spectrum, the Commission defined a size standard for a "small business" as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not to exceed $15 million for the preceding three years, and a "very small business" as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not to exceed $3 million for the preceding three years.[422]

103. 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

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[414] *See id.* § 95.1903(b).

[415] *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.

[416] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[417] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[418] *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.

[419] Based on a FCC Universal Licensing System search on July 15, 2021. https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = ZV; 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.

[420] *See generally Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fourth Report and Order, 9 FCC Rcd 2330 (1994).

[421] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 2: Interactive Video And Data Services, Summary, Spreadsheet, Auction Summary by License, https://www.fcc.gov/sites/default/files/wireless/auctions/02/charts/2market.xls.

[422] *See* 47 CFR § 95.1916(c).

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. However, for purposes of this regulatory flexibility analysis, the Commission presumes that a majority of the licensees in this service are small entities.

104. *220 MHz Radio Service.* The 220 MHz service is radio service for the licensing of frequencies in the 220-222 MHz band.423 Frequencies in the 220-222 MHz band are available for land mobile and fixed use for both government and non-government operations.424 Commercial and private radio stations may be licensed in the Wireless Telecommunications Services.425 Licensees in this service are classified as Phase I or Phase II licensees.426 Wireless Telecommunications Carriers (except Satellite)[427] is the closest industry with an SBA small business size standard applicable to this services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[428] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[429] Of this number, 2,837 firms employed fewer than 250 employees.[430] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

105. According to Commission data as of November 2021, there were approximately 526 active licenses in the auctioned 220 MHz band.[431] There were also approximately 351 non-nationwide active licenses[432] and 222 active nationwide licenses authorized to operate in the 220 MHz band.[433] The

[423] *See* 47 CFR § 90.7.

[424] *See id.* § 90.701.

[425] *Id.*

[426] *Id.*

[427] *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.

[428] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[429] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[430] *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.

[431] Based on a FCC Universal Licensing System search on November 12, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = QA; Authorization Type = All; Status = Active. Phase I licensing was conducted by lottery. A licensee can have one or more licenses.

[432] Based on a FCC Universal Licensing System search on November 12, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = NC; 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.

[433] Based on a FCC Universal Licensing System search on November 12, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = QD, QM, QO & QT; 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.

Commission's small business size standards with respect to the 220 MHz service involves eligibility for bidding credits and installment payments in the auction of 220 MHz spectrum licenses.[434] In the auctions for these licenses where the Commission defined a "small business" as an entity that, together with its affiliates and controlling principals, had average gross revenues not exceeding $15 million for the preceding three years, and a "very small business" as an entity that, together with its affiliates and controlling principals, had average gross revenues not exceeding $3 million for the preceding three years,[435] 56 bidders winning 592 licenses claimed small or very small business credits.[436] In November 2021, two of the winning bidders that claimed small business credits in the Phase II 220 MHz auctions had active licenses.[437]

106. 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.

107. *3650–3700 MHz band*. Wireless broadband service licensing in the 3650-3700 MHz band provides for nationwide, non-exclusive licensing of terrestrial operations, utilizing contention-based technologies, in the 3650 MHz band (i.e., 3650–3700 MHz).[438] Licensees are permitted to provide services on a non-common carrier and/or on a common carrier basis.[439] Wireless broadband services in the 3650-3700 MHz band fall in the Wireless Telecommunications Carriers (*except* Satellite)[440] industry with an SBA small business size standard that classifies a business as small if it has 1,500 or fewer employees.[441] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this

[434] *See* 47 CFR § 90.701(b). Phase II licenses granted pursuant to auctions were those for which applications were filed after May 24, 1991.

[435] *See* 47 CFR § 90.1021(b).

[436] FCC, Economics and Analytics, Auctions, Auction 18: 220 MHz, Summary, Spreadsheets, All Bidders, https://www.fcc.gov/sites/default/files/wireless/auctions/18/charts/18bidder.xls; Auction 24: 220 MHz, Summary, Closing Charts, Licenses by Bidder, https://www.fcc.gov/sites/default/files/wireless/auctions/24/charts/24cls2.pdf; and Auction 72: 220 MHz, Summary, Closing Charts, Licenses by Bidder, https://www.fcc.gov/sites/default/files/wireless/auctions/72/charts/72cls2.pdf.

[437] Based on a FCC Universal Licensing System search on November 12, 2021. https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = QA; 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.

[438] *See* 47 CFR §§ 90.1305, 90.1307.

[439] *See id.* § 90.1309.

[440] *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.

[441] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

industry for the entire year.[442] Of this number, 2,837 firms employed fewer than 250 employees.[443] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

108. The Commission has not developed a small business size standard applicable to 3650–3700 MHz band licensees. Based on the licenses that have been granted, however, we estimate that the majority of licensees in this service are small Internet Access Service Providers (ISPs). As of November 2021, Commission data shows that there were 902 active licenses in the 3650–3700 MHz band.[444] However, 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.

109. *39 GHz Service.* This flexible-use wireless service band encompasses spectrum in the 38.6 - 40 GHz bands that can be used for fifth-generation (5G) wireless, Internet of Things, and other advanced services. Wireless Telecommunications Carriers (except Satellite)[445] is the closest industry with an 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.[446] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[447] Of this number, 2,837 firms employed fewer than 250 employees.[448] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

110. The Commission's small business size standards with respect to the 39 GHz Services involve eligibility for bidding credits and installment payments in the auction of licenses for these services. In 2019, the 39 GHz band was reconfigured in preparation for an incentive auction (Auction 103) to offer new flexible use licenses in the Upper 37 GHz (37.6–38.6 GHz), 39 GHz (38.6–40 GHz), and 47 GHz (47.2–48.2 GHz) bands.[449] In Auction 103, 5,824 licenses in the 39 GHz band were

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[442] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[443] *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.

[444] Based on a FCC Universal Licensing System search on November 19, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = NN; 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.

[445] *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.

[446] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[447] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[448] *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.

[449] *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al*., GN Docket No. 14-177*,* Fourth Report and Order, FCC 18-180 (Dec. 12, 2018) (*Spectrum Frontiers Fourth R&O*).

auctioned as part of the Commission's auction of 14,144 Upper Microwave Flexible Use Service.[450] For purposes of bidding credits, the Commission defined "small business" as an entity with average annual gross revenues that did not exceed $55 million for the preceding three years average, and a "very small business" as an entity with average annual gross revenues that did not exceed $20 million for the preceding three years.[451] Of the 5,824 licenses auctioned in the 39 GHz band in Auction 103, 4 bidders claimed small business status winning 182 licenses.[452]

111. 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.

112. *600 MHz Band*. These wireless communications services are radiocommunication services licensed in the 617-652 MHz and 663-698 MHz frequency bands that can be used for fixed and mobile flexible uses.[453] 600 MHz Band services fall within the scope of the Wireless Telecommunications Carriers (except Satellite)[454] industry where the SBA small business size standard classifies a business as small if it has 1,500 or fewer employees.[455] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[456] Of this number, 2,837 firms employed fewer than 250 employees.[457] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

113. Based on Commission data as of November 2021, there were approximately 3,327 active licenses in the 600 MHz Band service.[458] The Commission's small business size standards with respect to 600 MHz Band services involve eligibility for bidding credits and installment payments in the auction of

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[450] *See* Federal Communications Commission, Office of Economics and Analytics, Auctions, Auction 103: Spectrum Frontiers – Upper 37 GHz, 39 GHz, and 47 GHz, Fact Sheet, https://www.fcc.gov/auction/103/factsheet.

[451] *See* 47 CFR §§ 30.301, 30.302.

[452] *See Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services Closes; Winning Bidders Announced for Auction 103*, Public Notice, 35 FCC Rcd 2015, Attachment B (WTB/OEA 2020); *see also* https://www.fcc.gov/document/auction-103-winning-bidders-and-incentive-payments/attachment-b.

[453] *See* 47 CFR §§ 27.4, 27.5(l).

[454] *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.

[455] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[456] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[457] *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.

[458] 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 = WT; 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.

licenses for these services. For purposes of bidding credits, the Commission defined "small business" as an entity with average gross revenues not exceeding $55 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues not exceeding $20 million for each of the three preceding years for the 600 MHz band auction.[459] Pursuant to these definitions, 15 bidders claiming small business status won 290 licenses.[460]

114. 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.

115. *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)[461] 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.[462] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[463] Of this number, 2,837 firms employed fewer than 250 employees.[464] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

116. According to Commission data as of December 2021, there were approximately 224 active 700 MHz Guard Band licenses.[465] 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

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[459] *See* 47 CFR § 27.1301(a).

