

FCC FACT SHEET*

Resilient Networks; Amendments to part 4 of the Commission’s Rules Concerning Disruptions to Communications; New Part 4 of the Commission’s Rules Concerning Disruptions to Communications

Second Report and Order and Second Further Notice of Proposed Rulemaking – PS Dockets No. 21-346 and 15-80; ET Docket No. 04-35

Background:

To maintain situational awareness about the status of critical communications, the Commission collects information about the operational status of various communications networks through its Network Outage Reporting System (NORS) and through the Disaster Information Reporting System (DIRS). Certain communications providers are required to file report in NORS on a mandatory basis when outages meet certain duration and magnitude thresholds. During disasters, the Commission may activate DIRS, which collects information on a voluntary basis specific to the impacts of a particular incident, like a hurricane. The Commission has found, however, that the voluntary nature of DIRS system results in information gaps that can impair efficient emergency response, because providers choose not to file. Some communications providers are also not required to file in NORS at all, similarly creating information gaps about overall network health.

What the Rules Would Do:

- Require cable, wireline, wireless, and interconnected Voice over Internet Protocol (VoIP) providers to report their infrastructure status information in DIRS daily during the reporting period when the Commission activates DIRS in geographic areas in which they provide service.
- Suspend NORS reporting obligations when providers are required to report in DIRS during a disaster, so they are not obligated to report twice.
- Require DIRS filers to provide a single, final summary DIRS report to the Commission, within 24 hours of the Commission’s deactivation of DIRS.

What the Further Notice Seeks Input On:

- Whether to require TV and radio broadcasters, satellite providers, and broadband Internet access service (BIAS) providers to report in NORS and/or DIRS.
- The extent to which the First Responder Network Authority (FirstNet) should be subject to NORS and/or DIRS reporting.
- Whether providers should be required to supply the Commission with “after action” reports detailing how their networks fared during the emergency or disaster event.
- Whether providers should be required to report the location of mobile recovery assets during a disaster response, as well other specifications of those assets.

* This document is being released as part of a “permit-but-disclose” proceeding. Any presentations or views on the subject expressed to the Commission or its staff, including by email, must be filed in PS Docket Nos. 21-346 and 15-80, and ET Docket No. 04-35 which may be accessed via the Electronic Comment Filing System (<https://www.fcc.gov/ecfs/>). Before filing, participants should familiarize themselves with the Commission’s *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. See 47 CFR § 1.1200 *et seq.*

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

In the Matter of)
Resilient Networks) PS Docket No. 21-346
Amendments to Part 4 of the Commission’s Rules) PS Docket No. 15-80
Concerning Disruptions to Communications)
New Part 4 of the Commission’s Rules Concerning) ET Docket No. 04-35
Disruptions to Communications)

SECOND REPORT AND ORDER AND SECOND FURTHER NOTICE OF PROPOSED
RULEMAKING*

Adopted: []

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By the Commission:

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* This document has been circulated for tentative consideration by the Commission at its January 25, 2024 open meeting. The issues referenced in this document and the Commission’s ultimate resolution of those issues remain under consideration and subject to change. This document does not constitute any official action by the Commission. However, the Chairwoman has determined that, in the interest of promoting the public’s ability to understand the nature and scope of issues under consideration, the public interest would be served by making this document publicly available. The FCC’s ex parte rules apply and presentations are subject to “permit-but-disclose” ex parte rules. See, e.g., 47 CFR §§ 1.1206, 1.1200(a). Participants in this proceeding should familiarize themselves with the Commission’s ex parte rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. See 47 CFR §§ 1.1200(a), 1.1203.

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I. INTRODUCTION

1. The nation’s communications networks play a vital role in economic growth and national security and serve as critical links for consumers and public safety response personnel during emergencies and disaster response. The reliability and availability of these networks has become even more relevant as the impacts of climate change have increased the severity and frequency of natural disasters, global instability has increased the value of communications networks as targets, and the exponential growth of smart technology has the potential for every device to be a “connected device,” with the associated increase in vulnerability and potential vectors by which an attack may be perpetrated. When disasters strike communities, whether natural or man-made, it is the obligation of the Federal Communications Commission (Commission) to ensure timely and reliable public safety and emergency alerting, promote service connectivity where needed, and monitor and provide information on the operational status of communications services and infrastructure in support of Federal, state, and local restoration efforts.¹ To improve network reliability and resiliency and operational transparency both during and in the aftermath of disasters and outages, in this *Second Report and Order* we require enumerated service providers (referred to herein as “subject providers”) to report on their infrastructure status during emergencies and crises in the Disaster Information Reporting System (DIRS) when activated and to submit a final report to the Commission within 24 hours of DIRS deactivation.² These rule changes will improve network reliability and resiliency and operational transparency, both during and in the aftermath of disasters and outages.

2. Last summer’s wildfires in Maui, Hawai’i make us particularly mindful of the Commission’s responsibility to support restoration of communications services and to ensure a prompt response to emergencies by providing direct operational support, tracking restoration progress through daily public communications status reports, and working closely with Federal, state, local, Tribal and territorial partners to help families and residents to respond, recover, and rebuild. While progress has already been made by both the Commission and the communications sector as a whole in that particular context, further response and restoration efforts are necessary to ensure that networks support critical lifelines during future emergencies. The Commission initially adopted the DIRS system as a disaster response information tool in 2007, but we have not revisited the voluntary nature of the system in almost two decades even as the disaster and emergency landscape continues to change and technology continues to advance. By way of example, since DIRS was adopted on a voluntary basis, the Commission has

¹ See 47 U.S.C. § 151 (specifying “promoting safety of life and property through the use of wire and radio communications” as a purpose of the creation of the Federal Communications Commission); *Mozilla Corp. v. FCC*, 940 F.3d 1, 59-60 (D.C. Cir. 2019) (“The Commission is required to consider public safety ... by its enabling act.” (cleaned up)); *id.* at 63 (holding a Commission decision arbitrary and capricious in part for the Commission’s failure to analyze its impact on public safety).

² As detailed further below in the *Second Report and Order*, the FCC encourages reporting in DIRS generally, but for the sake of this mandate, we will specifically require daily reports and a final report within 24 hours of deactivation at a minimum. Providers can report more frequently if they so choose.

adopted rules pursuant to the Warning, Alert and Response Network (WARN) Act to implement Wireless Emergency Alerts (WEAs),³ creating a valuable tool used by emergency response officials to leverage mobile communications networks to provide timely alerts to consumers in disaster situations. Since becoming operational in 2012, WEA has been used more than 84,000 times to warn the public about dangerous weather, missing children, and other critical situations – all through alerts on compatible cell phones and other mobile devices. The Commission also implemented a program to share this information directly with eligible Federal, state, Tribal and territorial emergency response agencies providing a direct route for officials to obtain data relevant to them in an emergency or other outage situation.⁴ As such, the use and value of the data reported in these systems has evolved, and accordingly, we must consider the means to maximize its utility in the public interest.

3. As such, while a voluntary system like DIRS is beneficial, we believe in the current regulatory, technological and interconnected network environment it cannot work to its fullest potential unless we expand the aperture of who reports in the system, and enhance the fidelity of the data to allow for more effective decision making in response to disaster environments by requiring filings be made in emergency contexts. As the Commission evaluates the best approaches to support better outcomes for consumers in these challenging situations in the accompanying *Second Further Notice of Proposed Rulemaking (Second Further Notice)*, input from industry, public safety, public interest groups, as well as individuals who deal directly with these issues, will play a crucial role in determining how to effectively streamline disaster reporting while addressing individual entities' specific operational challenges.

4. Based on the record developed in response to the *2021 Resilient Networks Notice*,⁵ we adopt this *Second Report and Order (Order)* and *Second Further Notice of Proposed Rulemaking (Second*

³ FCC, *Wireless Emergency Alerts (WEA)*, <https://www.fcc.gov/consumers/guides/wireless-emergency-alerts-wea> (Sept. 25, 2023) (“The Wireless Emergency Alerts system is an essential part of America’s emergency preparedness. Since its launch in 2012, the WEA system has been used more than 84,000 times to warn the public about dangerous weather, missing children, and other critical situations – all through alerts on compatible cell phones and other mobile devices. WEA is a public safety system that allows customers who own compatible mobile devices to receive geographically targeted, text-like messages alerting them of imminent threats to safety in their area. WEA enables government officials to target emergency alerts to specific geographic areas.”). See also FCC, *Wireless Emergency Alerts Consumer Guide*, https://www.fcc.gov/sites/default/files/Wireless_Emergency_Alerts_wea.pdf, (Sept. 25, 2023); FCC, *Multilingual Alerting for the Emergency Alert System and Wireless Emergency Alerts*, https://www.fcc.gov/MultilingualAlerting_EAS-WEA (May 30, 2023); FCC, *Wireless Emergency Alert Enhancements FAQs for Authorized Alert Originators*, <https://www.fcc.gov/wireless-emergency-alert-enhancements-faqs-authorized-alert-originators> (last visited Dec. 19, 2023); FCC, *Emergency Alerting Roundtable*, <https://www.fcc.gov/news-events/events/2018/05/emergency-alerting-roundtable> (May 15, 2018); FCC, *Public Safety and Homeland Security Bureau Announces Limited Ex Parte Exemption for Multilingual WEA*, <https://www.fcc.gov/document/pshsb-announces-limited-ex-parte-exemption-multilingual-wea> (Nov. 9, 2023); FCC, *FEMA and FCC Plan Nationwide Emergency Alert Test for Oct. 4*, <https://www.fcc.gov/document/fema-and-fcc-plan-nationwide-emergency-alert-test-oct-4> (Oct. 3, 2023); and see generally 47 CFR part 10 (explaining the basis, purpose, definitions, and specifics associated with WEA).

⁴ FCC, *Wireless Emergency Alert Enhancements FAQs for Authorized Alert Originators*, <https://www.fcc.gov/wireless-emergency-alert-enhancements-faqs-authorized-alert-originators> (last visited Dec. 18, 2023).

⁵ *Resilient Networks; Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications; New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, FCC 21-99, 36 FCC Rcd 14802 (2021) (*2021 Resilient Networks Notice*).

Further Notice) to advance the lines of inquiry particularly concerning the Network Outage Reporting System (NORS) and DIRS.⁶ As detailed below, the *Order* adopts rules to:

- require cable, wireline, wireless, and interconnected Voice over Internet Protocol (VoIP) providers (i.e., subject providers) to report their infrastructure status information in DIRS daily when the Commission activates DIRS in geographic areas in which they provide service, even when their reportable infrastructure status has not changed compared to the prior day;⁷
- codify, in Part 4 of the Commission’s outage reporting rules, the current practice that a subject provider’s NORS reporting obligations are waived while they report in DIRS;⁸ and
- require that subject providers who report in DIRS provide a single, final DIRS report to the Commission, within 24 hours of the Commission’s deactivation of DIRS, that provides the status of their infrastructure identified to the Commission during the DIRS reporting period that has not yet been fully restored at the time of the deactivation.

5. In addition, the *Second Further Notice* seeks to more fully develop the record and seeks comment to support future Commission action on select NORS- and DIRS-specific follow-up matters. More precisely, the Commission seeks input concerning:

- whether to require TV and radio broadcasters to report in NORS and DIRS subject to simplified reporting processes that reflect the limited resources available to these entities and seeks comment on the scope of any such simplified reporting processes;
- whether to require satellite providers to report in DIRS, whether modifications to existing DIRS satellite forms are warranted in a mandated state, and whether the NORS reporting thresholds for satellite providers should be modified to reflect changes in that technology;
- the extent to which FirstNet should be subject to NORS and/or DIRS reporting requirements;

⁶ The *2021 Resilient Networks Notice* sought comment on three distinct topics: (i) enhancements to NORS and DIRS to improve situational awareness around disasters and outage events (which is the subject of this *Report and Order* and *Second Further Notice*); (ii) improving implementation of the industry-developed Wireless Resiliency Cooperative Framework (which was addressed in the *2022 Report and Order* and *Further Notice of Proposed Rulemaking* with the Mandatory Disaster Response Initiative (MDRI)); and (iii) developing communications resilience strategies for power outages (i.e., backup power). See *Resilient Networks; Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications; New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Report and Order and Notice of Proposed Rulemaking, FCC 22-50, 37 FCC Rcd 8059 (2022) (*2022 Resilient Networks Order*). The Commission has received forty-two comments and eighteen reply comments in response to the *2021 Resilient Networks Notice* reflecting a wide range of feedback from wireless service providers, utility and equipment providers, broadcasters, public safety entities, public interest groups, consumer groups, trade associations, emergency responders and individuals in the communications industry.

⁷ The Commission has chosen to focus on cable, wireless, wireline, and VoIP providers (i.e., “subject providers”) in this *Second Report and Order*. Broadcasters, broadband, satellite, and broadband Internet access service (BIAS) providers expressed varying concerns and unique comments compared to those of the subject providers addressed herein which we believe are better addressed in a separate proceeding which seeks more narrow comments pertaining to those providers specifically as is previewed in the *Second Further Notice* below.

⁸ This exemption is codified as a revision to the Commission’s Part 4 rules stating that NORS reporting requirements do not apply when the Commission requires DIRS reporting. See 47 CFR § 4.1 *et seq.*; Appx. A, *infra*.

- the extent to which broadband Internet access service (BIAS) providers should be required to report in NORS and/or DIRS and the appropriate thresholds for such reporting;
- whether subject providers should be required to supply the Commission with “after action” reports detailing how their networks fared during the emergency or disaster event leading to the Commission’s DIRS activation and the timing, duration and effectiveness of their pre-disaster response plans within 60 days of when the Commission’s Public Safety and Homeland Security Bureau (PSHSB or Bureau), under delegated authority, issues a Public Notice announcing such reports must be filed; and
- whether subject providers should be required to provide the location of mobile recovery assets during a disaster response, as well other specifications of those assets.

We discuss each of these topics in more detail below.

II. BACKGROUND

6. Resilient communications networks are crucial to the American economy, keeping the nation secure, and ensuring access to help during disaster and emergency events in a timely manner. With the advancement of technology comes the evolution and adaptation of threats and threat actors, and due to those changes, the Commission is compelled to take action by updating and expanding rules to ensure the nation’s communications providers are maintaining the resiliency of networks, advancing their ability to enhance network reliability, and supporting the tools necessary to mitigate and eliminate threats to their systems. Our authority to require reporting of outage information across a wide range of communications platforms is well established. In this respect, the Commission has adopted rules for cable, wireline, wireless, satellite, interconnected VoIP, and Signaling System 7 (SS7) providers (currently reporting entities)⁹ requiring them to submit reports in NORS for service outages that exceeded specified durations and magnitude thresholds.¹⁰ This effort was advanced further in 2007 in response to Hurricane Katrina when the Commission established DIRS, a voluntary reporting system for currently reporting entities to provide their communications infrastructure status, restoration information, and situational awareness information during Commission-identified times of crisis (whether or not NORS reporting requirements would otherwise be triggered).¹¹ Since DIRS was created initially in 2007, the

⁹ See, e.g. *Notification by Common Carriers of Service Disruptions*, CC Docket No. 91-273, *Report and Order*, 7 FCC Rcd 2010 (1992); *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 8 FCC Rcd 8517 (1993); *Second Report and Order*, 9 FCC Rcd 3911 (1994); *Order on Reconsideration of Second Report and Order*, 10 FCC Rcd 11764 (1995) (establishing outage reporting for wireline providers); see also, *New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 16830 (2004) (2004 Part 4 Order and FNPRM) (extending outage reporting requirements to wireless, cable and satellite communications); *Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, *Report and Order*, 27 FCC Rcd 2650, 2656 (2012) (extending outage reporting obligations to interconnected VoIP providers). Throughout this *Second Report and Order* and *Second Further Notice*, we refer to two separate groups of providers. “Currently reporting entities” consist of the cable, wireline, wireless, satellite, interconnected Voice over Internet Protocol (VoIP), and Signaling System 7 (SS7) providers for which report in NORS under current rules. “Subject providers” consist of the cable, wireline, wireless, and interconnected VoIP providers who are subject to today’s *Order* regarding DIRS reporting, and who also may be currently reporting entities in NORS. A number of other incumbent providers are addressed in the *Second Further Notice* portion of this item.

