



FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 1

[WC Docket Nos. 19-195 and 11-10; FCC 25-34; FR ID 301047]

Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477

Data Program

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) eliminates the professional engineer certification requirement for the biannual Broadband Data Collection filings and instead allows the biannual filings to be certified by a qualified engineer that has relevant minimum experience and education.

DATES: Effective [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

FOR FURTHER INFORMATION CONTACT: Jamile Kadre, Broadband Data Task Force, by email at jamile.kadre@fcc.gov or by phone at (202) 418-2245.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order*, in WC Docket Nos. 19-195 and 11-10, FCC 25-34, adopted on June 26, 2025, and released on June 26, 2025. The full text of this document is available online at <https://www.fcc.gov/document/fcc-takes-steps-streamline-broadband-data-collection>.

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Final Paperwork Reduction Act of 1995 Analysis

The rulemaking required under the Broadband DATA Act is exempt from review by Office of Management and Budget (OMB) and from the requirements of the Paperwork Reduction Act of

1995 (PRA), Public Law 104-13. As a result, the *Report and Order* will not be submitted to OMB for review under section 3507(d) of the PRA.

Congressional Review Act

The Commission will send a copy of the *Report and Order* to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

Synopsis

In this Order, the Commission takes steps to alleviate unnecessary regulatory burdens on broadband internet access service providers while ensuring that the Commission continues to receive accurate, granular data on broadband internet access service availability and quality of service as part of the Broadband Data Collection (BDC). Accurate BDC data enables the Commission, other federal agencies, state, local, and Tribal governments, and other interested stakeholders to carefully target resources to the locations where broadband services are needed most.

The Broadband Deployment Accuracy and Technological Availability Act (Broadband DATA Act) requires fixed broadband service providers to report broadband availability on a location-by-location basis and mobile wireless broadband service providers to report their coverage areas using standardized propagation modeling parameters. Consistent with the Broadband DATA Act's requirement that submissions include a certification from a corporate officer of the provider that the data are true and correct, the Commission requires providers to have a corporate officer and either a corporate engineering officer or certified professional engineer (PE) certify their filings.

Today, the Commission takes an important step to alleviate the regulatory burden that a professional engineer certify a provider's BDC biannual filings. Specifically, in response to concerns about the unavailability of professional engineers and the unnecessary costs and other burdens the requirement places on filers, this Fifth Report and Order eliminates the professional

engineer certification requirement and replaces it with a requirement that biannual filings be certified by a qualified engineer (as defined herein).

The Broadband DATA Act requires internet service providers to “include in each [BDC] submission a certification from a corporate officer of the provider that the officer has examined the information contained in the submission and that, to the best of the officer’s actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct.” In addition to the corporate officer certification, and in an effort to adopt appropriate measures to ensure that providers engage in sufficient analysis of their data and submit accurate information to the BDC, the Commission also adopted a requirement that providers submit certifications to the accuracy of their biannual submissions by a certified professional engineer or a corporate engineering officer. For purposes of this requirement, a “certified professional engineer” is an engineer possessing a professional license by virtue of completing or passing multiple educational and testing requirements so as to earn a license from a state licensure board.

For every BDC biannual filing period to date, WCB, OEA, and WTB have waived the professional engineering certification requirement. In May 2022, before the first BDC filing window opened, the Competitive Carriers Association (CCA) filed a Petition for Declaratory Ruling or Limited Waiver, requesting that the Commission clarify that a BDC filing may be certified by either a professional engineer or an otherwise-qualified engineer who does not hold a professional license. In its Petition, CCA noted that “[t]he [Radio Frequency (RF)] engineering community is characterized by a scarcity of licensed [professional engineers (PEs)]” because “[s]tate professional licensing boards issue PE licenses based on the fulfillment of state-specific education, examination, and experience requirements [and] states have generally not required PE licensure for RF engineers.” CCA continued that “[t]he experience and expertise developed by RF engineers through their work provides comprehensive skills relevant to broadband

deployment [and] . . . provides skills comparable to, and perhaps more relevant than, general licensure through the PE . . . exam process.”