[460] *See Incentive Auction Closing and Channel Reassignment Public Notice; Incentive Auction Closes; Reverse Auction and Forward Auction Results Announced; Final Television Band Channel Assignments Announced; Post-Auction Deadlines Announced*, 32 FCC Rcd 2786, Appendix B (Auction No.1002) (April 23, 2017), https://www.fcc.gov/document/fcc-announces-results-worlds-first-broadcast-incentive-auction-0/appendix-b.

[461] *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.

[462] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[463] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[464] *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.

[465] 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.

preceding three years.[466] 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 licenses.[467] 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.[468]

117. 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.

118. *Licenses Assigned by Auctions.* The Commission's small business size standards with respect to Licenses Assigned by Auction involve eligibility for bidding credits and installment payments in the auction of licenses for various wireless frequencies. In the auction of these licenses, the Commission may define and adopt criteria for different classes small businesses – very small, small or entrepreneur. The criteria for these small business classes may be statutorily defined in the Commission's rules[469] or may require consultation with the U.S. Small Business Administration, Office of Size Standards.[470] For licenses subject to auction, 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. In addition, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated.

119. *Telecommunications Relay Service (TRS) Providers*. Telecommunications relay services enable individuals who are deaf, hard of hearing, deafblind, or who have a speech disability to communicate by telephone in a manner that is functionally equivalent to using voice communication services.[471] Internet-based TRS connects an individual with a hearing or a speech disability to a TRS communications assistant using an Internet Protocol-enabled device via the Internet, rather than the public switched telephone network.[472] Video Relay Service (VRS) one form of Internet-based TRS, enables people with hearing or speech disabilities who use sign language to communicate with voice telephone

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[466] *See* 47 CFR § 27.502(a).

[467] *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.

[468] 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.

[469] *See* 47 CFR § 27.702(a)(1)-(3). This is an illustrative example of three types of small businesses for an auction of licenses in a certain frequency that is codified in the Commission's rules.

[470] *See* 5 U.S.C. § 601(3).

471 47 U.S.C. § 225(a)(3).

[472] 47 CFR § 64.601(a)(22). IP CTS can also be provided with an Automatic Speech Recognition programs producing the captions. Except as authorized or required by the Commission, Internet-based TRS does not include the use of a text telephone (TTY) or RTT over an interconnected Voice over Internet Protocol service.

users over a broadband connection using a video communication device.[473] Internet Protocol Captioned Telephone Service (IP CTS) another form of Internet-based TRS, permits a person with hearing loss to have a telephone conversation while reading captions of what the other party is saying on an Internet-connected device.[474] A third form of Internet-based TRS, Internet Protocol Relay Service (IP Relay), permits an individual with a hearing or a speech disability to communicate in text using an internet Protocol-enabled device via the internet, rather than using a text telephone (TTY) and the public switched telephone network.[475] Providers must be certified by the Commission to provide VRS and IP CTS[476] and to receive compensation from the TRS Fund for TRS provided in accordance with applicable rules.[477] Analog forms of TRS, text telephone (TTY),[478] Speech-to-Speech Relay Service,[479] and Captioned Telephone Service,[480] are provided through state TRS programs, which also must be certified by the Commission.[481]

120. Neither the Commission nor the SBA have developed a small business size standard specifically for TRS Providers. All Other Telecommunications is the closest industry with a SBA small business size standard.[482] Internet Service Providers (ISPs) and Voice over Internet Protocol (VoIP) services, via client-supplied telecommunications connections are included in this industry.[483] The SBA small business size standard for this industry classifies firms with annual receipts of $35 million or less as small.[484] U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.[485] Of those firms, 1,039 had revenue of less than $25 million.[486] Based on Commission data there are 14 certified Internet-based TRS providers and two analog forms of TRS

[473] *Id.* § 64.601(a)(51).

[474] *Id.* § 64.601(a)(23).

[475] *Id.*. § 64.601(24).

[476] *Id.* § 64.606(a)(2).

[477] *Id.* § 64.604(c)(5)(iii)(F).

[478] *Id.* § 64.601(a)(44) ("A machine that employs graphic communication in the transmission of coded signals through a wire or radio communication system.").

[479] *Id.* § 64.601(a)(41) ("A telecommunications relay service that allows individuals with speech disabilities to communicate with voice telephone users through the use of specially trained CAs who understand the speech patterns of persons with speech disabilities and can repeat the words spoken by that person.").

[480] A telephone captioning service provided over the public switched telephone network.

[481] *Id.* § 64.606(a)(1).

[482] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517919 All Other Telecommunications,*" https://www.census.gov/naics/?input=517919&year=2017&details=517919.

[483] *Id*.

[484] *See* 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

[485] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[486] *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.

providers.[487] The Commission however does not compile financial information for these providers. Nevertheless, based on available information, the Commission estimates that most providers in this industry are small entities.

121. *Air-Ground Radiotelephone Service*. Air-Ground Radiotelephone Service is a wireless service in which licensees are authorized to offer and provide radio telecommunications service for hire to subscribers in aircraft.[488] A licensee may provide any type of air-ground service (i.e., voice telephony, broadband Internet, data, etc.) to aircraft of any type, and serve any or all aviation markets (commercial, government, and general). A licensee must provide service to aircraft and may not provide ancillary land mobile or fixed services in the 800 MHz air-ground spectrum.[489]

122. The closest industry with an SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (*except* Satellite).[490] The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[491] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[492] Of this number, 2,837 firms employed fewer than 250 employees.[493] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

123. Based on Commission data as of December 2021, there were approximately four licensees with 110 active licenses in the Air-Ground Radiotelephone Service.[494] The Commission's small business size standards with respect to Air-Ground Radiotelephone Service involve eligibility for bidding credits and installment payments in the auction of licenses. For purposes of auctions, 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.[495] In the auction of Air-Ground Radiotelephone Service licenses in the 800 MHz band, neither of the two winning bidders claimed small business

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[487] See Internet-Based TRS Providers | Federal Communications Commission (fcc.gov), https://www.fcc.gov/general/internet-based-trs-providers (last visited May 13, 2024); TRS by State and Territories, Federal Communications Commission (fcc.gov), https://www.fcc.gov/general/trs-state-and-territories (last visited May 13, 2024)..

[488] 47 CFR § 22.99.

[489] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 65: 800 MHz Air-Ground Radiotelephone Service, Fact Sheet, Permissible Operations, https://www.fcc.gov/auction/65/factsheet.

[490] *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.

[491] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[492] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[493] *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.

[494] Based on a FCC Universal Licensing System search on December 20, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = CG, CJ; 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.

[495] *See* 47 CFR § 22.223(b).

status.[496]

124. 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, the Commission does not collect data on the number of employees for licensees providing these services therefore, 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.

125. *Aviation and Marine Radio Services.* Maritime mobile service is a mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations. Survival craft stations and emergency position indicating radio beacon (EPIRB) stations also participate in this service.[497] Small businesses in the aviation and marine radio services use a marine very high frequency (VHF), medium frequency (MF), or high frequency (HF) radio, any type of EPIRB and/or radar, an aircraft radio, and/or any type of emergency locator transmitter (ELT) and may provide fixed, mobile, or hybrid voice or data communications. Aviation services are radio-communication services for the operation of aircraft. These services include aeronautical fixed service, aeronautical mobile service, aeronautical radiodetermination service, and secondarily, the handling of public correspondence on frequencies in the maritime mobile and maritime mobile satellite services to and from aircraft.[498]

126. Wireless Telecommunications Carriers (*except* Satellite)[499] 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.[500] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[501] Of this number, 2,837 firms employed fewer than 250 employees.[502] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small. Additionally, according to Commission data as December 2021, there were 14, 532 active licenses in the Aviation and Marine Radio Services.[503] However, since the Commission does not collect data on the number of

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[496] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 65: 800 MHz Air-Ground Radiotelephone Service, Summary, Closing Charts, Licenses by Bidder, https://www.fcc.gov/sites/default/files/wireless/auctions/65/charts/65cls2.pdf.

[497] *See 47 CFR § 80.5.*

[498] *See id.* § 87.5.

[499] *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.

[500] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[501] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[502] *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.

[503] Based on a FCC Universal Licensing System search on December 21, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = AA, AF, AR, MA, MC, Mk, MR; Authorization Type = All; (continued….)

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.