¹⁰ 47 CFR § 4.9.

¹¹ See *Public Safety and Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, Public Notice, 22 FCC Rcd 16757 (PSHSB2007); *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119 et al., Order, 22 FCC Rcd

(continued....)

United States has experienced an increasing amount of flooding, hurricanes, winter storms, tornadoes, and wildfires necessitating the more regular activation of DIRS and demonstrably impacting the nation's communications infrastructure.¹² Global instability has also increased the potential for malicious threats to vital communications systems and services.¹³ As such, the Commission also recognizes that DIRS could be used in response to man-made disasters including cyber and kinetic attacks against communications network infrastructure.

7. The Commission utilizes NORS filings to assess the magnitude and impact of major network outages for specific providers and to identify network reliability trends over time. This regular and detailed examination, coupled with direct engagement with providers, aids Commission staff in determining whether the outages likely could have been prevented or mitigated had the service providers involved followed certain network reliability best practices, and whether such practices are employed broadly in the industry.¹⁴ The Commission uses DIRS filings for specific disasters in designated geographies to assess critical situational awareness across providers in the area to inform restoration efforts by Federal, state, Tribal, and territorial partners and the Commission's own assessments of communications reliability during specific disasters and emergencies.¹⁵ Whereas NORS provides

10541,10547-49, paras. 19-21 (2007) (directing the Public Safety and Homeland Security Bureau to continue its work to activate a system and process for communications companies serving areas affected by disasters to voluntarily submit information regarding among other things, the status of their operations, restoration efforts, power availability, and fuel). The Commission recently required a subset of service providers that receive Stage 2 funding from the Uniendo a Puerto Rico Fund or the Connect USVI Fund to report in DIRS when it is activated in their respective territories. *See The Uniendo a Puerto Rico Fund and the Connect USVI Fund, et al.*, WC Docket No. 18-143, et al., Report and Order and Order on Reconsideration, 34 FCC Rcd 9109, 9174, 9176-77, paras. 133, 138-40 (2019) (*Puerto Rico & USVI USF Fund Report and Order*).

¹² See FCC, *Incident Management and Investigations*, <https://www.fcc.gov/incident-management-and-investigations> (last visited Dec. 19, 2023).

¹³ See Cybersecurity and Infrastructure Security Agency (CISA), *CISA Urges Increased Vigilance One Year After Russia's Invasion of Ukraine*, (Feb. 23, 2023), <https://www.cisa.gov/news-events/alerts/2023/02/23/cisa-urges-increased-vigilance-one-year-after-russias-invasion-ukraine> ("CISA assesses that the United States and European nations may experience disruptive and defacement attacks against websites in an attempt to sow chaos and societal discord . . . in response to the heightened geopolitical tensions resulting from Russia's full-scale invasion of Ukraine, CISA maintains [these] public cybersecurity resources . . . to increase organizational vigilance and keep the public informed about current cybersecurity threats."). *See also* Chris Riotta, NextGov, *US cyber agencies in 'very close contact' with Israel after unprecedented Hamas attacks*, (Oct. 12, 2023), <https://www.nextgov.com/cybersecurity/2023/10/us-cyber-agencies-very-close-contact-israel-after-unprecedented-hamas-attacks/391156/> ("The Cybersecurity and Infrastructure Security Agency is in 'very close contact' with the Israeli National Cyber Directorate after Hamas launched an unprecedented attack on Israel . . . CISA has expanded its partnership and operational collaboration with Ukrainian cyber agencies throughout the Russian invasion, from conducting cybersecurity training and joint services to critical infrastructure security technical exchanges and enhanced information sharing initiatives.").

¹⁴ *See, e.g.*, FCC, Public Safety and Homeland Security Bureau (PSHSB), *December 27, 2018 CenturyLink Network Outage Report* (Dec. 27, 2018), <https://docs.fcc.gov/public/attachments/DOC-359134A1.pdf>; FCC, PSHSB, *March 8th, 2017 AT&T VoLTE 911 Outage Report and Recommendations*, PS Docket No. 17-68 (Mar. 8, 2017), <https://docs.fcc.gov/public/attachments/DOC-344941A1.pdf>; FCC, PSHSB, *April 2014 Multistate 911 Outage: Cause and Impact, Report and Recommendations*, PS Docket No. 14-72 (Apr. 2014), <https://docs.fcc.gov/public/attachments/DOC-330012A1.pdf>; FCC, PSHSB, *Impact of the June 2012 Derecho on Communications Networks and Services, Report and Recommendations* (2013), <https://docs.fcc.gov/public/attachments/DOC-318331A1.pdf>; FCC, *Network Outage Reporting System (NORS)*, <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0> (last visited Dec. 19, 2023).

¹⁵ *See, e.g.*, FCC, PSHSB, *October 2018 Hurricane Michael's Impact on Communications: Preparation, Effect, and Recovery*, PS Docket No. 18-339, Report and Recommendations at 6 (May 2019),

(continued....)

Commission staff with a notice, initial report, and final report at specified intervals related to a specific network event for a specific provider, DIRS provides a regular daily reporting cadence for all providers in a specified area, providing a more detailed and prompt look at impacts of a specific disaster on communications infrastructure across all affected providers. Providers participating in DIRS have the option to report in narrative form or provide statistics for their current infrastructure status, or to merely select that there are no updates if their current status remains the same as their previous reporting information.¹⁶

8. In the *2021 Resilient Networks Notice*, the Commission sought comment on potential enhancements to both NORS and DIRS that could further promote public safety and boost harm prevention by improving the Commission's situational awareness around disasters, emergencies, and other outage events.¹⁷ The Commission received numerous comments, replies and *ex parte* communication from a variety of parties including individuals, trade associations, wireless and wireline companies, telecommunications associations, state and local 911 services and other emergency associations.¹⁸

9. When DIRS is activated by the Commission, currently reporting entities (service providers) submit outage information in DIRS on a voluntary basis, and the Commission typically grants these providers an accompanying waiver of their NORS reporting requirements while they report in DIRS.¹⁹ In 2005, a voluntary reporting approach worked, but over the ensuing two decades, the Commission has observed that while the nation's large providers typically elect to voluntarily report in DIRS, smaller providers often do not. This not only reduces the total number of DIRS filings available to inform the Commission's analysis of network reliability, but also reduces the Commission's situational awareness, including awareness of the availability of 911, emergency alerting and other emergency services in locations served by smaller providers, which are often located in rural or other hard to access areas and may also serve otherwise vulnerable or underserved constituencies. Additionally, the Commission typically releases a Public Notice requesting that providers report in DIRS daily, but only on days in which the provider has experienced a reportable change to its infrastructure status. This current

<https://docs.fcc.gov/public/attachments/DOC-357387A1.pdf> (noting the Commission's use of DIRS data to monitor communication outages) (*Hurricane Michael Report*); Press Release, FEMA, States Impacted by Ida Receive Full Backing of Federal Force in Relief and Recovery Efforts (Sept. 3, 2021), <https://www.fema.gov/press-release/20210903/states-impacted-ida-receive-full-backing-federal-force-relief-and-recovery> (noting Commission coordination with several partners in support of restoration efforts and daily reporting on operational status); FCC, *Disaster Information Reporting System*, (Dec. 4, 2023), <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>.

¹⁶ While DIRS is a system of its own, the Commission also has information pages and a user guide available to the public through the Commission's government website. See FCC, *Disaster Information Reporting System (DIRS)*, (Dec. 4, 2023), <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>. See also *Disaster Information Reporting System (DIRS) User Guide Version 2.1*, (Dec. 2023), <https://www.fcc.gov/sites/default/files/DIRS-UserGuide-122023.docx>.

¹⁷ *2021 Resilient Networks Notice* at paras. 27-33.

¹⁸ *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, FCC 21-34 (Mar. 18, 2021) (Appx. E).

¹⁹ This waiver applies in the geographic area where the Commission has activated DIRS and applies for as long as the Commission keeps DIRS activated. Certain providers operating in the U.S. Virgin Island and Puerto Rico are already required to report in DIRS when DIRS is activated in their service areas pursuant to Commission rules. See FCC, *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund*, Report and Order and Order on Review, Docket No. 18-143, 10-90, FCC 23-32 (2023) at paras. 133, 138-40 (*Connect USVI Fund Order*). Nothing in this *Report and Order* is intended to disturb those established rules. Rather, the rules and proposals in this *Report and Order* and *Second Further Notice* would apply to these providers to the extent that the providers are not already required to take the described actions.

voluntary reporting regime results in ambiguity as to whether a filing provider's lack of DIRS filings on a given day (or days) means: 1) its network infrastructure actually remains undamaged or unchanged from its last report, 2) it is choosing voluntarily not to participate in DIRS, or 3) it is unable to file (e.g., due to operational damage).

III. SECOND REPORT AND ORDER

10. In this *Second Report and Order*, we adopt rules to: (i) require cable, wireline, wireless, and interconnected VoIP providers (subject providers) to report their infrastructure status information in DIRS daily when the Commission activates DIRS in geographic areas in which they provide service, even when their reportable infrastructure status has not changed compared to the prior day, unless they are unable to file (e.g., due to operational damage);²⁰ (ii) formally codify, in the Commission's outage reporting rules, the Commission's current practice that a subject provider's NORS reporting obligations are waived while they are required to report in DIRS; and (iii) require that subject providers who report in DIRS supply a single, final DIRS report to the Commission, within 24 hours of the Commission's deactivation²¹ of DIRS, that provides the status of their affected infrastructure identified to the Commission during the DIRS reporting period that has not yet been fully restored at the time of the deactivation. We find that these actions will advance the ability of the Commission and its Federal, state, local, Tribal, and territorial partners, as well as the public more generally, to effectively manage and mitigate the short-term and long-term impacts of disasters on communications networks, ultimately increasing network resiliency and availability during and after disasters to enable viable access to emergency communications. We also believe that relief from NORS reporting requirements when DIRS is activated meaningfully reduces the potential overall burden associated with mandated DIRS reporting. Rather than imposing a new burden on providers, the Commission is providing a corresponding reduction in NORS reporting, and is providing focused reporting in DIRS that is relevant for near term disaster scenarios and response.

A. Mandating DIRS Reporting for Cable, Wireless, Wireline, and Interconnected VoIP Providers

11. In the *2021 Resilient Networks Notice*, the Commission proposed requiring cable, wireless, wireline, Direct Broadcast Satellite (DBS), Satellite Digital Audio Radio Service (SDARS), interconnected VoIP providers, and TV and radio broadcasters to report their infrastructure status information in DIRS when the Commission activates DIRS in geographic areas in which they provide service.²² In this respect, the Commission proposed to shift the reporting obligation from voluntary to mandatory for these providers and expand the categories of providers subject to DIRS reporting. In support of this proposal, the Commission noted that smaller providers often did not elect to voluntarily participate in DIRS reporting, reducing the Commission's situational awareness.²³ The size of the provider a consumer uses should not affect a consumer's right to public safety and potentially life-saving information, nor should small rural communities be less entitled to functioning networks that provide alerts and 911 capability than communities served by large providers. The Commission also sought comment on ways to resolve ambiguity about whether a subject provider's lack of DIRS filings means

²⁰ As reiterated below, where it may be impracticable or impossible to file due to operational damage the Commission will allow for flexibility in reporting methods.

²¹ The "deactivation" of DIRS specifically refers to when the Commission has decided that the emergency or disaster event has surpassed the period necessary for consistent, daily updates regarding the event. This does not mean that subject providers will no longer be able to access the system. The "activation" of DIRS begins the expected reporting period, and the "deactivation" of DIRS ends the expected reporting period. However, once DIRS has been deactivated for the particular event, providers will still have access to the reporting system and should utilize such for mandated actions like "after-action" reporting.

²² *2021 Resilient Networks Notice* at para. 29.

²³ *Id.* at para. 27.

that its network infrastructure remains fully operational or it is unable to file, and whether it cannot access DIRS due to disruption of its Internet access or other exigencies.²⁴ Based on the record, in this *Second Report and Order*, the Commission requires DIRS reporting only as to cable, wireline, wireless and interconnected VoIP providers, and provides that such reports must be filed on a daily basis until the Commission deactivates DIRS.²⁵ On days when a subject provider has no otherwise reportable changes in its infrastructure status, the report would take the form of a simplified “check in” report. In the accompanying *Second Further Notice*, we seek further comment to build a more robust record regarding the inclusion of satellite, broadband, and broadcast providers in a mandatory DIRS environment.

12. DIRS provides pertinent daily information that the Commission provides to a variety of public safety entities through information sharing, collaborative disaster response efforts, and to the public. The information in DIRS reports also enables the Bureau’s Operations and Emergency Management Division (OEM) to manage its disaster response activities, such as visiting sites and validating communications restoration status, supporting vital search and rescue operations, and performing eyes-on assessments of disaster impacts and damages to prioritize and allocate response and recovery resources. At their core, DIRS reports, in combination with operational spectrum surveys and other direct engagement, serve as an impetus for open lines of communication between communications carriers and emergency management officials.

13. In response to the *2021 Resilient Networks Notice*, several public interest and public safety-focused commenters opine that mandating DIRS reporting would increase the value of the situational awareness information that the Commission collects and will result in meaningful improvements to public safety.²⁶ For example, Next Century Cities (NCC) remarks that DIRS data from smaller-sized subject providers would allow the Commission to have a more granular look at how infrastructure and service has been disrupted on the ground, which would critically aid disaster response.²⁷ Public Knowledge notes similarly that, in the current voluntary regime, the value of DIRS information is diminished as it is unclear if a non-reporting subject provider is unable to report due to severe damage or is simply electing not to file DIRS reports.²⁸ The Free Press Foundation (Free Press) states that more robust DIRS information will allow customers and impacted individuals to assess all communications options that may be available to them in the immediate aftermath of disaster and during a subsequent rebuilding phase; Public Knowledge further notes that having more DIRS information will allow the Commission to better hold providers accountable for failures.²⁹

14. Conversely, several parties representing industry, like ACA Connects—America’s Communications Association (ACA), oppose mandating DIRS on grounds that it would be too burdensome or would only provide a limited benefit when it comes to requiring compliance from small

²⁴ *Id.* at paras. 27, 29.

²⁵ We note that in some instances, and where warranted based on circumstances during extended activations, the Bureau has required reporting less frequently than daily. *See, e.g., The Public Safety and Homeland Security Bureau Announces Amended Schedule for Filing Hurricane Maria Reports in the Disaster Information Reporting System*, DA 12-1122 (Nov. 27, 2021). While we find daily reporting the best cadence norm, we delegate authority to PSHSB to amend the reporting schedule to a less frequent cadence where warranted.