Subsequently, WCB, OEA, and WTB issued a Declaratory Ruling and Limited Waiver granting CCA’s request for the first three filing cycles of the BDC. In the Declaratory Ruling, the Bureaus and Office clarified that when a fixed or mobile provider submits a certification from a corporate engineering officer, such corporate engineering officer does not need to be a certified professional engineer. In the Limited Waiver, the Bureaus and Office waived the requirement that a fixed or mobile provider submit a certification from a “certified professional engineer,” allowing instead the submission of a certification completed by an otherwise-qualified engineer. WCB, OEA, and WTB found that “the lack of certified professional engineers specializing in RF engineering and broadband network design constitutes ‘special circumstances’ that warrant a deviation from the general rule that certified professional engineers must certify the accuracy of providers’ biannual BDC broadband data submissions.” The Limited Waiver specified that an otherwise-qualified engineer must meet certain minimum qualifications in lieu of state professional engineering licensure in order to certify a BDC filing:

- A bachelor’s or postgraduate degree in electrical engineering, electronic technology, or another similar technical discipline, and at least seven years of relevant experience in broadband network design and/or performance; or
- Specialized training relevant to broadband network engineering and design, deployment, and/or performance, and at least ten years of relevant experience in broadband network engineering, design, and/or performance.

In August 2023, CCA and USTelecom-The Broadband Association sought an extension of the Limited Waiver, arguing that circumstances had not changed for the industry in the year since the 2022 BDC PE Order was issued. In November 2023, WCB, OEA, and WTB granted the request and extended the Limited Waiver for another three filing cycles (i.e., data as of December 31, 2023, June 30, 2024, and December 31, 2024), subject to certain conditions. The

conditions outlined in the extension are that “any provider availing itself of this waiver must: (1) have its BDC submissions certified by an engineering professional with the qualifications specified in the [2022 BDC PE Order]; (2) preserve, for the applicable ‘as-of’ filing date(s), certain categories of underlying network information for each submission filed under the waiver; and (3) upon request, expeditiously provide this network information to the Commission.”

In July 2024, the Commission sought comment on whether it should eliminate the professional engineering certification requirement and proposed that all providers be required to retain their infrastructure data in support of their biannual submissions upon request as part of the Commission’s efforts to validate availability data. The Commission proposed to permanently eliminate the requirement under § 1.7004(d) that an engineering certification, to the extent not submitted by a corporate engineering officer, must be submitted by a certified professional engineer. Under its proposal, the Commission would amend the rule to state that all providers must submit a certification to the accuracy of their submissions by a “qualified engineer,” consistent with the engineering qualifications that WCB, OEA, and WTB adopted in the 2022 BDC PE Order and the PE Waiver Extension Order. Additionally, the Commission proposed to further modify the rule to clarify that a certifying engineer does not necessarily need to be a full-time employee of the broadband service provider but instead could be an independent contractor or third-party consultant. The Commission noted that, in light of the other mechanisms available to the Commission, such as system validations and the existing corporate officer certification, a certification by a certified professional engineer was not necessary to ensure the submission of high-quality data as part of the BDC.

The Commission adopts the proposal to amend § 1.7004(d) to eliminate the requirement that an engineering certification, to the extent not submitted by a corporate engineering officer, must be submitted by a certified professional engineer and instead require certification by a “qualified engineer” as outlined in the waiver orders issued by the Bureaus and Office. Specifically, the Commission will allow an engineer to certify BDC biannual data filings if the

engineer is: (i) a corporate officer possessing a Bachelor of Science (B.S.) degree in engineering and who has direct knowledge of and responsibility for the carrier's network design and construction; (ii) an engineer possessing a bachelor's or post-graduate degree in electrical engineering, electronic engineering, or another similar technical discipline, and at least seven years of relevant experience in broadband network design and/or performance; or (iii) an employee or agent with specialized training relevant to broadband network engineering and design, deployment, and/or performance, and at least 10 years of relevant experience in broadband network engineering, design, and/or performance. The Commission continues to believe that it is necessary to retain an engineering certification requirement because the Broadband DATA Act requires the Commission to collect accurate broadband data. As the Commission previously noted, providers should be engaging in the analysis required to confirm that their data are accurate, so certifying that this analysis has been conducted should not unduly burden providers.