127. *Cellular Radiotelephone Service.* This service is radio service in which licensees are authorized to offer and provide cellular service for hire to the general public and was formerly titled Domestic Public Cellular Radio Telecommunications Service.[504] Cellular Radiotelephone Service falls within the scope the Wireless Telecommunications Carriers (except Satellite)[505] industry, where the SBA small business size standard classifies a business as small if it has 1,500 or fewer employees.[506] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[507] Of this number, 2,837 firms employed fewer than 250 employees.[508] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

128. Based on Commission data, as of November 2021, there were approximately 1,908 active licenses in this service.[509] The Commission's small business size standards with respect to Cellular Radiotelephone Services involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For purposes of bidding credits, the Commission has defined "small business" as an entity that either (1) together with its affiliates and controlling interests has average gross revenues of not more than $3 million for each of the three preceding years, or (2) together with its affiliates and controlling interests has average gross revenues of not more $15 million for each of the three preceding years.[510]

129. 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.

130. *Fixed Microwave Services.* Fixed microwave services include common carrier,[511]

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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.

[504] *See* 47 CFR § 22.99.

[505] *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.

[506] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[507] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[508] *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.

[509] Based on a FCC Universal Licensing System search on November 12, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = CL; 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.

[510] *See* 47 CFR § 22.223(b).

[511] *See* 47 CFR Part 101, Subparts C and I.

private-operational fixed,[512] and broadcast auxiliary radio services.[513] They also include the Upper Microwave Flexible Use Service (UMFUS),[514] Millimeter Wave Service (70/80/90 GHz),[515] Local Multipoint Distribution Service (LMDS),[516] the Digital Electronic Message Service (DEMS),[517] 24 GHz Service,[518] Multiple Address Systems (MAS),[519] and Multichannel Video Distribution and Data Service (MVDDS),[520] where in some bands licensees can choose between common carrier and non-common carrier status.[521] Wireless Telecommunications Carriers (*except* Satellite)[522] is the closest industry with a SBA small business size standard applicable to these services. The SBA small size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[523] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[524] Of this number, 2,837 firms employed fewer than 250 employees.[525] Thus under the SBA size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

131. The Commission's small business size standards with respect to fixed microwave services involve eligibility for bidding credits and installment payments in the auction of licenses for the various frequency bands included in fixed microwave services. When bidding credits are adopted for the auction of licenses in fixed microwave services 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 Part 101 of the Commission's rules for the specific fixed microwave services frequency bands.[526]

132. In frequency bands where licenses were subject to auction, the Commission notes that as

[512] *See id*. Subparts C and H.

[513] Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission's Rules. *See* 47 CFR Part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

[514] *See* 47 CFR Part 30.

[515] *See* 47 CFR Part 101, Subpart Q.

[516] *See id*. Subpart L.

[517] *See id*. Subpart G.

[518] *See id*.

[519] *See id.* Subpart O.

[520] *See id*. Subpart P.

[521] *See* 47 CFR §§ 101.533, 101.1017.

[522] *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.

[523] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[524] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[525] *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.

[526] *See* 47 CFR §§ 101.538(a)(1)-(3), 101.1112(b)-(d), 101.1319(a)(1)-(2), and 101.1429(a)(1)-(3).

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.

133. *Future 24 GHz Licensees*. 24 GHz spectrum services in the 24.25 – 24.45 GHz and 24.75 – 25.25 GHz bands involve a fixed point-to-point, point-to-multipoint, and multipoint-to-multipoint radio system in the 24.25-24.45 GHz band and in the 25.05-25.25 GHz band consisting of a fixed main (nodal) station and a number of fixed user terminals.[527] These services are flexible-use wireless service that may encompass any digital fixed service. Wireless Telecommunications Carriers (except Satellite)[528] is the closest industry with a SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[529] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[530] Of this total, 2,837 firms employed fewer than 250 employees.[531] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

134. The Commission's small business size standards with respect to 24 GHz licensees involve eligibility for bidding credits and installment payments in the auction of licenses for 24 GHz services. In 2019 in Auction 102, 2,909 licenses in the 24 GHz band were auctioned as part of the Commission's auction of Upper Microwave Flexible Use Service licenses.[532] For purposes of bidding credits, the Commission defined "small business" as an entity with average annual gross revenues that did not exceed $55 million for the preceding three years average, and a "very small business" as an entity with average annual gross revenues that did not exceed $20 million for the preceding three years.[533] Of the 2,909 licenses auctioned in the 24 GHz band in Auction 102, **7** bidders claimed small business status winning 34 licenses.[534]

135. For those services subject to auctions, 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

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[527] *See* 47 CFR § 101.3.

[528] *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.

[529] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[530] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[531] *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.

[532] *See* Federal Communications Commission, Office of Economics and Analytics, Auctions, Auction 102: Spectrum Frontiers – 24 GHz, Fact Sheet, https://www.fcc.gov/auction/102/factsheet.

[533] *See* 47 CFR § 30.302(a).

[534] *See Auction of 24 GHz Upper Microwave Flexible Use Service Licenses Closes; Winning Bidders Announced for Auction 102*, Public Notice, DA-19-485, Attachment A, 34 FCC Rcd 4294 (WTB/OEA 2019); *see also* https://www.fcc.gov/document/auction-102-closing-public-notice/attachment-a.

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.

136. *Government Transfer Bands*. Licenses for wireless services in the government transfer bands include the unpaired 1390-1392 MHz band, the paired 1392-1395 MHz and 1432-1435 MHz bands (1.4 GHz band) and the 1670-1675 MHz band. Licensees in these bands are authorized to provide fixed or mobile service, except aeronautical mobile service.[535] Wireless Telecommunications Carriers (except Satellite)[536] is the closest industry with a SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[537] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[538] Of this number, 2,837 firms employed fewer than 250 employees.[539] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

137. According to Commission data as of November 2021, there were four licensees with sixty-seven active licenses in these service bands.[540] The Commission's small business size standards with respect to services in government transfer bands involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the unpaired 1390-1392 MHz, 1670-1675 MHz, and the paired 1392-1395 MHz and 1432-1435 MHz bands, an entity with average annual gross revenues for the three preceding years not exceeding $40 million is defined as a "small business," and an entity with average annual gross revenues for the three preceding years not exceeding $15 million is defined as a "very small business."[541] For licenses in the 1670-1675 MHz service band, a "small business" is 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 a "very small business" is defined 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.[542]

138. 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

[535] *See* 47 CFR §§ 27.802, 27.902.

[536] *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.

[537] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[538] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[539] *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.

[540] Based on a FCC Universal Licensing System search on November 29, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = BA, BB, BC; 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.

[541] *See* 47 CFR § 27.807(a).

[542] *See id.* § 27.906(a).

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.

139. *IMTS Resale Carriers.* Neither the SBA nor the Commission have developed a size standard specifically applicable to IMTS Resale Carriers. Providers of IMTS resale services are common carriers that purchase IMTS from other carriers and resell it to their own customers. Included among the providers of IMTS resale are a number of wireless carriers that also provide wireless telephony services domestically. The Commission classifies these entities as providers of Commercial Mobile Radio Services (CMRS). Most, if not all, providers of CMRS that offer IMTS provide such service by purchasing IMTS from other carriers to resell it to their customers. Telecommunications Resellers[543] is the closest industry with a SBA small business size standard. The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[544] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided services for the entire year.[545] Of that number, 1,375 firms operated with fewer than 1,000 employees.[546] Thus for this industry, under the associated SBA size standard, the majority of IMTS resellers can be considered small entities.

140. *Incumbent 24 GHz Licensees.* Neither the Commission nor the SBA have developed a small business size standard specifically for Incumbent 24 GHz licensees. Incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band and applicants who wish to provide services in the 24 GHz band fall in this category. Wireless Telecommunications Carriers (except Satellite)[547] is the closest industry with a SBA small business size standard. The SBA small business size standard classifies businesses having 1,500 or fewer employees as small.[548] For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated for the entire year.[549] Of this total, 2,837 firms employed fewer than 250 employees.[550] Thus, under this category and the associated small business size standard, the majority of firms can be considered small. The Commission notes that the U.S. Census Bureau's use of the classification "firms" does not track the number of "licenses" or "licensees". The Commission believes that there are only two licensees in the 24 GHz band that were

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[543] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[544] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[545] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[546] *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.

[547] *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.

[548] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[549] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[550] *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.

relocated from the 18 GHz band, Teligent[551] and TRW, Inc. It is our understanding that Teligent and its related companies have less than 1,500 employees, although this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business.