²⁶ The Association of Public-Safety Communications Officials International, Dec. 16, 2021, Comments at 4 (APCO Comments).

²⁷ Next Century Cities, Dec. 16, 2021, Comments at 5-6 and 11 (NCC Comments).

²⁸ Public Knowledge, Dec. 16, 2021, Comments at 27.

²⁹ Free Press Foundation, Jan. 14, 2022, Reply at 9-10 (Free Press Reply); Public Knowledge, Jan. 14, 2022, Reply at 2-3.

providers.³⁰ NTCA—The Rural Broadband Association (NTCA) believes that small operators will likely lack the personnel, time, or physical resources to make such reports in the midst of a disaster and states that DIRS reports may not actually be useful in disaster scenarios because the Department of Homeland Security’s National Coordinating Center for Communications (DHS-NCC) and the Communications Information Sharing and Analysis Center (Comms-ISAC) provide a forum for industry stakeholders “to share real-time information and collaborate with government partners on network restoration efforts [so] [a]ny new information sharing commitments would likely duplicate, and potentially conflict with, these established, well-defined processes, creating unnecessary burden and undermining rather than strengthening network resiliency.”³¹ AT&T argues that, to manage burdens, mandatory reporting should be based on a “best efforts” standard and that there should be no penalty for failure to meet any deadlines established for particular events.³² NTCA also argues, “it is currently unclear whether filing the [DIRS] reports lead to greater coordination between government and industry or offers a benefit to a company or community in crisis.”³³

15. We find that mandatory DIRS reporting will yield substantial public safety benefits. DIRS provides situational awareness of communications operational status and actionable information to public safety entities assisting in disaster response, thus promoting public safety. Additionally, the Commission’s information sharing program provides direct read-only access to government agencies, providing a direct benefit to emergency response, and providing complete and accurate information to these sharing partners will provide actionable data to those making decisions in disaster and reliability contexts. DIRS exists “to report communications infrastructure status and situational awareness information during times of crises” and enables “the Commission [to] disseminate DIRS information to other Federal agencies” to “facilitate Federal restoration efforts,” as well as efforts from state, local, Tribal, and territorial governments, and get boots on the ground in the locations requiring urgent assistance.³⁴ Public Knowledge asserts that “[t]he FCC must require all wireless . . . providers to perform basic measures that reflect the lessons it has gleaned from recent post-disaster reports [as] [i]n these reports, the FCC has outlined straight-forward and obvious procedures that, if performed, would undoubtedly improve disaster responses.”³⁵ However, in its current voluntary state, DIRS provides the Commission with an incomplete picture of infrastructure status and other important emergency information and cannot reliably be used to determine whether entities are merely not reporting by choice or if they have lost the ability to report and are in need of aid and collaboration. Mandating DIRS reporting provides a more consistent picture of status during and after disasters and emergencies since there is a wider sampling of providers recording how an event has affected their infrastructure and capabilities. Requiring DIRS reporting will identify clearly for the Commission and other emergency response agencies of any possible issues and signals for needed aid and assistance and will make apparent when a provider does not or cannot report that there is an issue with their system or reporting capabilities. APCO International agrees that “improving the information in these important systems will be helpful for situational awareness and ongoing efforts to improve network resiliency.”³⁶ Public Knowledge stresses the importance of “better, timelier, and more detailed outage and service-quality reporting to ensure

³⁰ See, e.g., ACA Connects—America’s Communications Association, Dec. 16, 2021, Comments at 9-11 (ACA Connects Comment); see also ACA Connects—America’s Communications Association, Jan. 14, 2022, Reply at 8 (ACA Connects Reply).

³¹ NTCA—The Rural Broadband Association, Dec. 16, 2021, Comments at 9 (NTCA Comments).

³² AT&T Services, Inc., Dec. 16, 2021, Comments at 18 (AT&T Comments).

³³ NTCA Comments at 9.

³⁴ FCC, *Disaster Information Reporting System (DIRS) User Guide Version 2.1*, (Dec. 4, 2023), <https://www.fcc.gov/sites/default/files/DIRS-UserGuide-122023.docx>.

³⁵ Public Knowledge Comments at 12-13.

³⁶ APCO Comments at 4.

accountability [and] . . . needs to make this data available to the public in a way that balances the twin imperatives of transparency and information security.”³⁷ We agree that mandating reporting in DIRS will improve situational awareness through daily status updates during emergencies and serve the public interest by providing vital information regarding the operational status of communications networks the Commission and emergency response entities need to effectively manage communications needs during and after disasters occur.

16. Mandating DIRS is especially important in today’s disaster climate as the quantity of disasters has increased since DIRS was first formulated. 2023 was recorded as the worst year on record for billion-dollar weather and climate disasters, passing the National Oceanic and Atmospheric Administration’s (NOAA) prior record of 22 events in 2020 within the first eight months of 2023.³⁸ DIRS data associated with an impacted area is of particular importance, since it provides a preliminary understanding of both the impact and scope of damages, enables the optimization of the allocation, prioritization, and deployment of response and restoration personnel and resources. Further, the analysis of DIRS data enables the identification of reliability trends and challenges associated with infrastructure in rural, underserved, and underprivileged communities. In addition, given the rise in the utilization of communications infrastructure by emergency response officials as a tool for alerting both through WEA and through more established EAS channels, as well as the advent of Next-Generation 911 and text-to-911, the need for relevant and comprehensive information related to the availability of the infrastructure for communication from and with the public provides added urgency for the reformation of our information collection efforts in the DIRS context in particular.

17. While commenters argue that reporting in this context is a burden particularly for small entities, we disagree with those who surmise that mandating participation in DIRS will be *unduly* burdensome for subject providers and that the benefits of such reporting and information garnered do not outweigh the detriments, especially in the matter of preserving life and public safety. For example, NCTA—The Internet and Television Association (NCTA) says that “[w]hile outreach to customers during emergencies is vital, ‘prescriptive requirements for specific modes of communication or unrealistic levels of precision and detail—as proposed by some in the record—are impractical under emergency conditions and would divert limited resources away from maintenance and restoration of service.’”³⁹ Commenters making such assertions opposing mandatory DIRS reporting, however, fail to adequately counter the benefits it will provide, and overlook the efficiencies associated with the proposal. While opposing commenters identify some burdens associated with filing in DIRS, they fail to take into account that providers would benefit from a simultaneous reduction of burdens due to the waiver of NORS filing requirements that we codify below. For instance, under NORS, a provider may have to file multiple reports for outages across a geographic area (even within counties for areas like cities and towns) dependent on the number of components involved. Under DIRS, while providers are filing daily, they are submitting DIRS reports for the entirety of the affected area. Further, the DIRS reporting content is less burdensome than NORS in terms of requirements. We agree with Free Press’ observation that the Commission can also manage burdens as it has the authority to waive mandatory DIRS requirements on a case-by-case basis where appropriate, such as for extraordinary circumstances.⁴⁰ In this respect, non-filing due to such circumstances will be examined on a case-by-case basis. In those instances where extraordinary circumstances prevent filing due to operational limitations, providers should: (1) use the Operations Center or otherwise notify the Commission if they are unable to file; and (2) make a filing as

³⁷ Public Knowledge Comments at ii.

³⁸ Rebecca Falconer, AXIOS, *NOAA: 2023 worst year on record for billion-dollar disasters*, (Sept. 12, 2023), <https://www.axios.com/2023/09/12/disasters-weather-climate-record-2023-noaa>.

³⁹ NCTA—The Internet and Television Association, Jan. 14, 2022, Reply at 18 (NCTA Reply).

⁴⁰ Free Press Reply at 9-10.

soon as they are capable, but no later than the final report due upon deactivation of DIRS, described below.

18. We also disagree with NTCA's contention that DIRS reports may not be useful because there are other avenues, including through the work of the DHS-NCC, for emergency managers and first responders to obtain real-time situational awareness information. NCTA's similar argument that mandating DIRS filings is not warranted because it does not result in active participation by stakeholders at the state and local level is also unpersuasive.⁴¹ First, the systematic, mandatory collection of information in DIRS would not overlap with other Federal, state, local, Tribal, and territorial government efforts, and this non-duplicative information would be made available in real-time to both DHS and other participating public safety entities pursuant to the Commission's information sharing rules to further enhance their efforts.⁴² Such information could also be available to local entities through permitted downstream sharing,⁴³ and is shared with the public on an aggregated basis via communications status reports published daily by the Commission when DIRS is activated,⁴⁴ providing valuable public information on available avenues for communications during emergencies. Additionally, mandating reporting in DIRS for all subject providers would ensure full participation of service providers in each affected area and therefore present the Commission and other entities with a comprehensive insight as to infrastructure status and reporting capabilities of such entities through regular updates. The contentions of NTCA and NCTA are contradicted by a significant factual record identified in the *2021 Resilient Networks Notice* and in the Commission's Disaster Communications Fall 2021 Field Hearing.⁴⁵ As Public Knowledge underscores, the importance of information regarding the status of communications networks during and after disasters, especially in providing real-time updates and emergency alerts to the public as well as to emergency response personnel, is critical, particularly as it provides more geographically and infrastructure-specific information to those affected by outages.⁴⁶

19. We also reject the assertions of ACA Connects and NTCA that the burden for small providers with limited resources is too substantial to justify mandatory reporting, particularly in the midst

⁴¹ NCTA Reply at 8-9 and 16.

⁴² *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Second Report and Order, FCC 21-34, 2021 WL 1086309 (2021). The mandated collection of information associated with DIRS would be non-duplicative and lacking in overlap with state, local, Tribal, and territorial governments as the information they receive comes from the Department of Homeland Security (DHS) and its Emergency Support Function #2 (ESF-2) and/or its state public utility system. Local response officials would be lacking this information unless a state or local entity has a relationship with a specific carrier, which is not common.

⁴³ "The Commission's rules allow Participating Agencies to share NORS and DIRS information with first responders, emergency communications centers, and other local government agencies who play a vital public safety role during crises and have a need to know this information (Downstream Agencies)." FCC, *Outage Information Sharing*, (Sept. 30, 2022), <https://www.fcc.gov/outage-information-sharing>. See also FCC, *Rules and Responsibilities for Accessing, Using, Sharing and Protecting NORS and DIRS Information: Network Outage Reporting System (NORS) and Disaster Information Reporting System (DIRS) User Guide Version 2.1*, (Dec. 4, 2023) <https://www.fcc.gov/sites/default/files/DIRS-UserGuide-122023.docx> ("Before sharing outside your agency, your agency must instruct downstream recipients to keep NORS and DIRS information they receive as confidential.").

⁴⁴ FCC, *Past Response Efforts*, <https://www.fcc.gov/past-response-efforts> (archive of daily communications status reports online) (last visited Dec. 19, 2023).

⁴⁵ *2021 Resilient Networks Notice* at paras 8-12; see also, Testimony of Harold Feld, Senior Vice President, Public Knowledge, FCC Field Hearing on Network Resiliency, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35 (Oct 26, 2021), at 3-4. See also generally FCC, Disaster Communications Field Hearing, (Oct. 26, 2021), <https://www.fcc.gov/disaster-communications-field-hearing>.

⁴⁶ Testimony of Harold Feld, Senior Vice President, Public Knowledge, FCC Field Hearing on Network Resiliency, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35 (Oct 26, 2021), at 1-3.

of the need to effectuate repairs. Small providers, including many recipients of Universal Service Funds (USF), are often a crucial link for alerting and 911 in rural and underserved communities. The lack of visibility into the operational status of these networks when disaster response officials are performing vital tasks like determining how to effectuate outreach to communities that may involve evacuation instructions, shelter in place, or other emergency directives does a significant disservice to these populations, and may place them at increased risk. While timely restoration is crucially important, the minimal time and burden associated with notifying the Commission of infrastructure status is necessary to ensure timely emergency response activity. Moreover, we clarify that submissions made in DIRS under the rule adopted today shall be based on information known by the provider at the time. In those instances where extraordinary circumstances prevent filing due to operational limitations, providers should: (1) use the FCC Operations Center or otherwise notify the Commission if they are unable to file; and (2) make a filing as soon as they are capable, but no later than the final report due upon deactivation of DIRS, described herein.

20. It has been sixteen years since the Commission launched DIRS, and the time is ripe to take steps to improve the efficacy of the system. While the National Association of Broadcasters (NAB) argues that nothing has changed since the Commission's 2007 determination that a voluntary process for DIRS reporting proved adaptable to the unique circumstances of various crises,⁴⁷ we disagree. The state of natural disasters, frequencies of emergencies, and the emergence of advanced technology has changed remarkably over the last almost two decades.⁴⁸ The evolution of alerting through the advent of WEA, the associated implementation of FEMA's Integrated Public Alert and Warning System (IPAWS) gateway for the dissemination of WEAs and EAS alerts, as well as the launch of the Commission's own information sharing program for NORS and DIRS have altered the regulatory landscape as well. NAB's position similarly fails to consider the results of a Government Accountability Office (GAO) report noting a sharp increase in the number of wireless outages attributed to a physical incidents, and its recommendation that the Commission improve its monitoring of industry efforts to strengthen wireless network resilience, as well as the Commission's own previous determinations, as a result of inquiries and investigations of the infrastructure status and capabilities of providers during and after disasters, that there is a need for a more comprehensive monitoring of situational awareness information.⁴⁹ Like the recently adopted Mandatory

⁴⁷ National Association of Broadcasters, Dec. 16, 2021, Comments at 4-5 (NAB Comments).

⁴⁸ See United States Department of the Interior, *United States Geological Survey: How can climate change affect natural disasters?*, <https://www.usgs.gov/faqs/how-can-climate-change-affect-natural-disasters> (last visited Dec. 19, 2023) ("With increasing global surface temperatures the possibility of more droughts and increased intensity of storms will likely occur."). See also Adam B. Smith, National Oceanic and Atmospheric Association (NOAA), *Climate.Gov: 2022 U.S. billion-dollar weather and climate disasters in historical context*, (Jan. 10, 2023), <https://www.climate.gov/news-features/blogs/beyond-data/2022-us-billion-dollar-weather-and-climate-disasters-historical> ("The NOAA National Centers for Environmental Information (NCEI) has released the final update to its 2022 Billion-dollar disaster report (www.ncei.noaa.gov/access/billions), confirming another intense year of costly disasters and extremes throughout much of the country. 2022 tied 2017 and 2011 for the third highest number of billion-dollar disasters. 2022 was also third highest in total costs (behind 2017 and 2005), with a price tag of at least \$165.0 billion. . . . In 2022, the U.S. experienced 18 separate weather and climate disasters costing at least 1 billion dollars. That number puts 2022 into a three-way tie with 2017 and 2011 for the third-highest number of billion-dollar disasters in a calendar year, behind the 22 events in 2020 and the 20 events in 2021. It was another year with a high diversity of destructive disasters. . . . The U.S. losses from billion-dollar disasters over the last seven years (2015-2022) are more than \$1 trillion and have further skewed the total distribution of extreme weather costs.").

⁴⁹ See *2021 Resilient Networks Notice* at 5-7, paras. 8-12; see also Government Accountability Office (GAO), *FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* at 36 (2017), <https://www.gao.gov/assets/gao-18-198.pdf> (GAO Report). The report recommended that the Commission develop specific and measurable objectives for the Framework and a plan to monitor and document the outputs and outcomes of the Framework to evaluate its effectiveness.