The Commission finds that the qualified engineer standard outlined above, in combination with the Commission's verification and audit authority and challenges from the public, provides the Commission with the necessary tools to ensure that BDC data are accurate and timely. The standard the Commission adopts ensures that a capable and qualified engineer will review and certify the accuracy of a provider's submission and that filers have engaged in the analysis necessary to meet Congress's objective of developing more accurate data, consistent with the Commission's reasons for adopting the engineering certification in the Third Report and Order. To that end, the Commission agrees with the Bureaus and Office's rationale for adopting the specific qualifications in the 2022 BDC PE Order, and find that the degree requirements for corporate engineering officers and certifying engineers described in (i) and (ii) above, along with the years of experience required for the certifying engineers described in (ii) and (iii) above and the requirement that the certifying engineer "has direct knowledge of, or responsibility for, the generation of the provider's Broadband Data Collection filing" creates a rigorous certification

standard that achieves the same goals as the professional engineering certification requirement. The Commission agrees with commenters that this standard has been tested under the prior two waiver orders, and note the record in this proceeding and the two waivers supports our view that otherwise qualified engineers are highly expert and that their review and certification of BDC filings has been no less stringent than under the professional engineering certification requirement because otherwise-qualified engineers are required to have a high level of technical expertise, practical experience, and intimate knowledge of providers' networks. The amended standard provides relief for some providers from the burden of having a professional engineer certify filings, without sacrificing high-quality expert review and certification of BDC filings or the accuracy of submitted data.

As discussed in the 2022 BDC PE Order, the minimum qualifications the Commission adopts create a more efficient process while ensuring that qualified engineers review BDC submissions, which will help providers to submit their filings on a timely basis because they will not need to identify and retain a certified professional engineer to analyze their biannual filings. In 2022 BDC PE Waiver Order, the Bureaus and Office examined the reported burdens associated with the professional engineering certification requirement and found that special circumstances existed to warrant a limited waiver of § 1.7004(d) based on the insufficient number of available certified professional engineers with relevant expertise, and again in the PE Waiver Extension Order found that “[t]he . . . lack of PEs to certify BDC filings threatens to undermine the goal of collecting and developing accurate broadband availability data.” Industry commenters in this proceeding overwhelmingly note that there continues to be a shortage of certified professional engineers with expertise in RF engineering and broadband network design, and NRECA and WISPA particularly emphasize the significant challenges that small ISPs face in meeting any certified professional engineering requirement. The Commission finds the reported burdens associated with the professional engineering certification requirement—namely the reported ongoing shortage of professional engineers with relevant experience in the fields of

RF engineering and broadband network design—to be compelling. The standard the Commission adopts both promotes efficiency and furthers the goals of the BDC by offering providers who may experience difficulty finding a professional engineer to certify their filings the flexibility to certify using a different, yet still highly trained and experienced, engineer.

While some commenters support retaining the professional engineering certification requirement, the Commission does not find these arguments persuasive. ACE – Association of Communication Engineers (ACE) claims that there is not, in fact, a shortage of professional engineers. However, neither ACE nor any other commenter provides evidence that there are sufficient professional engineers who also have the relevant experience in the fields of RF engineering and broadband network design available to review and certify the over 2,500 BDC filings that are submitted every six months from thousands of distinct providers. As discussed, the waiver standard the Commission adopts today ensures that a highly trained and experienced engineer will continue to certify providers' BDC filings. Given this fact, and in light of the conflicting evidence in the record suggesting that there continues to be a professional engineer shortage, the Commission finds that the need to increase efficiency and reduce unnecessary burdens in the BDC processes outweighs the need for an engineer to hold a professional license in order to certify BDC filings. Some commenters are also concerned that without the professional engineering certification requirement, there will not be sufficient accountability for providers filing data, or that the data would be less accurate because it would lack review by a professional engineer. The Commission is not persuaded by these arguments because the Commission has always, and will continue to, require certification by a corporate officer (as mandated by the Broadband DATA Act) as well as a qualified engineer. The qualifications outlined above for the engineering certification require expertise and experience with broadband network design and information that is relevant to the BDC, and the certification requirements, when taken together, go above and beyond to ensure both accountability and accuracy for BDC submissions.