141. *International Broadcast Stations*. Neither the Commission nor the SBA have developed a definition of small entities specifically applicable to International Broadcast Stations. Radio Stations[552] is the closest industry with an SBA small business size standard. Establishments in this industry are primarily engaged in broadcasting aural programs by radio to the public with programming that may originate in their own studio, from an affiliated network, or from external sources.[553] The SBA small business size standard for this industry classifies businesses having $47 million or less in annual receipts as small.[554] U.S. Census Bureau data for 2017 show that 2,963 firms in this industry operated during that year.[555] Of that number, 1,879 firms operated with revenue of less than $25 million.[556] Based on this data and the SBA's size standard we estimate a majority of such entities are small entities. Additionally, according to the Commission's records there are 16 authorized international broadcast stations.[557] The Commission however does not request nor collect annual revenue information therefore, the Commission is unable to estimate the number of international broadcast stations that meet the small business definition under the SBA size standard.

142. *Local Exchange Carriers (LECs)*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include both incumbent and competitive local exchange service providers. Wired Telecommunications Carriers[558] is the closest industry with an SBA small business size standard.[559] Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service

[551] Teligent acquired the DEMS licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

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

[553] *Id.*

[554] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

[555] *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. At this time, the 2022 Economic Census data is not available. We note that the US Census Bureau withheld publication of the number of firms that operated for the entire year.

[556] *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 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.

[557] *See* Federal Communications Commission, International Bureau, "FCC High Frequency Stations," https://www.fcc.gov/general/fcc-high-frequency-stations.

[558] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[559] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

providers.[560] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[561] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[562] Of this number, 2,964 firms operated with fewer than 250 employees.[563] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 4,590 providers that reported they were fixed local exchange service providers.[564] Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees.[565] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

143. *Local Multipoint Distribution Service.* A Local Multipoint Distribution Service (LMDS) System is a fixed point-to-point or point-to-multipoint radio system consisting of Local Multipoint Distribution Service Hub Stations and their associated Local Multipoint Distribution Service Subscriber Stations.[566] LMDS is capable of offering subscribers a variety of one and two-way broadband services, such as video programming distribution; video teleconferencing; wireless local loop telephony; and high speed data transmission, e.g. Internet access.[567] Wireless Telecommunications Carriers (*except* Satellite)[568] 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.[569] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in

[560] Fixed Local Exchange Service Providers include the following types of providers: Incumbent Local Exchange Carriers (ILECs), Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, Local Resellers, and Other Local Service Providers.

[561] *Id.*

[562] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[563] *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.

[564] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[565] *Id.*

[566] *See* 47 CFR § 101.3.

[567] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 17: Local Multipoint Distribution System (LMDS), Fact Sheet, Permissible Operations, https://www.fcc.gov/auction/17/factsheet; *see also* Auction 23: Local Multipoint Distribution System (LMDS) Re-Auction, Fact Sheet, Permissible Operations, https://www.fcc.gov/auction/23/factsheet.

[568] *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.

[569] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

this industry for the entire year.[570] Of this number, 2,837 firms employed fewer than 250 employees.[571] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

144. According to Commission data as of December 2021, there were approximately 524 active LMDS licenses.[572] The Commission's small business size standards with respect to LMDS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of LMDS licenses, the Commission defined a "small business" as an entity that, together with its affiliates and controlling interests, has average gross revenues for the three preceding years of more than $15 million but not more than $40 million, and a very small business as an entity that, together with its affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million.[573] Pursuant to these definitions, 93 small and very small businesses won approximately 277 A Block licenses and 387 B Block licenses.[574] In the re-auction of LDMS licenses 74% of the licenses were won by small businesses.[575]

145. 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.

146. *Location and Monitoring Service (LMS).* LMS operates in the 902-928 MHz frequency band.[576] The band is allocated for primary use by Federal Government radiolocation systems. Next in order of priority are uses for industrial, scientific, and medical devices. Federal Government fixed and mobile and LMS systems are secondary to both of these uses. The remaining uses of the 902-928 MHz band include licensed amateur radio operations and unlicensed Part 15 equipment, both of which are secondary to all other uses of the band. LMS systems use non-voice radio techniques to determine the

[570] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[571] *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.

[572] Based on a FCC Universal Licensing System search on December 8, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = LD; 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.

[573] *See* 47 CFR § 101.1112(b)-(c).

[574] *See LMDS Auction Closes; Winning Bidders in the Auction of 986 Licenses in the Local Multipoint Distribution Service (LMDS*), Public Notice, DA-98-572, Attachment A, Report No. AUC-17-I (Auction No. 17) (March 26, 1998).

[575] *See* Press Release, FCC, *LMDS Re-Auction Closes, Auction of Wireless Communications Licenses Raises $45,064,450* (May 12, 1999), https://wireless.fcc.gov/auctions/23/releases/lmdscls.pdf; *see also Local Multipoint Distribution Service Auction Closes; Winning Bidders in the Auction of 161 Licenses in the Local Multipoint Distribution Service (LMDS*), DA-99-927, Attachment A, Report No. AUC-23-E (Auction No. 23) (May 14, 1999).

[576] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 21: Location and Monitoring Services (LMS), Fact Sheet, Incumbents, https://www.fcc.gov/auction/21/factsheet.

location and status of mobile radio units, and may transmit and receive voice and non-voice status and instructional information related to such units.[577] Wireless Telecommunications Carriers (*except* Satellite)[578] 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.[579] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[580] Of this number, 2,837 firms employed fewer than 250 employees.[581] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

147. According to Commission data as of November 2021, there were two licensees with approximately 354 active LMS licenses.[582] The Commission's small business size standards with respect to LMS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of LMS licenses, the Commission defined a "small business" as an entity that, together with controlling interests and affiliates with average annual gross revenues for the preceding three years not to exceed $15 million, and a "very small business" as an entity that, together with controlling interests and affiliates with average annual gross revenues for the preceding three years not to exceed $3 million.[583] Pursuant to these definitions, four winning bidders that claimed small business credits won 289 licenses in Auction 21,[584] and four winning bidders that claimed small business credits won 201 LMS licenses in Auction 43.[585] Of these winning bidders, only one had active licenses in November 2021.[586]

148. 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

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[577] *See* 47 CFR § 90.7.

[578] *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.

[579] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[580] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[581] *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.

[582] Based on a FCC Universal Licensing System search on November 29, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = LS; 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.

[583] *See* 47 CFR § 90.1103(b).

[584] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 21: Location and Monitoring Services (LMS), https://www.fcc.gov/sites/default/files/wireless/auctions/21/charts/21cls2.pdf.

[585] *See* Federal Communications Commission, Office of Economics and Analytics, Auctions, Auction 39: VHF Public Coast and Location and Monitoring Service, https://www.fcc.gov/sites/default/files/wireless/auctions/39/charts/39cls2.pdf.

[586] Based on an FCC Universal Licensing System search on November 29, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = LS; 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.

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.

149. *Low Power FM Stations*. The SBA small business size standard for Radio Stations[587] applies to low power FM stations. The Radio Stations industry comprises establishments primarily engaged in broadcasting aural programs by radio to the public.[588] Programming may originate in their own studio, from an affiliated network, or from external sources.[589] The SBA small business size standard for this industry classifies firms having $47 million or less in annual receipts as small.[590] U.S. Census Bureau data for 2017 show that 2,963 firms in this industry operated during that year.[591] Of this number, 1,879 firms operated with revenue of less than $25 million per year.[592] Therefore, based on the SBA's size standard we conclude that the majority low power FM stations are small.

150. Additionally, according to Commission data as of September 30, 2024, there were 1,967 Low Power FM licensed broadcast stations and 8,894 FM Translator Stations.[593] The Commission does not compile and otherwise does not have access to financial information for these stations that would permit it to determine how many of the stations would qualify as small entities under the SBA size standard. However, given that low power FM stations and FM translators and boosters are very small and limited in their operations and unlikely to have annual receipts anywhere near the SBA small size standard, we will presume that these licensees qualify as small entities under the SBA size standard.

151. *Marine Radio Services. Maritime mobile service is a* mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations. Survival craft stations and emergency position indicating radio beacon (EPIRB) stations also participate in this service.[594] Small businesses in the aviation and marine radio services use a marine very high frequency (VHF), medium frequency (MF), or high frequency (HF) radio, any type of EPIRB and/or radar, an aircraft radio, and/or any type of emergency locator transmitter (ELT) and may provide fixed,

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

[588] *Id.*

[589] *Id.*

[590] *See* 13 CFR § 121.201, NAICS Code 515112 (as of 10/1/22 NAICS Code 516110).