Disaster Response Initiative (MDRI),⁵⁰ DIRS is another valuable tool that can aid the Commission in its resiliency and restoration efforts. While the MDRI focuses on improving the resiliency and reliability of mobile wireless networks before, during, and after emergencies,⁵¹ DIRS provides the means to identify where the reparation, replacement, and restoration of communications infrastructure is vital.

21. DIRS also provides important information regarding which and how many Public Safety Answering Points (PSAPs) are unable to receive incoming emergency information from consumers in need. In regard to PSAPs, while NORS and DIRS serve similar purposes (reporting network outages), they collect different types of data. PSAP impact data is specifically collected by DIRS and not NORS. Once DIRS is activated, the Commission gets more fidelity as to PSAP status that it would not ordinarily get if only NORS were utilized, as no PSAP-specific information is collected in NORS at all. DIRS further provides information such as how many cell sites have been affected, where damaged power infrastructure is impacting communications, and other status information.⁵² Rather than waiting for the next emergency—be it natural or man-made—to strike and remind us, again, of the importance of comprehensive situational awareness to ensure the public safety and expedite the restoration of communications, we are relying on our experience and the record before us to adopt mandatory DIRS requirements now.

22. In considering the scope of reporting entities, we limit our determination at this time to cable, wireless, wireline, and interconnected VoIP providers. In this respect, we find that the record supports adoption of mandatory DIRS reporting for these providers because this group of providers should already have information like points of contact, roaming agreements, coordination and response plans, and restoration plans of action in place due to the general course of business. This was echoed in the record by Public Knowledge.⁵³ Wireless providers especially should already have these ideals for resiliency and restoration in place given the 2016 Wireless Network Resiliency Cooperative Framework⁵⁴ that has recently been mandated as the MDRI, which requires wireless providers to establish and share with the Commission (upon request) elements like roaming arrangements and mutual aid agreements.⁵⁵ However, we note the concerns raised by satellite (DBS and SDARS) and broadcast (television and radio) providers seeking to differentiate their services in terms of impact to their specific technology in disaster contexts, operational restrictions, and the types of information that is likely relevant for disaster response relative to these particular services that may impact the specific data needs to be collected from these entities. For example, certain types of technology, like satellite, may have limited terrestrial components impacted by a disaster such that a more nuanced approach for outage reporting may be appropriate. In this respect, we also note that these services, while crucial to distribute information during disasters, may not serve the same function as the other services for which we require DIRS reporting today – namely, the use by consumers to seek help by communicating with emergency responders and loved ones. The Satellite Industry Association (SIA) requests more detail regarding proposals for mandatory DIRS

⁵⁰ See FCC, *Wireless Network Resiliency During Disasters: The Mandatory Disaster Response Initiative*, (Sept. 25, 2023), <https://www.fcc.gov/wireless-network-resiliency-during-disasters>. See also FCC, *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346 and 15-80; ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking (July 6, 2022) (*2022 Report and Order*).

⁵¹ See FCC, *FCC Improves Resiliency and Reliability of Mobile Wireless Networks*, (July 7, 2022) <https://www.fcc.gov/fcc-improves-resiliency-and-reliability-mobile-wireless-networks>.

⁵² *2021 Resilient Networks Notice* at 5-6, paras. 9-10.

⁵³ See Public Knowledge Comments at 12-13.

⁵⁴ FCC, *Wireless Network Resiliency During Disasters*, (Sept. 25, 2023), <https://www.fcc.gov/wireless-network-resiliency-during-disasters>.

⁵⁵ *Id.* See also *2022 Resilient Networks Order*.

reporting for that sector,⁵⁶ and NAB raises arguments about the burdens of reporting, especially for smaller broadcasters who experience disruptions in the services they provide as well as underlying telephone, Internet, or power services on which broadcasters rely to provide service.⁵⁷ Further, these emergencies and “disasters often lead to power outages and the loss of telephone and Internet access, making it difficult if not impossible for smaller stations without a corporate support infrastructure to file a DIRS report.”⁵⁸ To build a more complete record about the impact of our proposals on the satellite and broadcast sectors, we seek further comment pertaining to satellite and broadcast, as well as broadband, providers whose comments share different concerns and views than the subject providers included under this *Order*, in the *Second Further Notice*.

23. By mandating DIRS reporting for subject providers, we expect that there will be an increase in both the volume and clarity of situational awareness information collected, and the Commission will be able to share this information with Federal, state, Tribal, and territorial partners. Additional DIRS information will be helpful during disaster events and can help improve public safety planning and response efforts. DIRS provides decision-making public safety officials and emergency managers with an invaluable tool for assessing where communications services and infrastructure are impacted by disasters, as well as insights into the speed and scope of communications restoration. Particularly, DIRS information is a key performance indicator and serves as a primary input to the FEMA Lifelines report⁵⁹ and Senior Leaders Interagency Briefings,⁶⁰ which enables decision makers to concentrate their personnel and resources on areas presumed to have been impacted the hardest. Requiring this information to be reported by subject providers will assist with general situational awareness, the deployment of disaster and recovery logistics, and applications of infrastructure grants and insurance claims.

24. *Confidentiality.* Several commenters raise concerns regarding the protection of information that entities would be providing in DIRS on a mandatory basis. For instance, NCTA urges the Commission to maintain its presumption of confidentiality for DIRS information submitted by subject providers, while the California Public Utilities Commission (CPUC) alternatively argues that “it is critical for people to acquire as much information about outages, disasters, and service restoration efforts before

⁵⁶ Satellite Industry Association, Dec. 16, 2021, Comments at 1, 5 (SIA Comments).

⁵⁷ NAB Comments at 5.

⁵⁸ *Id.* at 5-6.

⁵⁹ See Federal Emergency Management Agency (FEMA), *Community Lifelines* (July 27, 2023), <https://www.fema.gov/emergency-managers/practitioners/lifelines> (“FEMA created Community Lifelines to reframe incident information, understand and communicate incident impacts using plain language, and promote unity of effort across the whole community to prioritize efforts to stabilize the lifelines during incident response. While lifelines were developed to support response planning and operations, the concept can be applied across the entire preparedness cycle, efforts to protect lifelines, prevent and mitigate potential impacts to them, and building back stronger and smarter during recovery will drive overall resilience of the nation. Community lifelines were tested and validated by federal, state, local, Tribal, and territorial partners in the aftermath of hurricanes Michael (Oct. 2018), Florence (Sept. 2018) and Dorian (Aug. 2019), Super Typhoon Yutu (Oct. 2018), the Alaska earthquake (Dec. 2018) and the coronavirus (COVID-19) pandemic (2020). They were formalized in the National Response Framework, 4th Edition.”).

⁶⁰ See FEMA, *Senior Leader Toolkit*, (July 16, 2020), <https://www.fema.gov/emergency-managers/nims/components/senior-leader-toolkit> (“The Senior Leader Toolkit includes quick reference guides and a NIMS senior leader briefing template to help emergency management and senior leaders understand their role and responsibility during incidents.”). See also FEMA, *Briefing Guide: Senior Leadership Briefing*, https://www.fema.gov/sites/default/files/2020-08/fema_senior-leadership-briefing_073119.pdf (last visited Dec. 2019, 2023) (guide includes multiple case studies from recent disasters and emergencies, Federal continuity directives 1 & 2, the National Response Framework guide for all-hazard response conducting, essential functions, and fundamental missions of agencies and organizations).

relocating to another, presumably safer location.”⁶¹ Public Knowledge similarly argues that public disclosure of outage information would enhance market incentives to provide more reliable service.⁶² While we shift from voluntary to mandatory reporting, we find no compelling reason at this time to alter the existing presumption of confidentiality for any reporting information received merely by virtue of this change, and decline to amend that presumption here.⁶³ Particularly in the DIRS context, we note that public disclosures are already made on an aggregated basis, providing a level of transparency to consumers to effectuate the primary purpose of DIRS – the collection and dissemination of disaster-specific outage impact information. While driving the market to more reliability is an important goal, we do not find that disclosure in this context is appropriate at this time.

B. Codifying the NORS Reporting Waiver When DIRS Is Activated

25. In the *2021 Resilient Networks Notice*, the Commission sought comment on whether to codify the Commission’s typical practice of granting subject providers a waiver of their NORS reporting requirements when they report in DIRS.⁶⁴ Under the Commission’s current voluntary DIRS reporting approach, the Bureau typically waives NORS reporting obligations for subject providers who elect to report in DIRS for the duration of its activation period.⁶⁵ The Bureau has routinely issued this *sua sponte* waiver when DIRS has been activated and has found success with this approach. In this *Second Report and Order*, we adopt this proposal and give it effect by revising the Commission’s Part 4 rules to suspend all NORS reporting obligations pertaining to outages that arise when DIRS reporting is activated and outages are timely reported in DIRS.⁶⁶ More specifically, the Commission will waive NORS filings that would be due while DIRS is activated. Further, and as discussed more below in the following sections, once an outage has been filed under DIRS per this *Order*, a provider need not file the same outage in NORS.

26. USTelecom—The Broadband Association (USTelecom), NCTA and AT&T support this proposal expressly, and no commenters oppose it.⁶⁷ Accordingly, we conclude that formally codifying this practice would give providers more clarity on their obligations and both streamline and formalize existing practices with no detrimental impact on the Commission’s current public safety efforts. Because of the long and successful practice of granting waivers, the Bureau and the industry should easily transition to this permanent solution. Moreover, the codification of this practice will be beneficial for subject providers as this waiver will reduce burdens for DIRS filers during emergency conditions when the system is activated. As proposed, this shift between reporting mechanisms also mitigates the burden of potentially duplicative reporting for subject providers by only requiring reporting in one system during

⁶¹ See NCTA Comments at 4; see also California Public Utilities Commission, Jan. 14, 2022, Reply at 11-12 (CPUC Reply).

⁶² Public Knowledge Comments at 27.

⁶³ The Commission acknowledges that the CPUC filed a Petition for Reconsideration in regard to information sharing. The determination here discussing confidentiality and the treatment of information is not a pre-judgment of the Petition in that context. See Petition of California Public Utilities Commission for Reconsideration of Action in Rulemaking Proceeding, PS Docket No. 15-80 (released July 19, 2021), <https://www.govinfo.gov/content/pkg/FR-2021-07-29/pdf/2021-16126.pdf> (CPUC Petition).

⁶⁴ *2021 Resilient Networks Notice* at para. 31.

⁶⁵ This decision is announced through the release of a Public Notice on an activation-by-activation basis. See, e.g., *Public Safety & Homeland Security Bureau Announces the Activation of the Disaster Information Reporting System for Hurricane Zeta*, Public Notice, DA 20-1273 (PSHSB Oct. 28, 2020) (*Hurricane Zeta Public Notice*).

⁶⁶ 47 CFR part 4.

⁶⁷ USTelecom Comments at 2; NCTA Comments at 34; AT&T Comments at 18.

and after disasters instead of a dual requirement. This will also provide administrative efficiency by eliminating the need for the Bureau to determine and issue waivers on an activation-by-activation basis.

C. Final DIRS Reports Upon Deactivation

27. In the *2021 Resilient Networks Notice*, the Commission sought comment on how to maintain situational awareness as to the status of providers' services when a provider has not yet fully restored its service at the time that the Commission deactivates DIRS.⁶⁸ The *2021 Resilient Networks Notice* asked whether providers with ongoing outages at the time of DIRS being deactivated should be required to report those outages in NORS; the Commission proposed resolving this issue by requiring that subject providers with ongoing outages at the time of DIRS deactivation provide a final report that describes their current infrastructure status at the time the system was deactivated to be submitted within 24 hours of deactivation.⁶⁹ This would allow the Commission to see what remains unresolved immediately following deactivation of DIRS, and provide to the Commission an estimate of when the subject provider believes the issue(s) can be resolved.⁷⁰ We adopt that proposal here; the final report shall be provided as input to a free form text field in the current DIRS interface, where a subject provider will be able to describe in detail the identity and status of outstanding infrastructure equipment and issues and the estimated dates by which these issues shall be resolved.

28. Under the Commission's current rules, there may be instances in which DIRS is deactivated but some providers have not yet fully restored service. In these instances, the Commission no longer has situational awareness as to the status of those subject providers' services because updates are no longer being filed in DIRS and the outage would have never been filed in NORS (as the Commission typically suspends NORS reporting obligations for subject providers who elect to report in DIRS, and we adopt that practice by rule today). This has resulted in an information gap where the Commission loses situational awareness of subject providers' status in restoring services after DIRS is deactivated. No commenter directly addresses whether providers with ongoing outages at the time of DIRS deactivation should be required to report those outages in NORS, but AT&T opines that any such report should be provided in DIRS rather than NORS.⁷¹

29. We find that a final deactivation report, filed in DIRS within 24 hours of the Commission deactivating DIRS, will close a significant gap that currently occurs at the conclusion of the DIRS reporting period, and therefore adopt such a reporting requirement. Bridging this informational divide will also enable Commission staff to conduct follow-up inquiries on an as-needed basis based on the information gathered, increase provider accountability, and provide needed opportunities for analysis associated with recovery. While this minor additional filing to close out issues presented though the course of a DIRS activation is only a minimal burden, we find the minor burden outweighed by the anticipated benefits and efficiencies associated with more directed staff engagement with incident resolution. We also find that this close-out report obviates the need for any additional filings in NORS as related to the same outage and clarify that once an outage is filed in DIRS, the event need not be filed in NORS.

30. We also agree with AT&T that it would be most effective for providers to supply a final report in DIRS since the report relates to a provider's previous filings in DIRS.⁷² Moreover, filing such reports in DIRS will promote efficiency and reduce confusion, both for those who file reports and for those who review them. This would include subject providers, participating entities who take part in the

⁶⁸ *2021 Resilient Networks Notice* at para. 32.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ AT&T Comments at 18-19.

⁷² *Id.*

Commission's NORS and DIRS information sharing program, and Commission staff. Final reports will promote clarity by continuing to associate such reports with the initiating incident in the same system.

31. While the *2021 Resilient Networks Notice* did not posit a specific implementation for the reporting format, and no commenter proposed a specific implementation, we clarify here that the report should be completed by filling in a free form text field in DIRS where a subject provider shall provide, in a text field, a short summary of the identity and status of its outstanding infrastructure equipment and estimated dates by which any and all issues will be resolved. This format will allow maximum flexibility for subject providers to include effective descriptions to the Commission given the wide range of issue types and related circumstances that may occur in the aftermath of DIRS activation. We require, however, that a part of that free form input include estimated resolution dates, which will both create accountability on the part of providers and allow the Commission staff to promptly and effectively follow-up with the providers as necessary.

D. Cost-Benefit Analysis

32. In the *2021 Resilient Networks Notice*, the Commission generally sought information on the costs and benefits specific to promoting situational awareness during disasters, noting that “a proposed requirement to file in DIRS must be balanced against additional burdens on providers, particularly as DIRS reports are filed in the midst of disasters and other emergencies.”⁷³ The Commission asked commenters to explore the costs and benefits associated with mandatory reporting, but the record was lacking in response to this request. However, ACA Connects states that the Commission “should not adopt any requirements to participate in DIRS without undertaking a cost-benefit analysis that addresses such questions when it comes to considering mandatory reporting for smaller providers.”⁷⁴

33. We are cognizant of the fact that, as a general matter, it is impossible to assign precise dollar values to the improvement in public safety, life and health resulting from changes to the DIRS reporting requirements. Nevertheless, we believe that these proposals will result in benefits in terms of lives saved and injuries and property damages prevented. Expanded reporting will improve situational awareness of outages during disasters and aid in emergency response and recovery coordination.⁷⁵ Improved information on outages makes communications options clearer for the individual responding in disasters.⁷⁶ Improved data on outages can also help the government hold providers accountable for failures to timely respond to outages.⁷⁷ Data collected can help with future disasters through improved planning for support and mitigation strategies. According to NOAA, natural disasters have caused annually in excess of \$118 billion in economic damages and 564 deaths for the last 10 years.⁷⁸ We

⁷³ *2021 Resilient Networks Notice* at 13, para. 29.