Some commenters suggest that if a professional engineering certification is unduly burdensome for an individual provider, it should file a waiver request as a remedy, rather than modifying the rule for all providers. However, reviewing and granting individual waiver requests for potentially hundreds of providers for each BDC biannual filing period would be administratively burdensome both for the Commission and the industry. Furthermore, relying on individual waivers would cause regulatory uncertainty and inconsistencies amongst data filed by different providers that could cause confusion to users of the National Broadband Map. The Commission finds that clarity and consistency amongst provider-reported data is an important consideration that warrants implementing clear and consistent certification requirements to the extent possible. Therefore, the Commission permanently eliminates the professional engineering certification requirement.

Consistent with the Commission's proposal in the Fourth Further Notice, the Commission further modifies the rule to clarify that a certifying engineer does not necessarily need to be a full-time employee of the broadband service provider, but instead could be an independent contractor or third-party consultant. ACE – Association of Communications Engineers comments that if the Commission does not require a PE to certify BDC filings, then “the one certifying the [National Broadband Map] must be an employee/officer of the company” because it would provide a legal tie to the service provider. The Commission notes that each BDC filing must still include “a certification signed by a corporate officer of the provider that the officer has examined the information contained in the submission and that, to the best of the officer's actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct.” The Commission also maintains the requirement that the certifying engineer “has direct knowledge of, or responsibility for, the generation of the provider's Broadband Data Collection filing.” The Commission finds that both of these requirements ensure a legal nexus between the service provider and those certifying the filings. By clarifying that broadband service providers may utilize the resources of consulting engineers, the Commission ensures that

smaller providers who may not have in-house engineering expertise are able to comply with the engineering certification requirements of the BDC.

In their comments on the Fourth Further Notice, T-Mobile and CTIA argue that elimination of the professional engineering certification requirement should not be used as a justification for a new data-retention requirement. The Commission agrees. However, the Commission reminds providers that it will continue to use the other tools at its disposal to ensure the accuracy of BDC data. This includes its ongoing efforts to verify and audit BDC data, which may involve requesting from providers, where warranted, supporting infrastructure and/or on-the-ground test data from a filer as part of those efforts.

The Commission finds that its amendment to § 1.7004(d) relieves a restriction (i.e., it eliminates the professional engineer certification requirement), and therefore the amended rule will be effective upon publication of this Order in the Federal Register, rather than being made effective 30 days after publication. As an independent basis for this effective date, the Commission finds there is “good cause” to make the rules adopted in this Order effective upon publication in the Federal Register in order to provide the maximum amount of notice of this rule change to providers preparing to submit BDC data during the upcoming filing window. Providing a 30-day period after Federal Register publication before this Order becomes effective as normally required by 5 U.S.C. 553(d) would not allow sufficient time for providers to be made aware of the rule change before the opening of the next BDC filing window for data as of June 30, 2025, which typically opens on July 1, or the next business day thereafter. Providing earlier notice of the elimination of the professional engineer certification requirement would mitigate the risk of providers taking on the unnecessary costs and other burdens this rule change will relieve as they prepare for the next BDC filing window.

Final Regulatory Flexibility Act

As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Federal Communications Commission (Commission) incorporated an Initial Regulatory Flexibility

Analysis (IRFA) in the Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program, Fourth Report and Order and Fourth Further Notice of Proposed Rulemaking released in July 2024. The Commission sought written public comment on the proposals in the Fourth Notice, including comment on the IRFA. No comments were filed addressing the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA and it (or summaries thereof) will be published in the Federal Register.