[591] *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. At this time, the 2022 Economic Census data is not available.

[592] *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 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.

[593] *Broadcast Station Totals as of September 30, 2024*, Public Notice, DA 24-1034 (rel. October 7, 2024) (*October 2024 Broadcast Station Totals PN*), https://docs.fcc.gov/public/attachments/DA-24-1034A1.pdf.

[594] *See 47 CFR § 80.5.*

mobile, or hybrid voice or data communications. Wireless Telecommunications Carriers (*except* Satellite)[595] 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.[596] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[597] Of this number, 2,837 firms employed fewer than 250 employees.[598] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

152. The Commission's small business size standards with respect to Marine Radio Services involve eligibility for bidding credits and installment payments in the auction of VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands.[599] According to Commission data as December 2021, there were approximately 262 active Public Coast licenses[600] and 3,753 active Maritime Coast licenses.[601] For Public Coast license auction purposes,, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $15 million dollars, and a "very small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $3 million dollars.[602] Pursuant to these definitions, 3 small business bidders won 17 licenses,[603] and 3 winning bidders claiming a small business qualification won 9 licenses.[604] As of December 2021, two of the winning bidders in these auctions

[595] *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.

[596] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[597] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[598] *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.

[599] Public coast stations provide ship/shore radiotelephone and radiotelegraph services. *See 47 CFR § 80.453.*

[600] Based on a FCC Universal Licensing System search on December 21 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = MA, MC, MK, MR; 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.

[601] Based on a FCC Universal Licensing System search on December 21, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = PC; 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.

[602] *See 47 CFR* § 80.1252(b)(1)-(2).

[603] S*ee* Federal Communications Commission, Economics and Analytics, Auctions, Auction 20: VHF Public Coast, Summary, Winning Bidders, https://www.fcc.gov/auction/20; *see also* https://www.fcc.gov/sites/default/files/wireless/auctions/20/charts/20press5.pdf.

[604] S*ee* Federal Communications Commission, Economics and Analytics, Auctions, Auction 39: VHF Public Coast and Location Monitoring Services, Summary, Closing Charts, License Winners, Sorted by License, https://www.fcc.gov/sites/default/files/wireless/auctions/39/charts/39cls3.pdf.

claiming small business credits had active licenses.[605]

153. 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.

154. *Multichannel Video Distribution and Data Service (MVDDS)*. MVDDS is a fixed microwave service operating in the 12.2-12.7 GHz band that can be used to provide various wireless services.[606] Mobile and aeronautical operations are prohibited.[607] Wireless Telecommunications Carriers (*except* Satellite)[608] 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.[609] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[610] Of this number, 2,837 firms employed fewer than 250 employees.[611] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

155. According to Commission data as of December 2021, there were 9 licensees with 250 active licenses in this service.[612] The Commission's small business size standards with respect MVDDS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For auctions of MVDDS 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 not exceeding $3 million for the preceding three years, a small business is an entity that, together with its affiliates and controlling interests, has average gross revenues not exceeding $15 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 $40 million for the

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[605] Based on a FCC Universal Licensing System search on December 21, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = PC; 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.

[606] *See* 47 CFR 101.3.

[607] *Id.*

[608] *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.

[609] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[610] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[611] *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.

[612] Based on a FCC Universal Licensing System search on December 9, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = DV; 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.

preceding three years.[613] In two auctions for MVDDs licenses, eight of the ten winning bidders who won 144 licenses claimed one of the small business status classifications, and two of the three winning bidders who won 21 of 22 licenses, claimed one of the small business status classifications.[614] Five of the winning bidders claiming a small business status classification in these auctions had active licenses as of December 2021.[615]

156. 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.

157. *Multiple Address Systems (MAS)*. MAS are point-to-multipoint or point-to-point radio communications systems used for either one-way or two-way transmissions that operates in the 928/952/956 MHz, the 928/959 MHz or the 932/941 MHz bands.[616] Entities using MAS spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses to accommodate internal communications needs. MAS serves an essential role in a range of industrial, safety, business, and land transportation activities and are used by companies of all sizes operating in virtually all U.S. business categories, and by all types of public safety entities. Wireless Telecommunications Carriers (*except* Satellite)[617] 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.[618] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[619] Of this number, 2,837 firms employed fewer than 250 employees.[620] Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

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[613] *See* 47 CFR §§ 101.1429(a)(1)-(3).

[614] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 53: Multichannel Video Distribution and Data Service Licenses (MVDDS), https://www.fcc.gov/sites/default/files/wireless/auctions/53/charts/53cls2.pdf, and Auction 63: Multichannel Video Distribution and Data Service Licenses (MVDDS), https://www.fcc.gov/sites/default/files/wireless/auctions/63/charts/63cls2.pdf.

[615] Based on a FCC Universal Licensing System search on December 9, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = DV; 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.

[616] *See* 47 CFR § 101.3.

[617] *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.

[618] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[619] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[620] *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.

158. According to Commission data as December 2021, there were approximately 9,798 active MAS licenses.[621] The Commission's small business size standards with respect to MAS involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of MAS licenses, the Commission defined "small business" as an entity that has average annual gross revenues of less than $15 million over the three previous calendar years, and a "very small business" is defined as an entity that, together with its affiliates, has average annual gross revenues of not more than $3 million over the preceding three calendar years.[622] In auctions for MAS licenses, 7 winning bidders claimed status as small or very small businesses and won 611 of 5,104 licenses,[623] and 5 of 26 winning bidders claimed status as small or very small businesses and won 1,891 of 4,226 licenses.[624]

159. 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.

160. *Paging Services*.[625] Paging services encompass spectrum in the lower paging bands (35-36 MHz, 43-44 MHz, 152-159 MHz, 454-460 MHz) and in the upper paging bands (929-931 MHz), and includes services provided by both private and common carriers. These services fall in the Wireless Telecommunications Carriers (*except* Satellite) industry.[626] Illustrative examples of services in this industry include paging services, except satellite; two-way paging communications carriers, except satellite; and radio paging services communications carriers.[627] The SBA small business size standard classifies a business in this industry as small if it has 1,500 or fewer employees.[628] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.[629] Of this

[621] Based on a FCC Universal Licensing System search on December 9, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match only the following radio service(s)", Radio Service = MS; 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.

[622] *See* 47 CFR § 101.1319(a).

[623] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 42: Multiple Address Systems Spectrum, https://www.fcc.gov/sites/default/files/wireless/auctions/42/charts/42cls2.pdf.

[624] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 59: Multiple Address Systems Spectrum, https://www.fcc.gov/sites/default/files/wireless/auctions/59/charts/59cls3.pdf.

[625] Formerly *Common Carrier Paging*.

[626] *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.

[627] *Id.*

[628] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[629] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

number, 2,837 firms employed fewer than 250 employees.[630] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 76 providers that reported they were engaged in the provision of paging and messaging services.[631] Of these providers, the Commission estimates that all 76 providers have 1,500 or fewer employees.[632] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

161. *Payphone Service Providers (PSPs).* Neither the Commission nor the SBA have developed a small business size standard specifically for payphone service providers. Telecommunications Resellers[633] is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[634] Mobile virtual network operators (MVNOs) are included in this industry.[635] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[636] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[637] Of that number, 1,375 firms operated with fewer than 250 employees.[638] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 36 providers that reported they were engaged in the provision of payphone services.[639] Of these providers, the Commission estimates that 32 providers have 1,500 or fewer employees.[640] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

162. *Prepaid Calling Card Providers.* Neither the Commission nor the SBA has developed a small business size standard specifically for prepaid calling card providers. Telecommunications

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[630] *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.

[631] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[632] *Id.*

[633] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[634] *Id.*

[635] *Id.*

[636] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[637] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[638] *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.

[639] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[640] *Id.*

Resellers[641] is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[642] Mobile virtual network operators (MVNOs) are included in this industry.[643] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[644] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[645] Of that number, 1,375 firms operated with fewer than 250 employees.[646] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 62 providers that reported they were engaged in the provision of prepaid card services.[647] Of these providers, the Commission estimates that 61 providers have 1,500 or fewer employees.[648] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

163. *Private Land Mobile Radio Licensees – 900 MHz Band* (*PLMR – 900 MHz Band*). Private land mobile radio (PLMR*)* systems serve an essential role in a vast range of industrial, business, land transportation, and public safety activities. Companies of all sizes operating in all U.S. business categories use these radios. The 900 MHz band (896-901/935-940 MHz) is designated for narrowband PLMR communications by Business/Industrial/Land Transportation (B/ILT) licensees and for Specialized Mobile Radio (SMR) providers, with deployed systems primarily used for two-way communication by land transportation, utility, manufacturing, and petrochemical companies. Only B/ILT and SMR licensees are eligible to operate in the 900 MHz band. Wireless Telecommunications Carriers (*except* Satellite)[649] is the closest industry with a SBA small business size standard applicable to these services. The SBA small size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[650] U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the

[641] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[642] *Id.*

[643] *Id*.