⁷⁴ ACA Comments at 9-10.

⁷⁵ FCC, *Disaster Information Reporting System (DIRS) User Guide Version 2.1*, (Dec. 4, 2023), <https://www.fcc.gov/sites/default/files/DIRS-UserGuide-122023.docx>. See also NCC Comments at 11; Public Knowledge Comments at 27.

⁷⁶ Free Press Reply at 9-10.

⁷⁷ See Public Knowledge, Jan. 14, 2022, Reply Comments at 2-3 (Public Knowledge Reply).

⁷⁸ NOAA estimates economic damages and deaths for each national disaster with over \$1 billion in damages since 1980. NOAA, *Weather and Climate Billion-Dollar Disasters to affect the U.S. from 1980-2023 (CPI-Adjusted)*, <https://www.ncei.noaa.gov/access/billions/events-US-1980-2023.csv> (last visited Dec. 19, 2023). \$118 billion in economics damages and 564 deaths are the annual 10-year averages over all disasters in the NOAA dataset from August 11, 2013, to August 11, 2023, which excludes Hurricane Idalia, for which NOAA is still estimating damages. Actual economic damages and deaths are in excess of these amounts as the dataset only includes natural disaster above \$1 billion dollars in economics damages. Economic damages also do not include losses to “natural capital or environmental degradation; mental or physical healthcare related costs, the value of a statistical life

(continued....)

believe that the mandatory DIRS filing obligation will result in a reduction of these harms to a degree that results in a significant social and public safety benefit.

34. In considering the costs associated with a mandatory DIRS filing obligation, we expect that subject providers will enter emergency contact information and critical information as necessary (i.e., related to infrastructure damage and restoration) in DIRS. Responses, and DIRS reports generally, will differ and appear unique for each emergency or disaster due to differing events, geographic areas (e.g., a network covers several affected counties and submits one DIRS report for each county), and varieties of service provided. We estimate that the average cost of the mandatory DIRS reporting for cable, wireless, wireline, and interconnected VoIP providers is less than \$1.6 million per year.⁷⁹ We do not account for the cost arising from assessing the network availability during DIRS activations because, as part of normal business operations, service providers would have made these assessments without the reporting requirement when a disaster strikes. As a result, the assessment cost is not considered separately in the cost estimate. The cost estimate of \$1.6 million is likely an overestimate because it includes service

(VSL); or supply chain, contingent business interruption costs.” NOAA, *FAQ*, <https://www.ncei.noaa.gov/access/billions/faq> (last visited Dec. 19, 2023).

⁷⁹ Between 2017 and 2023, based on DIRS activation and deactivation notices, Commission staff calculated that on average 339 counties were affected by DIRS activations each year. Summing over the number of days that each county was affected and dividing it by the number of affected counties, the average duration of days one county was affected was about 14 days. See FCC, *Past Response Effort*, <https://www.fcc.gov/past-response-efforts> (last visited Dec. 19, 2023) (DIRS was activated for Hurricane Lee, Hurricane Idalia, Tropical Storm Hilary, Super Typhoon Mawar in 2023; Hurricane Nicole, Hurricane Ian, Hurricane Fiona, New Mexico Wildfires – May 2022, PR Power Outage 2022, Winter Storm – January 2022 in 2022; Kentucky Tornadoes, Hurricanes Ida and Nicholas, Tropical Storm Henri, Winter Storm Uri in 2021; Hurricane Zeta, Hurricane Delta, Hurricane Sally, Tropical Storm Laura – Puerto Rico, USVI Impact, Midwest Derecho, Tropical Storm Isaias, Puerto Rico Earthquakes in 2020; California Power Shutoffs, Hurricane Corian, and Tropical Storm Barry in 2019; Hurricane Michael, Hurricane Florence, and Hurricane Lane in 2018; Hurricane Nate, Hurricane Maria, Hurricane Irma, and Hurricane Harvey in 2017). There are an average of 54 cable, wireline, interconnected VoIP, and wireless service providers per county. There are approximately 50 non-duplicated fixed voice providers, including switched access wireline, cable VoIP, and non-cable interconnected VoIP providers per county according to staff calculations based on the FCC Form 477 data. We assume that the average number of facility-based wireless voice providers in each county is four, including the three nationwide wireless providers plus an average of a local service provider (staff analysis of Form 477 data suggests that when there is a fourth non-nationwide wireless provider in any particular location, it is usually the only one. FCC, *Mobile Deployment Form 477 Data* (Jul. 29, 2022), <https://www.fcc.gov/mobile-deployment-form-477-data>). Assuming each provider has one administrative support person with an hourly wage of \$21.90 plus a 45% cost for benefits (\$9.86/hour) to spend 10 minutes to enter initial contact information, 10 minutes to enter daily updates on its system status, and 10 minutes to file the final report per affected county, we arrive at an approximately \$1.6 million annual cost of mandating these providers to file in DIRS. This is calculated as follows: 1 office and administrative support worker × (\$21.90 + \$9.86) × 105.5% per hour × [(10/60) hours for the initial entry + (10/60) hours for daily updates × 14 days + (10/60) hours for the final report] × 339 counties × 54 service providers = \$1,635,668, which we round to \$1.6 million. See Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, Occupational Employment and Wages*, May 2022, 43-0000 Office and Administrative Support Occupations, <https://www.bls.gov/oes/current/oes430000.htm> (last visited Dec. 19, 2023) (*Office and Administrative Support Wage*) (stating that the mean hourly wage for an office and administrative support occupation worker is \$21.90/hour in May 2022). According to the Bureau of Labor Statistics, as of June 2023, civilian wages and salaries averaged \$29.86/hour and benefits averaged \$13.39/hour. Total compensation therefore averaged \$29.86 + \$13.39, rounded to \$43.26. See Press Release, Bureau of Labor Statistics, Employer Costs for Employee Compensation—June 2023 (Sept. 12, 2023), <https://www.bls.gov/news.release/pdf/eccc.pdf>. Using these figures, benefits constitute a markup of \$13.39/\$29.86 ~ 45% (*Compensation Benefit Markup*). We therefore markup wages by 45% to account for benefits. We calculate the benefit markup as follows: \$21.90 × 45% = \$9.86/hour. The 105.5% multiplier represents our adjustment for inflation. See Federal Reserve Bank of St. Louis, *Average Hourly Earnings of All Employees, Total Private (CES0500000003)*, <https://fred.stlouisfed.org/series/CES0500000003> (last visited Dec. 19, 2023) (*Inflation Adjustment*) (showing that according to Bureau of Labor Statistics data the average hourly private wage increased by 5.5% between May 2022 and August 2023).

providers that are currently voluntarily participating and already incurring the reporting costs without the changes in rules for mandated subject providers.

35. While it would be impossible to quantify the precise financial value of these health and safety benefits, we believe that the value of these benefits will significantly outweigh the annual cost of \$1.6 million. In light of the record reflecting large benefits to communications providers, agencies, and other industry stakeholders,⁸⁰ we find that the total incremental costs imposed on the nation's subject providers by these new requirements will be minimal in many instances and, even when significant, will be far outweighed by the nationwide benefits. While DIRS provides vital information pertaining to infrastructure status, it can only be beneficial if as many providers as possible participate in reporting. This level of participation has yet to be achieved in a voluntary reporting state, causing the need to transition to mandatory reporting.

E. Timelines for Compliance

36. We set a single date for compliance by all subject providers for implementing today's rules at the later of (i) 30 days after the Commission issues a Public Notice announcing that OMB has completed review of any new information collection requirements associated with today's *Second Report and Order* or (ii) November 30, 2024.⁸¹ We anticipate that by November 2024 new filers will have sufficient time to prepare for filing and the Commission will be able to make any changes required in the DIRS system. This date will also provide reasonable assurance that any necessary transitions do not occur during the height of hurricane season, which typically ends by late November.⁸²

37. We also find that subject providers will require only a modest amount of time to adjust their processes to comply with today's rules because, as noted above, many subject providers already voluntarily report in DIRS or have similar reporting or recording practices for disasters in place. We believe that the compliance timing provided grants sufficient time for subject providers, including small entities, to implement any changes to their reporting methods and work with Bureau staff to resolve any concerns about the DIRS reporting process.

38. Once the compliance date has been established, we will require that cable, wireless, wireline, and interconnected VoIP subject providers report their infrastructure status information in DIRS whenever the Commission activates DIRS in geographic areas where such entities provide service. To resolve previous ambiguity as to whether a subject provider was failing to report because 1) its network infrastructure remained fully operational; 2) the entity was unable to file; or 3) the entity cannot access DIRS due to disruption of its Internet access or other exigencies, the Commission requires entities to file reports on a daily basis until the Commission has deactivated DIRS.⁸³ In this respect, non-filing due to such circumstances will be examined on a case-by-case basis. In those instances where extraordinary circumstances prevent filing due to operational limitations, providers should: (1) use the Operations Center or otherwise notify the Commission if they are unable to file; and (2) make a filing as soon as they are capable, but no later than the final report due upon deactivation of DIRS. We direct the Bureau to issue a Public Notice that announces the compliance dates for all subject providers upon the completion

⁸⁰ See NCC Comments at 11; Public Knowledge Comments at 27; Free Press Reply at 9-10; Public Knowledge Reply at 2-3.

⁸¹ The Commission has selected November 30, 2024, as the effective date for mandated DIRS reporting to go into effect as this gives subject providers a number of months to comply and ensures that mandated DIRS reporting is in place for the entirety of the 2025 hurricane season (based on the 2023 current hurricane season that runs from June 1, 2023, to November, 30, 2023).

⁸² See also NOAA, *NOAA Releases Updated 2023 Atlantic Hurricane Season Outlook*, (Aug. 11, 2023), <https://www.nesdis.noaa.gov/news/noaa-releases-updated-2023-atlantic-hurricane-season-outlook>.

⁸³ See Appx. A.

of any necessary OMB review of the new information collection requirements associated with today's *Second Report and Order*.

IV. SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

39. In establishing a mandatory DIRS reporting obligation for subject providers in the *Second Report and Order*, we remain cognizant that a complete picture of the available means of communication and dissemination of critical emergency information necessitates that we evaluate whether additional reporting segments are appropriate. While we previously sought comment on the inclusion of mandatory DIRS reporting obligations for television broadcasters,⁸⁴ radio broadcasters, and satellite providers,⁸⁵ the ensuing record convinces us that these potential reporting entities are sufficiently different in kind and resources from subject providers in the *Second Report and Order* that additional information is needed.⁸⁶ In addition, we note the growing presence of the First Responder Network (FirstNet) as a provider of critical public safety communications services in a variety of disaster contexts and seek comment on whether information on FirstNet's status should be permitted or required in DIRS, and whether NORS reporting should also be extended to encompass its services. While the Commission previously sought comment on the inclusion of BIAS providers in our reporting regimes, in light of the Commission's recently released *Open Internet Notice* in which the Commission proposes re-classifying BIAS providers as a telecommunications service under Title II of the Communications Act of 1934, as amended (Communications Act), we find it prudent to revisit this issue, and refresh the record on this topic.⁸⁷

40. Through this *Second Further Notice*, we propose additional enhancements to DIRS in order to further improve communications and network resilience during emergencies specific to these segments of the communications network ecosystem and in response to the considerations raised by parties in the previous comment period. In addition, we seek comment on targeted expansions of the NORS system to advance similar goals for network reliability in non-disaster contexts and to address technological platforms providing essential components of an evolving and highly integrated network ecosystem supporting public safety and other critical services.

A. Outage Reporting by Broadcast Entities

41. As broadcast providers, as well as satellite and broadband providers, have varying needs and differing responsibilities from the subject providers addressed in the *Order*, we find it vital to explore the elements and current workings of both the NORS and DIRS systems in accordance with these specific providers. Particularly, we examine reporting requirements for NORS and DIRS, consider and compare the varying infrastructures of different providers, and determine whether there should be unique or modified reporting standards. We propose requiring TV and radio broadcasters report in both NORS and DIRS based on the type and modality of certain broadcast infrastructures, and seek comment on this proposal. We seek comment on the classes of broadcasters that should be included as mandatory filers,

⁸⁴ "Broadcast" providers refer to all broadcast providers who are contained in Title 47 of the CFR, Part 73, which includes AM, FM, LPFM and TV and Part 74, which includes low power TV and translator stations as governed by the procedural rules in Title 47 CFR, Part 1. See FCC, *The Public and Broadcasting*, (Sept. 13, 2022), <https://www.fcc.gov/media/radio/public-and-broadcasting>.

⁸⁵ See 47 CFR § 4.3(d) ("Satellite communications providers use space stations as a means of providing the public with communications, such as telephony and paging. Also included are affiliated and non-affiliated entities that maintain or provide communications networks or services used by the provider in offering such communications. 'Satellite operators' refer to entities that operate space stations but do not necessarily provide communications services directly to end users.").

⁸⁶ While we seek additional comment some issues here, we do not foreclose action on these or any other issues outstanding in the underlying dockets for which we have already sought comment.

⁸⁷ FCC, *Safeguarding and Securing the Open Internet*, Notice of Proposed Rulemaking, WC Docket No. 23-320, released Sept. 28, 2023, <https://docs.fcc.gov/public/attachments/DOC-397309A1.pdf> (*Open Internet NPRM*).

whether a simplified reporting process would be appropriate, and what reporting elements should be included for such a purpose in NORS and/or DIRS.

42. Unlike the providers that are the otherwise discussed herein, broadcasters do not currently report in NORS. They may, however, voluntarily file reports in DIRS if they so choose. Broadcasters, however, play a crucial role in keeping the public updated on the status of public infrastructure and emergency response efforts as within the EAS distribution chain and provide for critical information including, for example, evacuation orders, real-time guidance from public safety organizations, and the availability of other public services. Broadcasters play a particularly important role in ensuring that non-English-speaking and rural communities have access to up-to-date emergency information during times of exigency, both on a localized basis and during widespread disasters.

43. In the *2021 Resilient Networks Notice*, the Commission sought comment on whether it should require TV and radio broadcasters to report their infrastructure status information in DIRS when the Commission activates DIRS in geographic areas in which they provide service.⁸⁸ In staff's experience, broadcasters voluntarily provide information in DIRS for between 20% and 35% of the stations in most activations. This, however, leaves gaps in the ability to adequately gauge the available communications pathways to disseminate information during emergencies.⁸⁹ Beyond the disaster context, the Commission generally lacks timely insight into the resiliency of segments of the broadcast ecosystem. For example, the Commission's rules only require TV broadcast stations to notify the Commission within 10 days of discontinuing operations.⁹⁰ The Commission, therefore, as well as other emergency response officials, may be unaware that a broadcast station that might otherwise be transmitting emergency, weather, or other timely government notices, is off air, and that its listeners are not receiving relevant information. As such, the Commission has limited ability to know or understand on a timely basis when broadcast stations' facilities are impacted by infrastructure, equipment, or power failures, cybersecurity incursions or other issues that impact their ability to disseminate a signal. We believe this to be a particular deficiency in light of the broadcast community's critical role in the EAS and the need for emergency officials and the Commission to be able to have information on, and insight into, the operational readiness of this system at a moment's notice. We seek comment on this analysis.