Need for, and Objectives of, the Rules

In the Fifth Report and Order, the Commission targeted changes to further its objective of significantly reducing unnecessary regulatory burdens on broadband internet access service providers, thereby providing relief to small entities that typically lack both the capital and human resources needed to comply without great difficulty. The rules adopted in this proceeding provide changes designed to improve the processes for filers and further ensure that the Commission continues to receive high-quality data through our data collection efforts. In addition, the Commission is implementing changes focused on addressing its long-standing objective of working towards closing the digital divide by improving the processes for filers, some of whom consist of small entities. To achieve these objectives, the Fifth Report and Order removes the requirement that a provider of broadband internet access service submit that their biannual Broadband Data Collection (BDC) data has been certified by a certified professional engineer (PE), replacing it with a requirement that the data be certified by a qualified engineer. This change therefore eases compliance burdens.

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

No comments were filed addressing the impact of the proposed rules on small entities. However, commenters have previously expressed there remains an insufficient supply of certified PEs, and that few companies can afford to employ a PE. As a result, the Commission expects the Fifth Report and Order's adoption of the qualified engineer standard will have a

positive impact on small entities, as their compliance with that standard will be easier and, given their limited resources, more cost-effective.

Response to Comments by the Chief Counsel for Advocacy of the Small Business

Administration

Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

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

The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein. The RFA generally defines the term “small entity” as having the same meaning as under the Small Business Act. In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.” A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

Small Businesses, Small Organizations, Small Governmental Jurisdictions. Our actions, over time, may affect small entities that are not easily categorized at present. The Commission therefore describes, at the outset, three broad groups of small entities that could be directly affected herein. 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. These types of small businesses represent 99.9% of all businesses in the United States, which translates to 34.75 million businesses.

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.” 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. 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.

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.” U.S. Census Bureau data from the 2022 Census of Governments indicate there were 90,837 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States. Of this number, there were 36,845 general purpose governments (county, municipal, and town or township) with populations of less than 50,000 and 11,879 special purpose governments (independent school districts) with enrollment populations of less than 50,000. Accordingly, based on the 2022 U.S. Census of Governments data, the Commission estimates that at least 48,724 entities fall into the category of “small governmental jurisdictions.”

Broadband Internet Access Service Providers

The broadband Internet access service provider industry has changed since the definition was introduced in 2007. The data cited below may therefore include entities that no longer provide broadband Internet access service and may exclude entities that now provide such service. To ensure that this FRFA describes the universe of small entities that our action might affect, the Commission discusses in turn several different types of entities that might be providing broadband Internet access service. The Commission notes that, although the Commission has no specific information on the number of small entities that provide broadband

Internet access service over unlicensed spectrum, the Commission included these entities in our Initial Regulatory Flexibility Analysis.

Wired Broadband Internet Access Service Providers (Wired ISPs). 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. Wired broadband Internet services fall in the Wired Telecommunications Carriers industry. The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees.

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. The Commission does not collect data on the number of employees for providers of these services; therefore, at this time the Commission is 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, the Commission believes that the majority of wireline Internet access service providers can be considered small entities.

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. The SBA small business size standard for this industry classifies firms with annual receipts of \$40 million or less as small. 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. Of those firms, 1,039 had revenue of less than \$25 million. Consequently, under the SBA size standard a majority of firms in this industry can be considered small.

Wireline Providers

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 is the closest industry with an SBA small business size standard. Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

Incumbent Local Exchange Carriers (Incumbent LECs). Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange carriers. Wired Telecommunications Carriers is the closest industry with an 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. U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. Of these providers, the Commission estimates that 916 providers have 1,500 or fewer employees. 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.

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. Wired Telecommunications Carriers 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. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. Of these providers, the Commission estimates that 3,230 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

Interexchange Carriers (IXCs). Neither the Commission nor the SBA has developed a small business size standard specifically for Interexchange Carriers. Wired Telecommunications Carriers 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. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. 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.

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. The SBA small business size standard classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 20 providers that reported they were engaged in the provision of operator services. Of these providers, the Commission estimates that all 20 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, all of these providers can be considered small entities.