[644] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[645] *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 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[646] *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.

[647] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[648] *Id.*

[649] *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.

[650] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

entire year.[651] Of this number, 2,837 firms employed fewer than 250 employees.[652] Thus under the SBA size standard, the Commission estimates licensees in this can be considered small.

164. Based on Commission data, as of December 14, 2021, there were 2,716 active licenses (714 B/ILT and 2,002 SMR licenses) in the 900 MHz band (896-901/935-940 MHz).[653] The Commission's small business size standards with respect to PLMR licenses in the 900 MHz band involve eligibility for bidding credits and installment payments in the auction of licenses for these services. For the auction of 900 MHz SMR licenses, the Commission defined a "small business" as an entity with average annual gross revenues of $15 million or less in the three preceding calendar years and a "very small business", as an entity with average gross revenues that are not more than $3 million for the preceding three years.[654] Pursuant to these definitions, approximately 59 winning bidders claiming small business credits won approximately 263 licenses[655] and 3 winning bidders claiming small business credits won approximately 7 licenses.[656] None of the winning bidders claiming a small business status classification in these 900 MHz band PLMR license auctions had an active license as of December 2021.[657]

165. 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. Nevertheless, the Commission believes that a majority of B/ILT and SMT PLMR – 900 MHz Band licenses are held by small entities.

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[651] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[652] *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.

[653] 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 = GI, GR, GU, YD, YS, YU (B/ILT Codes = GI, GU, YU and SMR Codes = GR, YD, YS); 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.

[654] *See* 47 CFR § 90.814(b)(1)-(2).

[655] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 7: 900 MHz Specialized Mobile Radio Service, Summary, Spreadsheets, All Markets, https://www.fcc.gov/sites/default/files/wireless/auctions/07/charts/7markets.xls.

[656] *See* Federal Communications Commission, Economics and Analytics, Auctions, Auction 55: 900 MHz Specialized Mobile Radio Service, Summary, Closing Charts, License by Bidder, https://www.fcc.gov/sites/default/files/wireless/auctions/55/charts/55cls2.pdf.

[657] 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 = YD, YS; 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.

166. *Providers of International Telecommunications Transmission Facilities*. Section 43.82(a) of the Commission's rules requires U.S. facilities-based common carriers, non-common carrier satellite operators, cable landing licensees, and U.S. international carriers that owned or leased capacity on a submarine cable between the United States and any foreign point, to annually file circuit capacity data.[658] Some of these providers fall within the category of interexchange carriers, some fall within the U.S. Census Bureau industry of Wired Telecommunications Carriers[659] and others do not fall in either category. The Commission has not developed a small business size standard specifically for providers of interexchange services and uses the SBA's size standard for Wired Telecommunications Carriers.[660]

167. Under the SBA small business size standard for Wired Telecommunications Carriers, a business is small if it has 1,500 or fewer employees.[661] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[662] Of this number, 2,964 firms operated with fewer than 250 employees.[663] Thus, under this size standard, the majority of firms in this industry can be considered small. Additionally, according to the Commission's International Bureau's internally developed data, 87 entities filed circuit capacity data pursuant to section 43.82 for the 2019 reporting year.[664] The circuit capacity filers' reports however, do not include statistical information on employees, therefore the Commission is unable to determine how many carriers are considered small entities under the SBA size standard.

168. *Satellite Master Antenna Television (SMATV) Systems, also known as Private Cable Operators (PCOs)*. SMATV systems or PCOs are video distribution facilities that use closed transmission paths without using any public right-of-way. They acquire video programming and distribute it via terrestrial wiring in urban and suburban multiple dwelling units such as apartments and condominiums, and commercial multiple tenant units such as hotels and office buildings. SMATV systems or PCOs are included in the Wired Telecommunications Carriers' industry which includes wireline telecommunications businesses.[665] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[666] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[667]

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[658] *See* 47 CFR § 43.82(a).

[659] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[660] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[661] *Id*.

[662] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[663] *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.

[664] *See* FCC, International Bureau, *2019 Circuit Capacity Data For U.S.-International Submarine Cables Report*, Table 1, Section 43.82 Circuit Capacity Filers (2019) – Entities that filed a cable operator and/or capacity holder report, https://docs.fcc.gov/public/attachments/DA-20-1176A2.xlsx.

[665] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[666] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[667] *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,
(continued….)

Of this total, 2,964 firms operated with fewer than 250 employees.[668] Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

169. *Specialized Mobile Radio Licenses.* Special Mobile Radio (SMR) licenses allow licensees to provide land mobile communications services (other than radiolocation services) in the 800 MHz and 900 MHz spectrum bands on a commercial basis including but not limited to services used for voice and data communications, paging, and facsimile services, to individuals, Federal Government entities, and other entities licensed under Part 90 of the Commission's rules. Wireless Telecommunications Carriers (except Satellite)[669] is the closest industry with a SBA small business size standard applicable to these services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[670] For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.[671] Of this number, 2,837 firms employed fewer than 250 employees.[672] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 95 providers that reported they were of SMR (dispatch) providers.[673] Of this number, the Commission estimates that all 95 providers have 1,500 or fewer employees.[674] Consequently, using the SBA's small business size standard, these 119 SMR licensees can be considered small entities.[675]

170. Based on Commission data as of December 2021, there were 3,924 active SMR licenses.[676] However, since the Commission does not collect data on the number of employees for licensees providing SMR 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. Nevertheless, for purposes of this analysis the Commission estimates that the majority of SMR licensees can be considered small entities using the SBA's small business size standard.

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https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false.

[668] *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.

[669] *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.

[670] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[671] *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&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[672] *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.

[673] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022),

https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[674] *Id.*

[675] We note that there were also SMR providers reporting in the "Cellular/PCS/SMR" classification, therefore there are maybe additional SMR providers that have not been accounted for in the SMR (dispatch) classification.

[676] Based on a FCC Universal Licensing System search on December 15, 2021, https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp. Search parameters: Service Group = All, "Match radio services within this group", Radio Service = SMR; 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.

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

171. The Commission expects the rules proposed in the *Notice*, if adopted, will impose new or additional reporting, recordkeeping, and/or other compliance obligations on small as well as other entities in the communications sector that are Covered Providers as defined by the Commission's rules. In the *Notice*, the Commission estimates a total of 69,574 Covered Providers[677] consisting of 62,105 establishments in telecommunications and 7,469 establishments in radio and television broadcasting,[678] would be affected by this rulemaking. If adopted, Covered Providers would be required to submit an annual certification in NORS attesting that they have created, updated, and implemented cybersecurity and supply chain risk management plans. Relying on the SBA's small business size standard to determine "small," for small Covered Providers, the *Notice* proposes to allow an extended compliance timeframe of 12 additional months from the compliance timeframe for non-small Covered Providers. Small Covered Providers would have until 24 months after publication in the *Federal Register* of notice that the Office of Management and Budget (OMB) has completed its review of the modified information collection in this proceeding, to certify that they have implemented the required cybersecurity and supply chain risk management plans. To reduce unnecessary paperwork burdens on small and other providers with cybersecurity-related USF requirements, the *Notice* also proposes that if a provider files cybersecurity plans that satisfy the obligations proposed in the *Notice*, those plans will also satisfy the cybersecurity and supply chain risk management requirements of the 5G Fund, Alaska Connect Fund, and E-ACAM USF programs.

172. The Commission proposes that Covered Providers must take reasonable measures to protect the confidentiality, integrity, and availability of their systems and services that could affect their provision of communications service. Their plans must identify the cyber risks the Covered Provider faces, the controls the Covered Provider uses or plans to use to mitigate those risks, and how the Covered Provider ensures that these controls are applied effectively to their operations; and describe how the Covered Provider employs its organizational resources and processes to ensure the confidentiality, integrity, and availability of its systems and services. Covered Providers would also be required to preserve data and records related to their risk management plans, including any information that is necessary to show how the risk management plan is implemented, for no less than two years from the submission of the related risk management plan certification to the Commission; and upon request, provide the cybersecurity and supply chain risk management plans to the Commission.