44. In response to the *2021 Resilient Networks Notice*, broadcasters generally oppose mandatory DIRS reporting and provide additional arguments to distinguish broadcast operations from other types of service providers. National Public Radio (NPR), for example, states that broadcasters do not use DIRS because it does not assist them since they do not experience many outages, and further states that requiring them to report in DIRS "may detract from essential news operations that support the public."⁹¹ REC Networks, representing low power FM stations, expresses concerns about the burden of mandatory DIRS reporting for smaller broadcasters during emergencies, which could hinder their ability to provide immediate community information.⁹² REC Networks recognizes DIRS' importance but stresses the priority of delivering emergency information, suggesting communication improvements instead.⁹³ The Colorado Broadcasters Association (CBA) and Puerto Rico Broadcasters Association (PRBA) echo concerns about mandatory DIRS participation straining limited broadcaster resources

⁸⁸ *2021 Resilient Networks Notice* at para. 29.

⁸⁹ These statistics are based on DIRS data collected for Hurricane Lee, Hurricane Idalia, and Hurricane Ida.

⁹⁰ 47 CFR §§ 73.1740(a)(4) and 74.763(b).

⁹¹ National Public Radio, Dec. 6, 2021, Comments at 7 (NPR Comments).

⁹² REC Networks, Dec. 10, 2021, Comments at 6-9.

⁹³ *Id.*

during disasters, diverting attention from maintaining operations.⁹⁴ CBA and PRBA emphasize maintaining DIRS' voluntary nature was appropriate to support emergency information efforts, and note logistical challenges for smaller stations.⁹⁵ NAB similarly advocates for voluntary DIRS participation, citing broadcasters' primary role in delivering news during emergencies.⁹⁶ They question DIRS' benefits and highlighted burdens, particularly for smaller stations.⁹⁷ NAB states that "nothing has changed since 2007 to warrant a reversal of the voluntary approach" as "reversing the long-standing voluntary nature of DIRS reporting for broadcasters will not address the FCC's concerns regarding 911 service because broadcasters do not provide telephone service. [R]equiring DIRS reporting would impose 'additional burdens on service providers, particularly as DIRS reports are filed in the midst of disasters and other emergencies.'"⁹⁸

45. We believe mandatory DIRS reporting for broadcasters could ensure a standardized and coordinated approach among entities potentially impacted by disasters, allowing authorities to make informed decisions about emergency response activities and avenues to communicate with the public during emergency situations. We seek comment on this belief. We believe this could be of particular significance given broadcasters' role in the EAS, as well as the continued reliance on broadcast communications by underserved and non-English-speaking communities for the dissemination of emergency and weather-related information. Objections to mandatory DIRS reporting for the broadcast community may overlook the fact that disasters often come with uncertainty and unpredictability. In such situations, as the Commission has experienced, a voluntary system does not guarantee comprehensive and accurate information for response officials, potentially leading to gaps in emergency response. While we understand REC Networks' concerns about the potential burden of mandatory reporting for smaller broadcasters, it is important to recognize that emergencies demand a coordinated effort to disseminate information quickly and effectively, or to provide follow up information to constituents over the course of a disasters as conditions change.⁹⁹ We seek comment on whether, by participating in mandatory DIRS reporting, even smaller broadcasters can contribute to a broader emergency response network, ultimately benefiting the communities they serve, and if the benefits of requiring such reporting outweigh any burden on such broadcasters. In light of concerns expressed for smaller providers, however, we seek comment on whether we should consider adopting different reporting requirements for small and large broadcasters and, if so, how should those lines be drawn? What specific challenges do small broadcasters experience, and how can the Commission require DIRS reporting while addressing these challenges? We also seek comment on whether low power broadcast stations should be excluded from this proposed

⁹⁴ Colorado Broadcaster's Association and the Puerto Rico Broadcaster's Association, Dec. 16, 2021, Comments at 3-4 (CBA and PRBA Comments).

⁹⁵ *Id.*

⁹⁶ NAB Comments at 5.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ REC notes that small broadcasters may not comply even with a mandatory requirement, which could make them subject to enforcement but would not ensure the Commission has complete outage information. According to REC, the fines assigned by the Enforcement Bureau could potentially be too high for the small business to afford and could potentially put them out of business. *See also* REC Comments at 7 and 9 (discussing the burden DIRS might cause and the threat of enforcement as hardships to small radio broadcast stations). *See also* NAB Comments at 2-3 ("Many smaller stations simply lack the bandwidth to log in, assess their operational status, and complete DIRS reports in the midst of an emergency. Mandating DIRS filings would force stations to redirect their already-strained staff away from trying to maintain or restore service to fill out a government form. Thus, requiring DIRS reporting could undermine the FCC's overriding goal of improving public safety by disrupting stations' efforts to provide the critical emergency information on which American's rely.").

mandate.¹⁰⁰ Would this exemption disproportionately impact underserved or non-English speaking communities? Does the potential overlap in broadcast stations' coverage areas mitigate concerns regarding any exclusion low power broadcast stations? Conversely, should booster or translator stations, which we do not propose to subject to our reporting requirement, be included?

46. DIRS serves as a foundational tool for ensuring that the right information reaches the right people at the right time. Additionally, we believe that CBA and PRBA's concerns about mandatory DIRS participation straining limited resources during disasters should be considered against the backdrop of Federal, state, local, Tribal, and territorial emergency response needs and invite comment on this balance. We believe a unified mandatory reporting system could minimize duplication of efforts and enable authorities to allocate resources efficiently as the Commission could instead collect data on behalf of all such entities and share it with these government entities in real-time (or as close to real-time as possible given the particular disaster or emergency situation) rather than multiple governments collecting the same information. Maintaining DIRS as a voluntary system for some segments of the communications ecosystem could lead to incomplete data during critical times, hindering the effectiveness of disaster response. Finally, we believe that NAB's advocacy for voluntary DIRS participation, based on the 2007 assessment of Hurricane Katrina, overlooks the advancements in technology across communications platforms, the growth in DIRS as an informational resource since that time, changes to the alerting environment to include the advent of WEA and IPAWS, as well as the changing landscape of emergency response as the frequency and severity of disasters increase.¹⁰¹ As an alternative, NAB proposes a government-funded automated system that identifies which broadcast stations are operating during a disaster using "specialized spectrum observation equipment to determine the radio spectrum and identify disaster-related communications outages . . . [and] studying the radio frequency spectrum 'Pre-disaster' and 'Post-disaster' and comparing those results to each other and to licensee databases to determine which critical infrastructure systems are down."¹⁰² While this approach could be useful, this more complex solution is beyond the scope of this proceeding as we are focused, and believe that, the shift from voluntary to mandated reporting could provide the Commission, other agencies, and the providers themselves with a larger scope of infrastructure status during and after disasters without the need for funding and creating specific systems beyond DIRS. Instead, the rules we propose here would merely require those to report who have not in the past but have the capacity to do so and would mandate reporting for a system that already has existed for years and will improve from including more participants for a wider view. We seek comment on this analysis.

47. While we acknowledge the position that some broadcasters may have unique limitations on their number of employees and the technical and legal expertise of those employees in addressing regulatory matters compared to the subject providers addressed in the *Second Report and Order* who report in NORS and DIRS, we believe that there is a significant public interest in ensuring that

¹⁰⁰ In this respect, we note that low power television and low power FM radio do not serve as Primary Entry Point (PEP) stations or Local Primary (LP) stations within the EAS daisy chain. See, e.g., 47 CFR §11.51(e) (exempting these stations from having equipment necessary to generate EAS codes and attention signals).

¹⁰¹ While the voluntary state of DIRS may have been suitable back in 2007, the state of DIRS has not been reevaluated in almost *two decades* and the state of emergencies and disasters has significantly changed in the interim, as have advances in technology and resiliency solutions. See Adam B. Smith, Climate.Gov, *2022 U.S. billion-dollar weather and climate disasters in historical context*, (Jan. 10, 2023), <https://www.climate.gov/news-features/blogs/beyond-data/2022-us-billion-dollar-weather-and-climate-disasters-historical> ("2022 tied 2017 and 2011 for the third highest number of billion-dollar disasters. 2022 was also third highest in total costs (behind 2017 and 2005), with a price tag of at least \$165.0 billion . . . the U.S. experienced 18 separate weather and climate disasters costing at least 1 billion dollars. That number puts 2022 into a three-way tie with 2017 and 2011 for the third-highest number of billion-dollar disasters in a calendar year, behind the 22 events in 2020 and the 20 events in 2021.").

¹⁰² NAB Comments at 7-8.

broadcasters' facilities are operational and that the Commission has an accounting of when these facilities are offline, as broadcasters are often a principal way in which some communities, including certain rural, minority and non-English speaking, and elderly communities, receive critical emergency information.¹⁰³ Without information on the operational status of broadcasters' facilities, the Commission and its partners only have an incomplete picture of available resources which could stunt the Commission's public safety initiatives and its ability to direct resources to certain communities or share emergency information, especially as there is no NORS requirement for broadcasters. We seek comment on these views. We also seek comment on the specific limitations and challenges of small broadcasters and the way in which the Commission can assist or encourage cooperation with larger broadcasters who have more resources and funding.

48. Beyond the disaster context, the Commission generally lacks timely insight into the resiliency of segments of the broadcast ecosystem. For example, the Commission's rules only require TV broadcast stations to notify the Commission within 10 days of discontinuing operations.¹⁰⁴ The Commission, therefore, as well as other emergency response officials, may be unaware that a broadcast station that might otherwise be retransmitting emergency, weather, or other timely government notices, is off air, and that its listeners are not receiving relevant information. As such, the Commission has limited ability to know or understand on a timely basis when broadcast stations' facilities are impacted by infrastructure, equipment, or power failures, cybersecurity incursions or other issues that impact their ability to disseminate a signal. We believe this to be a particular deficiency in light of the broadcast community's critical role in the EAS and the need for emergency officials and the Commission to be able to have information on, and insight into, the operational readiness of this system at a moment's notice regardless of whether there is a declared disaster that would otherwise trigger DIRS.

49. As such, we propose requiring TV and radio broadcasters report in both NORS and DIRS subject to a simplified reporting process based on the type and modality of certain broadcast infrastructures. Both NORS and DIRS provide distinct information serve distinct purposes and requiring reporting for both systems would help the Commission see outages across a geographic area via NORS, including so-called "sunny day" outages, while DIRS reports are submitted for the affected area during a specific activation. We seek comment on this proposal. We also seek comment on the scope of such simplified reporting, the ability of broadcasters to provide it during events where DIRS is activated, and the burdens of doing so. Alternatively, would a simplified reporting requirement be preferable if the Commission could craft the requirement so that it would not hinder restoration efforts? If so, what could such a requirement entail? For instance, should simplified reporting in DIRS merely require a broadcaster to identify whether it is "on-air" or "off-air," (i.e., unable to operate or broadcast regularly) or provide details on any necessary restoration? Should we also require broadcasters to notify us within 24 hours of going silent when DIRS has been activated and within 24 hours of resuming service after DIRS activation has been lifted?¹⁰⁵ What alternative NORS or DIRS reporting intervals would be appropriate? Should NORS or DIRS filings specify if alerting capabilities are impacted, including whether the broadcaster's access to FEMA's IPAWS is operational? Should we require notice when a broadcaster's ability to access IPAWS is disrupted regardless of the operational status of the transmitter? Should the DIRS filing requirement apply to translators and boosters that merely pass along programming from other stations without generating their own? We propose that reporting in NORS or DIRS would not supplant the ongoing requirement to notify the Commission about going silent in the Licensing and Management System (LMS); does this create duplication in effort? Further, a broadcast station can go silent for

¹⁰³ FCC, *Broadcasting and Localism: FCC Consumer Facts*, https://transition.fcc.gov/localism/Localism_Fact_Sheet.pdf, (last visited Dec. 19, 2023). See also FCC, *The Public and Broadcasting: How to Get the Most Service from Your Local Station*, (Sept. 13, 2022), <https://www.fcc.gov/media/radio/public-and-broadcasting>.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

numerous reasons and reasons unrelated to disasters and emergencies at times. NORS puts these broadcast stations in a specific outage light and a direct path to a public safety specific view of what broadcast stations are experiencing outages and which are not. A silent station is not necessarily synonymous with a station experiencing an outage and should be reported distinctly from each other. We seek comment on ways that this information can be shared with the Commission.

50. What estimated costs would be part of the new reporting requirements? How would such reporting improve mortality or other measures of welfare? How does broadcasting differ in both cost and benefit from the subject providers mandated in the *Second Report and Order* based on technology and/or how the technology is used? As some broadcasters may receive an automated alert when their facilities are “down,” to what extent could broadcasters use automated alerting to provide operational status directly to DIRS/NORS?

51. We estimate that the proposed filing rules would incur no more than \$33.7 million total cost per year to broadcasters, including \$33.5 million for NORS filing and \$212,000 for DIRS reporting. Among the 21,392 broadcast stations (which does not include 12,055 FM translators & boosters, UHF translators, and VHF translators),¹⁰⁶ we estimate that approximately an average of 2,755 stations will have to file reports in NORS per year under the proposed rules.¹⁰⁷ Per NORS data, each provider files an average of 2,175 reports in a 12-month period.¹⁰⁸ Assuming that each report takes 10 minutes to file, we estimate that the total cost is approximately \$33.5 million per year for broadcasters to comply with the NORS reporting obligation.¹⁰⁹ For DIRS reporting, we assume broadcast stations are evenly distributed across counties, and there would be about 7 broadcast stations per county.¹¹⁰ Given that an average of 339 counties were affected by DIRS activations for an average of 14 days per year,¹¹¹ we estimate that the total cost of complying with DIRS reporting rules is approximately \$212,000 per year for broadcasters.¹¹²

¹⁰⁶ *Broadcast Station Totals as of September 30, 2023*, Public Notice, DA 23-921, <https://docs.fcc.gov/public/attachments/DA-23-921A1.pdf> (released Oct. 3, 2023) (*October 2023 Broadcast Station Totals PN*).

¹⁰⁷ Per staff calculation based on the NORS database, out of 994 telecommunications service providers in the NORS database, 128 providers (128/994 ~ 12.9%) submitted a report in the 12-month window between August 2022 and July 2023. Multiplying 21,392 broadcast stations by 12.9%, we estimate that approximate 2,755 broadcast stations will submit reports through NORS each year. We seek comment on this estimate.

¹⁰⁸ There were 128 providers filing a total of 325,553 NORS reports filed through NORS between August 2022 and July 2023, excluding 47,112 reports that were subsequently withdrawn, the average number of reports filed per filing provider is 2,175 ((325,553 – 47,112)/128 ~ 2,175). Staff calculation using data filed between August 2022 and July 2023 in the NORS database.

¹⁰⁹ We calculate the cost as follows: 2,755 broadcast stations × (10/60) hours per report × 2,175 reports × (\$21.90 + \$9.86) × 105.5% per hour = \$33,462,822, which we round to \$33.5 million. See *Office and Administrative Support Wage, Compensation Benefit Mark-up and Inflation Adjustment*. Alternatively, if we were instead, to exclude the 3,867 (= 1,889 + 1,978; see *October 2023 Broadcast Station Totals PN*) low power broadcast stations, this would decrease the 2,755 broadcast stations in our calculation above to 2,257 (= 12.9% × (21,392 – 3,867)) and decrease the cost to approximately \$27.4 million.