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 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. U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. Of these providers, the

Commission estimates that 87 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

Wireless Providers—Fixed and Mobile

The broadband Internet access service provider category covered by these new rules may cover multiple wireless firms and categories of regulated wireless services. Thus, to the extent the wireless services listed below are used by wireless firms for broadband Internet access service, the actions may have an impact on those small businesses as set forth above and further below. In addition, for those services subject to auctions, the Commission notes that, as a general matter, the number of winning bidders that claim to qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments and transfers or reportable eligibility events, unjust enrichment issues are implicated.

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. 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. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry. Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.

The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that

there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. 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. Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

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

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.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

1670–1675 MHz Services. These wireless communications services can be used for fixed and mobile uses, except aeronautical mobile. Wireless Telecommunications Carriers (except Satellite) 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. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year. Of this number, 2,837 firms employed fewer than 250 employees. Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

According to Commission data as of November 2021, there were three active licenses in this service. 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. The 1670-1675 MHz service band auction's winning bidder did not claim small business status.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard

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). The size standard for this industry under SBA rules is that a business is small if it has 1,500 or fewer employees. For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated for the entire year. Of this number, 2,837 firms employed fewer than 250 employees. 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. Of these providers, the Commission estimates that 255 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

Broadband Personal Communications Service. The broadband personal communications services (PCS) spectrum encompasses services in the 1850-1910 and 1930-1990 MHz bands. The closest industry with a SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (except Satellite). The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire

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

Based on Commission data as of November 2021, there were approximately 5,060 active licenses in the Broadband PCS service. 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. Winning bidders claiming small business credits won Broadband PCS licenses in C, D, E, and F Blocks.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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) 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. 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. Of this number, 2,837 firms employed fewer than 250 employees. 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. Of this number, the Commission estimates that all 95 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, these 119 SMR licensees can be considered small entities.

Based on Commission data as of December 2021, there were 3,924 active SMR licenses. However, since the Commission does not collect data on the number of employees for licensees providing SMR services, at this time the Commission is 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.

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. Wireless Telecommunications Carriers (except Satellite) 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. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year. Of this

number, 2,837 firms employed fewer than 250 employees. Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

According to Commission data as of December 2021, there were approximately 2,824 active Lower 700 MHz Band licenses. 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. In auctions for Lower 700 MHz Band licenses seventy-two winning bidders claiming a small business classification won 329 licenses, twenty-six winning bidders claiming a small business classification won 214 licenses, and three winning bidders claiming a small business classification won all five auctioned licenses.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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

According to Commission data as of December 2021, there were approximately 152 active Upper 700 MHz Band licenses. 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. Pursuant to these definitions, three winning bidders claiming very small business status won five of the twelve available licenses.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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

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

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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. 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.

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

Based on Commission data as of December 2021, there were approximately four licensees with 110 active licenses in the Air-Ground Radiotelephone Service. 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. In the auction of Air-Ground Radiotelephone Service licenses in the 800 MHz band, neither of the two winning bidders claimed small business status.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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. Wireless Telecommunications Carriers (except Satellite) 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. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year. Of this number, 2,837 firms employed fewer than 250

employees. Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

According to Commission data as of December 2021, there were approximately 4,472 active AWS licenses. 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. Pursuant to these definitions, 57 winning bidders claiming status as small or very small businesses won 215 of 1,087 licenses. In the most recent auction of AWS licenses 15 of 37 bidders qualifying for status as small or very small businesses won licenses.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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). Licensees are permitted to provide services on a non-common carrier and/or on a common carrier basis.

Wireless broadband services in the 3650-3700 MHz band fall in the Wireless Telecommunications Carriers (except Satellite) industry with an SBA small business size

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

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, the Commission estimates 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. However, since the Commission does not collect data on the number of employees for licensees providing these services, at this time the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA’s small business size standard.