173. The Commission estimates that these proposed rules would incur no more than $514 million total per year for implementing new cybersecurity and supply chain risk management plans. We believe the cost estimates are an upper bound of true costs that industry would incur. We estimate the total cost of developing cybersecurity and supply chain risk management plans as follows: (69,574) Covered Providers × x (80% to account for entities that already have implemented cybersecurity and supply chain risk management plans) x (100 hours per Covered Provider per year) × ($62.18 mean hourly wage) × (1 + 45% benefit mark-up) = $501,828,913 of total cost per year, rounded to $502 million to avoid the false appearance of precision in our estimate.[679] Alternatively, based on National Television

[677] U.S. Census Bureau, 2021 SUSB. Based on 2017 NAICS code 517, Telecommunications.

[678] U.S. Census Bureau, 2021 SUSB Annual Data Tables by Establishment Industry (December 2023), https://www.census.gov/data/tables/2021/econ/susb/2021-susb-annual.html (showing, in line 11,794, that there are 7,469 establishments in the Radio and Television Broadcasting industry; and in line 11,875, that there are 62,105 establishments in the Telecommunications industry).

[679] *See* Bureau of Labor Statistics, *Occupational Employment and Wages, May 2022, 11-1021 General and Operations Managers* (May 2022), https://www.bls.gov/oes/current/oes111021.htm (listing the mean hourly wage as $59.07 for occupation code 11-1021 General and Operations Managers) (*General and Operation Managers Mean* (continued….)

Association's estimates, the cost for an initial cybersecurity assessment plan is $10,000.[680] Taking National Television Association's cost estimates, the alternative total initial cost for developing cybersecurity risk management plans is $556,592,000 = (69,574) entities × $10,000 per entity in the first year x (80% to account for entities that already have implemented cybersecurity risk management plans). This cost estimate is inclusive of costs that entities would incur to create, test, review, implement, and update over the years cybersecurity risk management plans. We reason that the cost to implement cybersecurity and supply chain risk management plans in the first year of required compliance is an upward bound on the annually recurring cost of compliance.

174. The proposals in the *Notice* build upon other actions the Commission has taken to enhance cybersecurity in the communications sector. Accordingly, the proposals being made in the *Notice* may require additional analysis and mitigation activities by small and other Covered Providers. At this time, the record does not include sufficient cost information to allow the Commission to quantify the costs of compliance for small entities, including whether it will be necessary for small entities to hire professionals to comply with the proposed rules if adopted. In the next section below we discuss that there are free and low cost resources available that may reduce or eliminate any need for small Covered Providers to hire professionals to comply with the proposals in the *Notice*, to the extent such a need may exist. The Commission also does not have sufficient information to determine the cost of compliance for small Covered Providers, and whether they will have to hire professionals for any additional analysis and mitigation activities that may result from proposals in the *Notice*, if adopted. To help the Commission more fully evaluate the potential costs, we request comments on the cost implications of our proposals for small and other Covered Providers, and ask whether there are more efficient and less burdensome alternatives (including cost estimates) for the Commission to consider. We expect the information we receive in comments including cost and benefit analyses, will help the Commission identify and evaluate relevant matters for small entities, including compliance costs and other burdens that may result from the proposals and inquiries we make in the *Notice*.

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

175. The RFA requires an agency to describe any significant, specifically small businesses, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[681]

176. The Commission has taken steps to minimize the impact of the proposals in the *Notice* as a general matter and, specifically targeting small entities, has sought comment on the extent to which we

*Hourly Wage*). According to the Bureau of Labor Statistics, as of December 2023, civilian wages and salaries averaged $31.29/hour and benefits averaged $14.13/hour. Total compensation therefore averaged $31.29 + $14.13 = $45.42. See Press Release, Bureaus of Labor Statistics, Employer Costs for Employee Compensation – December 2023 (Mar. 13, 2024), https://www.bls.gov/news.release/pdf/ecec.pdf. Using these figures, benefits constitute a markup of $14.13/$31.29 = 45%. We therefore markup wages by 45% to account for benefits (*Compensation Benefit Mark-up*). *See* Federal Reserve Bank of St. Louis, *Average Hourly Earnings of All Employees, Total Private (CES0500000003]*, https://fred.stlouisfed.org/series/CES0500000003 (last visited Mar. 5, 2024) (showing that according to Bureau of Labor Statistics data the average hourly private wage increased by 7.7% between May 2022 and January 2024) (*Inflation Adjustment*).

[680] National Television Association Comments, PS Docket Nos. 15-94, 15-91, and 22-329, at 7 (rec. Dec. 23, 2022).

[681] 5 U.S.C. § 603(c)(1)-(4).

can limit the overall economic impact of these proposed requirements if we provide increased flexibility for businesses classified as small under the SBA small business size standards. Below we discuss actions taken and alternatives considered by the Commission for the rules proposed on defining the scope of Covered Entities, requiring annual certification of cybersecurity and supply chain risk management plans.

177. In the *Notice*, the Commission considers and requests alternative approaches on defining the scope of Covered Providers. For example, we inquire whether there are other types of communications service providers that should be considered Covered Providers for the purpose of this proceeding. Other alternatives the Commission considered includes whether to require Covered Providers to follow a specific risk management framework, such as the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF). This more flexible approach proposed in the *Notice* should give smaller entities the ability to structure their risk management plan in a way that is tailored to their organization and risk management needs. We also consider and propose to allow small and other Covered Providers to meet our proposed requirement that their risk management plans to describe the company's implementation of security controls sufficient to ensure the confidentiality, integrity, and availability of all aspects of its communications systems and services, by showing adherence to best practices such as CISA's Cybersecurity Performance Goals (CPGs) or Center for Internet Security Critical Security Controls (CIS Controls), or other established cybersecurity best practices.[682] Further, the flexibility we propose here does not require the use of a single set of best practices from a single source but instead would allow small and other Covered Providers to use best practices from various sources to the extent that the practices are established and, in the aggregate, are in conformance with each of the NIST Framework's Core Functions (or similar principles from other established risk management frameworks) and the Covered Provider maximizes use of the principles to reduce the potential for harm arising from cyber threats. In the alternative however, the Commission considers and seeks comment on whether to require Covered Providers implement the CPGs or some other established body of best practices, and if so should such a require not apply to small Covered Providers.

178. Small Covered Providers can reduce their cost of compliance with various requirements we propose in the *Notice* by taking advantage of the free and low-cost resources to help them identify and implement best practices, and improve their security over time thereby minimizing the need to obtain outside expertise. We discuss in the *Notice* for example, that CISA offers vulnerability scanning at no cost for critical infrastructure, which includes communications providers, and also provides CPG Assessment Training with regional cybersecurity experts that can help small communications providers better understand CPGs and the cybersecurity risk assessment process.[683] To reduce the economic impact and burden on small entities, the Commission proposes to allow providers to prepare a single, integrated cybersecurity and supply chain risk management plan covering their systems and services. The Commission also proposes to use its well-established NORS system that facilitates filings in a streamlined and uniform manner as the system for small and other Covered Providers to submit the certifications proposed in the *Notice*. Some small Covered Providers may already registered an familiar

[682] *See* CISA, *Cross-Sector Cybersecurity Performance Goals*, https://www.cisa.gov/cross-sector-cybersecurity-performance-goals; Center for Internet Security, *Critical Security Controls Version 8,* https://www.cisecurity.org/controls (last visited Nov. 4, 2024).

[683] CISA, *Cybersecurity Performance Goals (CPG) Assessment Training* (last visited Feb. 28, 2024), https://www.cisa.gov/resources-tools/training/cybersecurity-performance-goals-cpg-assessment-training; Eric Goldstein, CISA, Executive Assistant Director for Cybersecurity, Alerting Security Roundtable, 2:07.53 (Oct. 30, 2023), https://www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable (describing performance goal assessments to help companies "walk through the list, look at where you are, then figure out where to go next"). *See also* CISA, *Free Cybersecurity Services and Tools*, https://www.cisa.gov/resources-tools/resources/free-cybersecurity-services-and-tools (last visited Feb. 28, 2024).

with NORS and for those that are not, the Commission makes resources available to help providers learn how to register in NORS. In addition, the Commission proposes a staggered implementation timeframe that allows smaller providers an additional 12 months to implement and certify their cybersecurity and supply chain risk management plans.

179. The Commission expects to more fully consider the economic impact and alternatives for small entities following the review of comments filed in response to the *Notice*, including costs and benefits analyses. Having data on the costs and economic impacts of proposals and approaches will allow the Commission to better evaluate options and alternatives for minimization of any significant economic impact on small entities as a result of the proposals and approaches raised in the *Notice*. The Commission's evaluation of this information will shape the final alternatives it considers to minimize any significant economic impact that may occur on small entities, the final conclusions it reaches, and any final rules it promulgates in this proceeding.