¹¹⁰ Dividing 21,392 broadcast stations by 3,144 counties, there are 6.8 stations per county, which we round up to 7. See U.S. Census Bureau, *County Population Totals and Components of Change: 2020-2022, Vintage 2022* (there are a total of 3,144 counties Tables Annual Estimates of the Resident Population for Counties: April 1, 2020, to July 1, 2022 (CO-EST2022-POP) through the link of “United States”) (last visited Oct. 1, 2023).

¹¹¹ Staff calculation based on DIRS data between 2017 and 2023. *Supra* note 80.

¹¹² We calculate the cost of DIRS reporting for broadcasters as follows: 1 office and administrative support worker × (\$21.90 + \$9.86) × 105.5% per hour × [(10/60) hours for the initial entry + (10/60) hours for daily updates × 14 days + (10/60) hours for the final report] × 339 counties × 7 service providers = \$212,031, which we round to \$212,000. See *Office and Administrative Support Wage, Compensation Benefit Mark-up and Inflation Adjustment*.

(continued....)

We treat the cost estimate as an upper bound because it does not account for the cost savings from the waiver of NORS reporting obligation during DIRS activations, the potentially simplified reporting processes for broadcasters, or voluntary DIRS filings already being submitted by stations. We seek comment on our cost estimates for broadcasters to comply with the NORS and DIRS filing rules.¹¹³ We note, in particular, that the record indicates that the average number of outages, or 2,175, which we use for our NORS reporting cost estimates, may be too high, resulting in a corresponding overestimate of costs.¹¹⁴ We seek comment on the average number of annual outages that broadcast stations experience.

52. With respect to NORS reporting,¹¹⁵ should we require that NORS filings provide more detail than that proposed for DIRS, particularly with respect to final reports filed within 30 days? What would the appropriate thresholds be to trigger broadcast reporting obligations? Is a simple duration standard sufficient? Satellite providers are required to file a notification in NORS within 120 minutes of an outage's discovery – is the same standard appropriate here?¹¹⁶ Why or why not? Should initial reports at 72 hours and final reports in 30 days also follow? How should an outage be defined for broadcast services? We seek comment on the costs and benefits of these options.

B. Outage Reporting by Satellite Providers

53. We seek comment on whether to require DBS providers, SDARS providers, Fixed Satellite Service (FSS) providers, and Mobile Satellite Service (MSS) providers report in DIRS, and if so, what fields should be included in mandatory DIRS reporting as to these providers. We further seek comment on whether these or other categories of satellite providers should be required to file in NORS or DIRS, and how the existing NORS reporting thresholds for satellite providers should be modified to reflect technological changes to these networks that have occurred since the initial adoption of the rules.

Alternatively, if we were instead, to exclude the 3,867 (= 1,889 + 1,978; see *October 2023 Broadcast Station Totals PN*) low power broadcast stations, this would decrease the stations per county to approximately 6 and decrease the cost to approximately \$182,000. We seek comment on this calculation.

¹¹³ The estimate may also be overstated because we rely on the average number of reports from all types of providers, including wireless providers which tend to file more reports than other types of providers.

¹¹⁴ Our average outage estimate is based on reports filed through NORS between August 2022 and July 2023, but, in particular, given broadcasters' relatively small size and efforts that they take to avoid outages, this may be too high. See, e.g., NPR Comments at 7 (“Most stations do not experience extended service outages, primarily because of the extraordinary measures they take to maintain broadcast operations in the wake of a disaster”).

¹¹⁵ NORS is a “cloud, workflow-based application, [which] gives users the capability to report telecommunications outages directly to the FCC. Through NORS, users can submit notifications and reports, update reports, and complete administrative actions. Users perform these core activities through the modules in the navigator.” See FCC, *Network Outage Reporting System User Manual Version 3*, <https://www.fcc.gov/file/21988/download> (Oct. 28, 2021). When it comes to Silent AM and FM Broadcast stations, “[s]tations that go silent must file a notice of suspension of operations request in the LMS application filing system within 10 days of ceasing operation. The filing should include an attachment with a brief explanation of the reason for ceasing operation and include a projected date for the station’s return to licensed operation (if possible). Short periods of discontinued operation (less than 10 days) need not be reported but should be entered in the station’s log . . . [i]f the station’s silent period is expected to last beyond 30 days, Special Temporary Authority is necessary . . . [and] [a]fter review, the [Media Bureau] may grant Special Temporary Authority for a period not exceeding 180 days, but extensions may be approved upon the submission of a new STA extension request.” See FCC, *Special Temporary Authority Licensing*, (Mar. 30, 2017), <https://www.fcc.gov/research-reports/guides/special-temporary-authority-licensing>. The Broadcast-specific outage reports are filed in the Licensing and Management System (LMS) but do not constitute any sort of public safety or infrastructure status log, which NORS would provide.

¹¹⁶ The Commission is aware that some satellite providers, such as DIRECTV or DISH, may have more resources nationwide to do these filings while generally, most broadcasters are often more local in nature and have far fewer employees, especially smaller-sized broadcasters.

54. While it is a small measure of burden to require an additional type of reporting, we believe that the public safety benefits outweigh the cost burden to satellite providers by providing the Commission and therefore consumers with potentially life-saving information. We seek comment on this belief. All satellite providers are currently required to report in NORS and are able to voluntarily report in DIRS.¹¹⁷ Yet the Commission has observed that satellite providers supply only a very small number of NORS reports, and we currently lack comprehensive insight as to why satellite providers file so few mandatory NORS reports. Satellite providers similarly provide very few voluntary DIRS reports. The Commission's original 2004 NORS outage reporting thresholds for satellite providers remain in place today, despite changes that have occurred to the status of satellite provider network operations since that time. Specifically, outage reporting in NORS for satellite providers is triggered for outages meeting the 30 minute duration threshold and manifesting as "a failure of any of the following key system elements: One or more satellite transponders, satellite beams, inter-satellite links, or entire satellites."¹¹⁸ For MSS satellite operators, reporting is triggered where the outage "manifests itself as a failure of any gateway earth station, except in the case where other earth stations at the gateway location are used to continue gateway operations within 30 minutes of the onset of the failure."¹¹⁹ Certain satellite infrastructure used for internal networks and one-way distribution of audio or video are also excluded from reporting obligations in NORS.¹²⁰ As discussed with subject providers in the *Second Report and Order*, a voluntary state for reporting makes it difficult for the Commission to know whether entities are electing not to report because reporting is voluntary or whether they do not physically have the capacity to report because of infrastructure damages or the disaster event itself.

55. In response to the proposal regarding the requirement for satellite providers to report in DIRS, we received several industry comments. DirecTV does not opine on whether service providers should report on infrastructure status through DIRS post-emergencies, but suggests that if such a requirement is imposed on DBS systems like theirs, reporting should be confined to key infrastructure under the provider's control.¹²¹ They advocate for reporting limited to transmitting earth stations supporting the DBS system.¹²² Iridium, an MSS provider, asserts that satellite services like theirs, which do not rely on ground infrastructure for user links, remain largely unaffected by terrestrial disasters and should not be required to submit DIRS reports at all.¹²³ In alignment with DirecTV's viewpoint, SDARS provider SiriusXM agrees that any DIRS reporting requirement for satellite networks should be limited to "key infrastructure under the provider's control," citing the difficulty of determining subscriber receiver functionality during disasters and the lack of location information for SDARS receivers in vehicles or mobile devices.¹²⁴

56. Based on the responses to the proposal regarding the requirement for satellite providers to report in DIRS, we received several industry comments that raise issues we believe merit additional inquiry. DirecTV and Iridium express concerns that any mandatory DIRS reporting for satellite providers should only include information on key infrastructure equipment within a satellite provider's control (e.g., excluding equipment installed at customers' homes) that, if compromised, could affect the ability of the

¹¹⁷ 47 CFR § 4.9(c).

¹¹⁸ *Id.* at § 4.9(c)(1).

¹¹⁹ *Id.*

¹²⁰ 47 CFR § 4.9(c)(5).

¹²¹ DirecTV, Dec. 16, 2021, Comments at 1 (DirecTV Comments).

¹²² *Id.*

¹²³ Iridium, Dec. 16, 2021, Comments at 8-9 (Iridium Comments).

¹²⁴ SiriusXM, Jan. 14, 2022, Reply at 2-3 (SiriusXM Reply).

satellite provider to offer service.¹²⁵ However, Iridium itself says that “[s]atellite services provide essential connectivity in disaster response and recovery, including voice and data services, satellite imagery, and satellite for cellular backhaul. Iridium [says they] play[] an important role in enabling critical communications before, during, and after disasters. [The] demand for and use of Iridium’s MSS devices spikes and government agencies and consumers use Iridium devices more extensively.”¹²⁶ In cases where a terrestrial component is involved, reporting in DIRS could help authorities gauge the extent of disruption and fill-in informational gaps daily filing updates for an entire affected area, which NORS does not do. Finally, we acknowledge that SiriusXM, Iridium, and DirecTV share the view that they do not have all the location information that current DIRS forms request as some of their equipment is located in customers’ vehicles or in other mobile facilities.¹²⁷ We seek comment on these concerns. Are there satellite providers that do not have any terrestrial components that could be affected by natural disasters, or should we limit reporting to include only specific types of terrestrial network components? We note, however, that a better understanding of network operations of various satellite technologies would give the Commission insight into the reliability of connectivity for customers located in remote or rural areas, who may disproportionately rely on satellite-based communications for broadband connectivity or where rural communications companies may more heavily rely on satellite capabilities for backhaul. We believe that knowledge of impacts to satellite communications capabilities, particularly in disaster contexts, could also provide situational awareness for emergency response personnel in some of the most potentially dire circumstances where impacts to solely terrestrial based infrastructure may be more severe. We seek comment on these views.

57. We also seek comment on whether and how the NORS reporting thresholds for satellite providers should be modified to reflect technological changes to these networks since the Commission’s original 2004 reporting rules were effectuated. Do the definitions currently used in Part 4 remain the most salient way to capture impactful outages?¹²⁸ If not, what alternative thresholds should be utilized? Is 120 minutes the appropriate time threshold for outage notifications for all satellite providers? Are there additional data elements specific to some or all satellite reporting entities that should be added to or eliminated from the existing notification, initial report or final report templates? Should the scope of reporting satellite providers be amended, or exclusions re-examined? Are there estimates of how the reporting would improve public safety or other measures of welfare? What are the estimated costs of the proposed reporting requirements? How do satellites differ in cost and benefits from the subject providers mandated in the *Second Report and Order* based on their difference in technology and use?

58. Although these satellite providers were not addressed in the *Second Report and Order* we seek comment on whether the Commission should require satellite BIAS providers and satellite broadcast providers to report in DIRS as the subject providers in the *Second Report and Order* have been mandated.¹²⁹ If adopted, we seek comment on potential modification of the types of information requested in DIRS forms pertaining to satellite providers and seek comment on how to best capture information relevant to satellite network status and availability in potential disaster scenarios. We seek comment on the types of satellite equipment that are relevant to ensuring operation during exigencies and

¹²⁵ DirecTV Comments at 1-2; Iridium Comments at 8-9.

¹²⁶ Iridium Comments at 3.

¹²⁷ SiriusXM Reply at 2-3.

¹²⁸ See 47 CFR § 4.3(d); see also *id.* §§ 4.5, 4.9(c)(1-5); and see *id.* § 4.11 (Part 4 rules describing satellite communications providers as communications providers covered by the requirements of this part, definitions of outage, outage reporting requirements and threshold criteria for satellite, and notification and initial and final communications outage reports that must be filed by communications providers).

¹²⁹ We note that the *Open Internet Notice* includes a proposal to include satellite broadband (fixed and mobile) within the definition of BIAS. We included satellite broadband in this section as well ensure adequate comment. See *Open Internet NPRM* at para. 61. See also, Section IV.D, *infra*.

on whether DIRS forms need to be revised to include or exclude certain pieces of infrastructure equipment. Should our rules, as some commenters suggest, differentiate more completely between types of infrastructure within the satellite providers network and how it may be impacted? What are the costs and benefits of the proposed reporting?

59. According to an analysis of operational licensee and ownership data, there are a total of 18 satellite service providers, including six FSS providers, six MSS providers, two DBS providers and one SDARS provider.¹³⁰ If all 18 providers are subject to the DIRS reporting mandate, we estimate that the total cost would not exceed \$545,000 per year.¹³¹ We seek comment on our cost estimate.

C. Outage Reporting by FirstNet

60. We seek comment on whether FirstNet should be subject to reporting requirements in NORS, DIRS, or in both systems. FirstNet is not currently subject to NORS or DIRS outage reporting obligations and has never participated in NORS or DIRS on a voluntary basis. However, its importance to the public safety community and the unique customer base it serves leads us to consider whether outage reporting is necessary and appropriate to provide a more complete picture of the overall health and resiliency of an increasingly important component of the nation's communications infrastructure, particularly during specific disasters during which FirstNet is specifically designed to provide more robust outcomes.

61. FirstNet¹³² serves as a high-speed, nationwide wireless broadband network for first responders, yet does not currently provide any reporting to the Commission regarding network outages or infrastructure status. While FirstNet is required to provide an annual report to Congress, this report focuses on general aspects of FirstNet network administration, and not on supplying near real-time information on FirstNet outages and infrastructure status.¹³³ Moreover, while FirstNet's commercial partner, AT&T, is subject to the Commission's reporting rules (and so some information on FirstNet may be inferred as to network health and operation through AT&T's filings)¹³⁴ and despite the fact that FirstNet is a Commission licensee, information on FirstNet specific infrastructure and services is not available to the Commission, or to the public safety personnel the network serves. In 2013, the

¹³⁰ The 18 satellite service providers include nine FSS providers: EchoStar/Hughes, Eutelsat, Intelsat, Kepler, Kuiper (not launched at time of writing), SES/O3b, SpaceX, Telesat, and Viasat; six MSS providers: Globalstar, Iridium, Ligado, ORBCOMM, Spire Global, and Swarm Technologies; two DBS providers: DIRECTV and DISH Network; and one SDARS provider: SiriusXM. *See Assessment and Collection of Regulatory Fees for Fiscal 2023, Review of the Commission's Assessment and Collection of Regulatory Fees*, MD Docket Nos. 23-159, 22-301, Report and Order, Appendix F (Aug. 10, 2023); *Communications Marketplace Report*, FCC 22-103, 2022 Communications Marketplace Report, at 128-29, 132, 134, 136 (Dec. 30, 2022).

¹³¹ We calculate the cost of DIRS reporting for DBS and SDARS as follows: 1 office and administrative support worker × (\$21.90 + \$9.86) × 105.5% per hour × [(10/60) hours for the initial entry + (10/60) hours for daily updates × 14 days + (10/60) hours for the final report] × 339 counties × 18 service providers = \$545,223, which we round to \$545,000. We seek comment on this calculation. *See Office and Administrative Support Wage, Compensation Benefit Mark-up and Inflation Adjustment*.

¹³² The First Responder Network Authority (FirstNet) is an independent authority within the National Telecommunications and Information Administration (NTIA). Its mission is to deploy, operate, maintain, and improve the first high-speed, nationwide wireless broadband network for first responders. *See generally* FirstNet, *More agencies trust FirstNet to reliably communicate than any other network*, <https://www.firstnet.com/> (last visited Dec. 19, 2023).