Fixed Microwave Services. Fixed microwave services include common carrier, private-operational fixed, and broadcast auxiliary radio services. They also include the Upper Microwave Flexible Use Service (UMFUS), Millimeter Wave Service (70/80/90 GHz), Local Multipoint Distribution Service (LMDS), the Digital Electronic Message Service (DEMS), 24 GHz Service, Multiple Address Systems (MAS), and Multichannel Video Distribution and Data Service (MVDDS), where in some bands licensees can choose between common carrier and non-common carrier status. Wireless Telecommunications Carriers (except Satellite) 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. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year. Of this number, 2,837 firms employed fewer than 250 employees. Thus under the SBA size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

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.

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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

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," 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)). 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.

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

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

The Commission's small business size standards for EBS define a small business as an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$55 million for the preceding five (5)

years, and a very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$20 million for the preceding five (5) years. 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 the Commission is not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

Satellite Service Providers

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.” 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. U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year. Of this number, 242 firms had revenue of less than \$25 million. 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.

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. 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. 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. The SBA small business size standard for this industry classifies firms with annual receipts of \$40 million or less as small. U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year. Of those firms, 1,039 had revenue of less than \$25 million. Based on this data, the Commission estimates that the majority of “All Other Telecommunications” firms can be considered small.

Because section 706 of the Act requires us to monitor the deployment of broadband using any technology, the Commission anticipates that some broadband service providers may not provide telephone service. Accordingly, the Commission describes below other types of firms that may provide broadband services, including cable companies, MDS providers, and utilities, among others.

Cable and Other Subscription Programming. The U.S. Census Bureau defines this industry as establishments primarily engaged in operating studios and facilities for the broadcasting of programs on a subscription or fee basis. The broadcast programming is typically narrowcast in nature (e.g., limited format, such as news, sports, education, or youth-oriented). These establishments produce programming in their own facilities or acquire programming from external sources. The programming material is usually delivered to a third party, such as cable

systems or direct-to-home satellite systems, for transmission to viewers. The SBA small business size standard for this industry classifies firms with annual receipts less than \$47 million as small. Based on U.S. Census Bureau data for 2017, 378 firms operated in this industry during that year. 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. Based on this data, the Commission estimates that a majority of firms in this industry are small.

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

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." 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 the definition of a small cable operator. Based on industry data, only six cable system operators have more than 498,000 subscribers. Accordingly, the Commission estimates that the majority of cable system operators are small under this size standard. The Commission notes, 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. Therefore, the Commission is 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.

All Other Telecommunications

Electric Power Generators, Transmitters, and Distributors. The U.S. Census Bureau defines the utilities sector industry as comprised of “establishments, primarily engaged in generating, transmitting, and/or distributing electric power. Establishments in this industry group may perform one or more of the following activities: (1) operate generation facilities that produce electric energy; (2) operate transmission systems that convey the electricity from the generation facility to the distribution system; and (3) operate distribution systems that convey electric power received from the generation facility or the transmission system to the final consumer.” This industry group is categorized based on fuel source and includes Hydroelectric Power Generation, Fossil Fuel Electric Power Generation, Nuclear Electric Power Generation, Solar Electric Power Generation, Wind Electric Power Generation, Geothermal Electric Power Generation, Biomass Electric Power Generation, Other Electric Power Generation, Electric Bulk Power Transmission and Control and Electric Power Distribution.

The SBA has established a small business size standard for each of these groups based on the number of employees which ranges from having fewer than 250 employees to having fewer than 1,000 employees. U.S. Census Bureau data for 2017 indicate that for the Electric Power Generation, Transmission and Distribution industry there were 1,693 firms that operated in this industry for the entire year. Of this number, 1,552 firms had less than 250 employees. Based on this data and the associated SBA size standards, the majority of firms in this industry can be considered small entities.

Description of Economic Impact and Projected Reporting, Recordkeeping and Other Compliance Requirements for Small Entities

The RFA directs agencies to provide a description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record.

The Commission believes the adopted rules will provide regulatory relief to small entities by reducing their overall compliance costs. The Fifth Report and Order eliminates the requirement under § 1.7004(d) that an engineering certification, to the extent not submitted by a corporate engineering officer, must be submitted by a licensed PE. Instead, the Commission amends § 1.7004(d) to require that providers submit certifications by a “qualified engineer,” as defined by the engineering qualifications the Broadband Data Task Force (BDTF) adopted in previous orders. This certifying engineer does not need to be a full time employee, but is required to have direct knowledge and familiarity with the BDC filing.