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

180. None.

**STATEMENT OF**
**CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Protecting the Nation's Communications Systems from Cybersecurity Threats*, PS Docket No. 22-329, Declaratory Ruling and Notice of Proposed Rulemaking

The first sentence of the Communications Act directs the Federal Communications Commission to make available to all people in the United States a "rapid, efficient, Nation-wide, and world-wide . . . communication service" in order to support "national defense" and "the safety of life and property." During my time at the agency, we have taken this charge to heart and put national security front and center. Now, the agency has a choice—to continue this course or look the other way as we wrestle with the consequences of Salt Typhoon.

Salt Typhoon has been described as the "worst telecom hack in our Nation's history" by Senator Mark Warner. This sentiment is bipartisan. Senator Marco Rubio said, "I agree with Mark Warner's statement. It is an egregious, outrageous, and dangerous breach of our telecommunications systems across multiple companies."

It is one of the largest intelligence compromises ever seen. This attack, led by hackers affiliated with the People's Republic of China, breached nine domestic telecommunications and internet service providers, exposing vulnerabilities in critical infrastructure across the country. It compromised devices like routers and switches by exploiting old equipment, facilities that had not been updated, and network components that lacked basic cybersecurity protocols in the United States and in more than a dozen other countries. As a result, intelligence officials have indicated that high-ranking officials in our government have had their calls listened to and texts read. This includes individuals from the presidential campaigns of Donald Trump and Kamala Harris as well as Senate leadership. This breach also exposed the metadata of more than a million Americans. This information makes it possible to geolocate any of us, as well as listen to our calls and read our texts. It is a way to understand where we go, what we do, and who we are. If you think this data is inconsequential, think again. As General Michael Hayden once said: "We kill people based on metadata." Finally, reports suggest that the Salt Typhoon breach may have exposed information about court-ordered monitoring of phone numbers and critical data about ongoing law enforcement targets.

In response to Salt Typhoon, there has been a government-wide effort to understand the nature and extent of this breach, what needs to happen to rid this exposure in our networks, and the steps required to ensure it never happens again. The Federal Bureau of Investigation, National Security Agency, and Cybersecurity and Infrastructure Security Agency have joined with their counterparts in Australia, Canada, and New Zealand to produce guidance for communications infrastructure in the wake of the attack. The Department of Homeland Security is assessing the damage with its Cyber Safety Review Board. The National Security Council has described efforts of companies to expel those responsible for this hack from their networks, noting that going forward voluntary cybersecurity practices are inadequate to defend U.S. critical infrastructure against nation-state threats of this magnitude.

At the Federal Communications Commission, we now have a choice to make. We can turn the other way and hope this threat goes away. But hope is not a plan. Leaving old policies in place when we know what new risks look like is not smart. Instead, we need to use the tools we have today to prevent these attacks from happening in the future.

Across the board, this has been the approach we have taken with network security during my time leading the Federal Communications Commission. National security and network security matters have ceased to be an afterthought at the agency. For the first time in history, we revoked the authorization of

Chinese state-affiliated carriers that have been identified as a national security threat. We built a first-of-its kind program to remove insecure foreign equipment from our Nation's communications networks. And in a vote of confidence in our work, Congress just provided another $3 billion investment in this effort to finish the work required to rip out and replace this infrastructure with secure alternatives.

For the first time in decades, we are revamping our policies to address the security of undersea cables. We have updated our data breach rules. We also have proposed measures to address the well-known insecurities in Border Gateway Protocol, which can be used by malicious foreign actors to hijack internet traffic. On top of that, we now make public a Covered List of communications equipment and services that pose an unacceptable risk to national security. We exclude this equipment from our universal service support programs. Plus, we prevent this equipment from using our equipment authorization program. As part of this effort, last year we suspended the approval of a test lab operated by Huawei and flagged for our national security colleagues other labs with possible ties to the government of the People's Republic of China.

Today, in light of the vulnerabilities exposed by Salt Typhoon, we need to take action to secure our networks. Our existing rules are not modern. It is time we update them to reflect current threats so that we have a fighting chance to ensure that state-sponsored cyberattacks do not succeed. That is why we adopt a Declaratory Ruling that makes clear that under Section 105 of the Communications Assistance for Law Enforcement Act, telecommunications carriers have a legal obligation to secure their networks against unlawful access and interception. This is common sense. Yet our rules do not articulate this adequately today. We do so here.

We also launch a Rulemaking that proposes to require communications providers covered by the Communications Assistance for Law Enforcement Act to file cybersecurity risk management plans with the Federal Communications Commission and certify compliance with these plans. This sounds simple, but it is critical. Without a commitment to minimum cybersecurity standards, our networks will lack the protection they need from nation-state threats in the future.

The time to take this action is now. We do not have the luxury of waiting. Telecommunications networks are essential for everything in day-to-day life, from our national defense to public safety to economic growth. This is a sector that supports healthcare security, manufacturing security, energy security, and transportation security—and more. While our counterparts in the intelligence community continue to assess the scope of the Salt Typhoon attack, the Federal Communications Commission needs to update its policies to meet this moment. The actions we take and propose here will strengthen our cybersecurity safeguards and enhance our resilience against future attacks. They have the support of the National Security Council and the Cybersecurity and Infrastructure Security Agency. They are worth the effort.

**STATEMENT OF**
**COMMISSIONER GEOFFREY STARKS**

Re: *Protecting the Nation's Communications Systems from Cybersecurity Threats*, PS Docket No. 22-239, Declaratory Ruling and Notice of Proposed Rulemaking

As I have frequently said: "Network security is national security."[1] One of my highest priorities as a Commissioner has been to make our telecommunications networks more secure for Americans. This item is one of the most significant votes I've made on that front.

We are currently facing the "worst telecom hack in our nation's history."[2] There are current and on-going cybersecurity threats to our communications systems, including by state-sponsored hackers from the People's Republic of China. The Salt Typhoon attacks are a dangerous reminder of our need for constant vigilance. Much is at stake. Chinese actors currently have access to Americans' calls and texts[3] unless they use an end-to-end encrypted app like Signal.[4] We must make our networks safe by evicting these intruders and close the door to them in the future.

Our nation's cybersecurity defenses must withstand the onslaught of adversarial actors. Network operators must implement better cybersecurity practices now. For our part, the FCC has not substantively updated our CALEA rules since 2006.[5] Today, we use authority granted by Congress to help our communications providers protect their networks and network equipment. In clarifying our authority, and proposing to require communications providers to adopt cybersecurity risk management plans, we expect communications providers will adopt baseline cybersecurity protections tailored to their individual risk profile. These plans are an important and overdue step to improve our nation's cybersecurity, and are consistent with my efforts over the past few years to require carriers receiving Universal Service Fund support to implement cybersecurity risk management and supply chain risk management plans.

I thank the Chairwoman for her leadership on this item and for working with me to strengthen the item to protect all Americans, specifically by ensuring that the proposals in the Notice meet our requirements across many programs, clarifying that cybersecurity risk management plans also include supply chain risk management, and seeking comment on how to further promote trusted collaboration with Covered Providers. I strongly approve and hope we move quickly to adopt rules.

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[1] *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, Report and Order, Further Notice of Proposed Rulemaking, and Order, 34 FCC Rcd 11423, Starks Statement at 1 (2019).

[2] Ellen Nakashima, *Top Senator Calls Salt Typhoon 'worst telecom hack in our nation's history'*, Washington Post, Nov. 21, 2024, *available at* https://www.washingtonpost.com/national-security/2024/11/21/salt-typhoon-china-hack-telecom/ (*Top Senator Calls Salt Typhoon 'worst telecom hack in our nation's history'*).

[3] *Id.*

[4] David Sanger and Julian Barnes, *China's Hacking Reached Deep into U.S. Telecoms*, The New York Times, Nov. 21, 2024, *available at* https://www.nytimes.com/2024/11/21/us/politics/china-hacking-telecommunications.html.

[5] *See Communications Assistance for Law Enforcement Act and Broadband Access and Services, Second Report and Order and Memorandum Opinion and Order*, 21 FCC Rcd 5360 (2006), although we have updated aspects of our CALEA rules at the Bureau level. *See, e.g.*, Communications Assistance for Law Enforcement Act and Broadband Access and Services, Order, 38 FCC Rcd 4218 (PSHSB 2023).