The Commission’s decision to adopt rules eliminating the professional engineering certification requirement reflects our belief that the potential costs and burdens of the licensed PE requirement outweigh its potential benefits. At this time, although there is not available data on the record to quantify the cost of compliance with the requirements in the Fifth Report and Order, the Commission believes the modifications to the BDC rules eliminate a burden on providers and will maintain the Commission’s ability to create accurate broadband coverage maps.

Discussion of Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

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

The Commission's actions in the Fifth Report and Order take steps to minimize, where practicable, significant economic impact on small entities and have also considered significant alternatives in reaching its conclusions in the adopted rules. For example, the adopted rules eliminate the previously required licensed professional engineering certification and instead require certification by a "qualified engineer," as defined in previous BDC orders, which will save some small entities from having to pay a professional engineer to certify their filings. The Commission considered proposals to utilize waiver requests to address economic burdens associated with compliance; however, the process of reviewing and granting a great number of individual requests would in fact cause greater administrative burdens for the Commission and for small and other entities in the industry.

In addition, the Fifth Report and Order also clarifies that broadband service providers may utilize the resources of consulting engineers, thereby ensuring that smaller providers who may not have in-house engineering expertise are able to comply with the engineering certification requirements of the BDC. Alternatively, the Commission considered the impact of requiring the consulting engineer be a full-time employee of the broadband service provider, and the Commission determined the benefits of our proposed approach would provide a substantial benefit to small entities.

Report to Congress

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

Ordering Clauses

It is ordered that, pursuant to sections 1-4, 201, 254, 301, 303, 332, and 801-806 of the Communications Act of 1934, as amended, 47 U.S.C. 151-154, 201, 254, 301, 303, 332, and 641-646, this *Fifth Report and Order* IS ADOPTED.

List of Subjects

47 CFR Part 1

Administrative practice and procedure, Broadband, Reporting and recordkeeping requirements, Telecommunications.

Federal Communications Commission.

Katura Jackson,
Federal Register Liaison Officer.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 1 as follows:

PART 1—PRACTICE AND PROCEDURE

1. The authority citation for part 1 continues to read as follows:

Authority: 47 U.S.C. chs. 2, 5, 9, 13; 28 U.S.C. 2461 note; 47 U.S.C. 1754, unless otherwise noted.

Subpart V – Commission Collection of Advanced Telecommunications Capability Data and Local Exchange Competition Data

2. Amend § 1.7004 by revising and republishing paragraph (d) to read as follows:

§ 1.7004 Scope, content, and frequency of Broadband Data Collection filings.

* * * * *

(d) Providers shall include in each Broadband Data Collection filing a certification signed by a corporate officer of the provider that the officer has examined the information contained in the submission and that, to the best of the officer's actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct. All providers also shall submit a certification of the accuracy of its submissions by a qualified engineer. The engineering certification shall state that the qualified engineer has direct knowledge of, or responsibility for, the generation of the provider's Broadband Data Collection filing. The qualified engineer shall also certify that he or she has examined the information contained in the submission and that, to the best of the engineer's actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct, and in accordance with the service provider's ordinary course of network design and engineering. If a corporate officer is also an engineer and has the requisite knowledge required under the Broadband DATA Act, a provider may submit a single certification that fulfills both requirements. A "qualified engineer," for purposes of this certification, shall be an engineer who is:

(1) A corporate officer possessing a Bachelor of Science in engineering degree and who has direct knowledge of and responsibility for the carrier's network design and construction;

(2) An engineer possessing a bachelor's or postgraduate degree in electrical engineering, electronic technology, or another similar technical discipline, and at least seven years of relevant experience in broadband network design and/or performance; or

(3) An employee or agent with specialized training relevant to broadband network engineering and design, deployment, and/or performance, and at least 10 years of relevant experience in broadband network engineering, design, and/or performance.

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