¹³³ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156 (2012), at § 6210 (requiring FirstNet annual reports to Congress).

¹³⁴ As FirstNet is built with the AT&T network, AT&T's NORS reporting may already include information specific to FirstNet, meaning the Commission may be able to determine the infrastructure status of FirstNet by analyzing the infrastructure status of AT&T via its AT&T reporting.

Commission last sought comment on whether to institute reporting obligations on FirstNet.¹³⁵ FirstNet opposed this proposal on grounds that FirstNet already had Congressionally created obligations to consult with stakeholders and report to Congress on its network.¹³⁶ The Commission did not draw conclusions on FirstNet's arguments or make final determinations on the merits of a reporting requirement, deferring any action for future consideration.¹³⁷ Since that time, however, parties have expressed concern regarding the lack of transparency associated with FirstNet's operations and the performance of its network during times of crisis. For example, parties to the proceeding addressing FirstNet's recent license renewal process and participating in the Commission's hearing following Hurricane Ida each expressed frustration in this regard.¹³⁸

62. Consistent with the obligations of other wireless providers, we seek comment on whether FirstNet, or AT&T on FirstNet's behalf, should similarly be required to file outage reports with the Commission in NORS with respect to FirstNet infrastructure and services.¹³⁹ As the related *Second Report and Order* adopted a mandatory obligation for subject providers to file in DIRS, we seek comment in this *Further Notice* on whether this obligation should similarly be extended to FirstNet. Given the importance of the clients served by FirstNet,¹⁴⁰ we believe reporting could create accountability for FirstNet and as a focal point of public safety currently lacking transparency. We seek comment on this position. Alternatively, we seek comment on whether one or both of these obligations should be voluntary. Consistent with the purpose of NORS and DIRS reporting in other contexts, timely situational awareness on the part of the Commission and its Federal, state, Tribal, and territorial information sharing partners could allow more nimble decision making when the need for alternative communications paths may be needed or when operational support may be needed, and over time provide insight into best practices or industry trends that will support larger efforts to elevate network reliability across providers and platforms.

63. In considering this issue, we remain cognizant of FirstNet's unique status as a Congressionally-created entity with statutory reporting requirements. Due to its preexisting reporting requirements, we seek comment on providing the Commission with this type of mandated reporting in addition to the FirstNet reporting already required by statute and the Commission's authority to do so for FirstNet as a Commission licensee. Do the Commission's general Title III authorities, coupled with section 6003(a) of the Public Safety Spectrum Act, support our ability to seek information beyond FirstNet's statutorily mandated reports?¹⁴¹ What other provisions might support such reporting? What quantitative estimates of potential costs and benefits of this integration are available? What would be additional improvements to public safety and other measures of welfare due to specifically reporting by

¹³⁵ *Implementing Public Safety Broadband Provisions of the Middle Class Tax Relief and Job Creation Act of 2012 et al.*, PS Docket No. 12-94, et al., Notice of Proposed Rulemaking, 28 FCC Rcd 2715, 2728-29, paras. 42-46 (2013).

¹³⁶ Comments of the National Telecommunications and Information Administration (NTIA) on Behalf of the First Responder Network Authority (FirstNet), PS Docket No. 12-94, et al., at 2 (rec. Aug. 2, 2013).

¹³⁷ *Implementing Public Safety Broadband Provisions of the Middle Class Tax Relief and Job Creation Act of 2012 et al.*, PS Docket No. 12-94, et al., Second Report and Order, 28 FCC Rcd 15174, 15174, n. 1 (2013).

¹³⁸ See e.g., Statement of Jack Varnado, Captain, Livingston Parish Sheriff's Office, FCC Field Hearing on Network Resiliency, PS Docket Nos. 21- 346, 15-80, ET Docket No. 04-35 (Oct 26, 2021), at 2-3.

¹³⁹ See, e.g., 47 CFR § 4.9(e).

¹⁴⁰ See AT&T Comments at 3 ("Through FirstNet, public safety agencies have access to a nationwide, dedicated fleet of 100+ land-based and airborne portable cell sites, including 3 Flying COWs – which are cell sites on drones – and the FirstNet One aerostat 'blimp.'").

¹⁴¹ See, e.g., Public Safety Spectrum Act Section 6003(a), 47 U.S.C. § 1403.

FirstNet? How would the magnitude of these benefits compare to the benefits estimated in the *Second Report and Order*?

D. Reporting By Broadband Internet Access Service Providers

64. In the *2021 Resilient Networks Notice*, the Commission sought comment on the inclusion of broadband providers within the mandatory reporting rules for NORS.¹⁴² Currently, while BIAS providers may voluntarily report their status in DIRS when activated, they are not required to report their status in NORS. The Commission sought input on the public interest benefits and the costs of reporting of broadband service outages, as well as whether the inclusion of broadband reporting in NORS reporting would improve emergency managers' situational awareness during disasters, help identify broadband outage trends, and/or support first response and network reliability efforts. Since issuing that *Notice*, the FCC released the *Open Internet Notice* in 2023, which seeks comment on reestablishing the framework the Commission adopted in 2015 to classify BIAS as a telecommunications service and to classify mobile BIAS as a commercial mobile service.¹⁴³ The *Open Internet Notice* posits that restoration of Title II authority will allow the Commission to prevent BIAS providers from engaging in harmful consumer practices, strengthen the Commission's ability to secure communications networks and critical infrastructure against national security threats, and better enable the Commission to protect public safety during disasters and other emergencies including by preventing blocking and discrimination of Internet traffic.¹⁴⁴

65. In response to the *2021 Resilient Networks Notice*, proponents of a NORS/DIRS filing requirement for BIAS providers agree with the Commission's premise that "improving the information in these important systems will be helpful for situational awareness and ongoing efforts to improve network resiliency," although APCO also notes that even more specific information is typically required by emergency personnel.¹⁴⁵ The National Association of State Utility Consumer Advocates (NASUCA) similarly supports outage filings by BIAS providers, noting that BIAS is used to provide emergency information to the public about emergency situations.¹⁴⁶ For DIRS in particular, NCC notes that "[r]equiring providers to include broadband data can fill information gaps for areas that lack DIRS reporting" which "may be due to nonparticipation by providers or a lack of broadband connection."¹⁴⁷ Public Knowledge states, "[o]ne of the most significant problems when discussing network reliability and resiliency is that there is no meaningful way to measure it other than 'is the network operating today?'" This is why Public Knowledge called on the Commission for years to evaluate end-user technologies based on objective metrics, which are consistent with the FCC's latest proposals for reform, including: network capacity under stress; call quality; device interoperability; service and support for users with

¹⁴² See *2021 Resilient Networks Notice* at para. 30. See also note 54.

¹⁴³ *Open Internet NPRM* at para. 16.

¹⁴⁴ *Id.*; see also *Open Internet NPRM* at para. 21. Prior to 2021, the Commission considered the issue of broadband outage reporting on several occasions. In 2016, for example, the Commission proposed various outage reporting for broadband services, specifically as to "hard down" and "significant degradation" outages experienced by BIAS services. The Commission posited its authority in this context included Section 615a-1, the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA), Title II, Title III, Section 706, and Section 254. See, e.g., *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, New Part 4 of the Commission's Rules Concerning Disruption to Communications, The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 15-80, ET Docket No. 04-35, PS Docket No. 11-82, Report and Order, Further Notice of Proposed Rulemaking and Order on Reconsideration, 31 FCC Rcd 5817, at paras. 102-59 (2016).

¹⁴⁵ APCO Comments at 4.

¹⁴⁶ National Association of State Utility Consumer Advocates, Jan. 14, 2022, Reply at 11 (NASUCA Reply).

¹⁴⁷ NCC Comments at 11.

disabilities; system availability; service to 911 entities and PSAPs; cybersecurity; call persistence; call functionality; and wireline coverage.”¹⁴⁸

66. Commenters against broadband reporting argue that it is duplicative or otherwise unnecessary. T-Mobile, for example, asserts that wireless providers should not be required to separately report BIAS outages as such reporting requirement “would be duplicative of other outage reporting requirements that CMRS providers are already subject to.”¹⁴⁹ T-Mobile further states that “[e]very commenter in the prior proceeding that addressed whether distinct outage reporting rules should apply to BIAS offered by CMRS providers opposed such a requirement” and shares that “CMRS providers long have been subject to the Commission’s network outage reporting rules and that subjecting the CMRS industry to BIAS outage reporting will increase costs, cause confusion, and produce little if any benefits.”¹⁵⁰ Verizon argues that some of the Commission’s reporting proposals “would constitute reporting for its own sake without consumer benefit” and that “[w]ith respect to broadband services . . . existing outage reporting requirements already capture most significant broadband outages since broadband and voice services increasingly use the same IP-enabled networks, so additional rules would be duplicative.”¹⁵¹ SIA suggests that the Commission should “issue a supplemental public notice in this proceeding that provides a clear definition of a ‘broadband outage’ and include potential thresholds that would require providers to file a report in NORS.”¹⁵² NCTA “urges the Commission not to significantly alter [DIRS] and [NORS] . . . [as] DIRS can be valuable in providing emergency managers with facts on the ground during major disasters, and NORS can play a valuable role in identifying trends in network reliability, provided that appropriate protections are in place for sensitive network information with serious competitive and national security implications. As the Commission considers potential expansion of these programs, it should be sensitive to the burdens that reporting places on providers during disaster situations and take care not to duplicate other information sharing that is already occurring at the state and local level or to impose burdensome reporting requirements that divert resources away from maintaining and restoring service to customers.”¹⁵³

67. Consistent with an objective of the *Second Report and Order* to provide a more complete and comprehensive snapshot of the status of critical communications networks,¹⁵⁴ we believe that reported data to NORS and DIRS should also encompass disruptions to BIAS, including mobile and fixed wireless BIAS service.¹⁵⁵ In light of the Commission’s pending consideration of the regulatory classification of BIAS as a telecommunications service under the Communications Act and the increasing importance of BIAS to a host of uses by consumers, public safety officials, and others, particularly during times of disaster,¹⁵⁶ we renew our inquiry into whether BIAS providers should be required to submit outage reports in NORS. We also seek comment on whether participation in DIRS when activated should also be mandatory.

68. The *Open Internet Notice* seeks comment on whether Title II classification would enhance the Commission’s authority to impose reporting requirements on BIAS providers for BIAS

¹⁴⁸ Public Knowledge Comments at 29 (internal citations omitted). *See also* Comments of Public Knowledge, et al., PS Docket No. 14-174, at 9 (filed Feb. 5, 2015).

¹⁴⁹ T-Mobile, Dec. 16, 2021, Comments at 17.

¹⁵⁰ *Id.*

¹⁵¹ Verizon, Dec. 16, 2021, Comments at 19-20.

¹⁵² Satellite Industry Association, Dec. 16, 2021, Comments at 2 (SIA Comments).

¹⁵³ NCTA Comments at 4; *see also* AT&T Comments at 19 (with similar “duplicative” concerns).

¹⁵⁴ *See Second Report and Order* at 10-11, para. 16.

¹⁵⁵ *See 2021 Resilient Networks Notice* at para. 30.

¹⁵⁶ *See generally Open Internet Notice* at para. 39.

outages should the Commission classify BIAS as a Title II service.¹⁵⁷ We seek comment on the impact of Title II classification on our authority to require BIAS providers to file NORS and/or DIRS reports. We also renew our assertion that the statutory provisions cited in the 2016 *Notice* considering outage reporting for BIAS provide the Commission with authority to require such reporting and seek comment on additional authority that may be relevant.¹⁵⁸ Among other considerations, we seek comment on how outage reporting might support the Commission's obligations under, and implementation of, the digital discrimination provisions of the 2021 Infrastructure Investment and Jobs Act.¹⁵⁹

69. We estimate that the proposed filing rules would incur no more than \$3.9 million total cost per year to BIAS providers, including \$3.5 million for NORS filing and \$394,000 for DIRS reporting. Among the 2,234 BIAS providers,¹⁶⁰ we estimate that approximately an average of 288 BIAS providers will have to file reports in NORS per year under the proposed rules.¹⁶¹ Per NORS data, each provider filed an average of 2,175 reports in a 12-month period.¹⁶² Assuming that each report takes 10 minutes to file, we estimate that the total cost is approximately \$3.5 million per year for BIAS providers

¹⁵⁷ See generally *Open Internet Notice*.

¹⁵⁸ See *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration*, PS Docket Nos. 15-80, 11-82, ET Docket No. 04-35, *Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration*, 31 FCC Rcd 5817, paras. 193-212 (2016) (2016 Notice) (citing, e.g., statutory authority under the NET 911 Improvement Act, 47 U.S.C. §615a-1, Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (2010) (codified in various sections of Title 47 of the United States Code), various provisions of Title III of the Communications Act, as amended, Section 706 of the Telecommunications Act, 47 U.S.C. § 1302, and 47 U.S.C. § 254 where applicable). While no commenter addressed the Commission's authority to require broadband reporting in response to the 2021 *Resilient Networks Notice*, commenters previously objected in response to the 2016 *Notice* as to the Commission's ability to implement broadband outage reporting requirements under several of the cited provisions.

¹⁵⁹ See *Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, GN Docket No. 22-69, Report and Order and Further Notice of Proposed Rulemaking, FCC 23-100, (Nov. 20, 2023); see also, *Infrastructure Investment and Jobs Act*, Pub. L. No. 117-58, 135 Stat. 429, § 60506 (2021) (codified at 47 U.S.C. §1754) (*Infrastructure Act*).

¹⁶⁰ Staff calculation based on BDC filings as of June 30, 2022, which were certified by August 4, 2023. As of June 30, 2022, there were a total of 2,234 unique fixed BIAS providers that offered BIAS via various technologies, including coaxial cable, copper wire, fixed wireless, optical, and satellite. We exclude mobile broadband service providers in our cost estimate because they also provide voice services, requiring them to report outages in NORS and, once the *Second Report and Order* is in effect, DIRS. We believe that the marginal costs of reporting broadband outages while the service providers report outages of their voice service would be minimal. We also anticipate that mobile voice service would be operational during a mobile broadband outage only in unusual circumstances. As a result, we tentatively conclude that the additional cost of reporting outages of mobile broadband services is negligible. We seek comment on our assessment.

¹⁶¹ Per staff calculation based on the NORS database, out of 994 telecommunications service providers in the NORS database, 128 providers (128/994 ~ 12.9%) submitted a report in the 12-month window between August 2022 and July 2023. Multiplying 2,234 broadband service providers by 12.9%, we estimate that approximate 288 broadband service providers will submit reports through NORS each year (2,234 × 12.9% = 288). We seek comment on this estimate.

¹⁶² There were 128 providers filing a total of 325,553 NORS reports filed through NORS between August 2022 and July 2023, excluding 47,112 reports that were subsequently withdrawn, the average number of reports filed per filing provider is 2,175 ((325,553 – 47,112)/128 ~ 2,175). Staff calculation using data filed between August 2022 and July 2023 in the NORS database.

to comply with the NORS reporting obligation.¹⁶³ For DIRS reporting, we estimate that on average there are 13 BIAS providers in each county.¹⁶⁴ Given that an average of 339 counties were affected by DIRS activations for an average of 14 days per year,¹⁶⁵ we estimate that the total cost of complying with DIRS reporting rules is approximately \$394,000 per year for BIAS providers.¹⁶⁶ We treat the cost estimate as an upper bound because it does not subtract the cost savings from the waiver of NORS reporting obligation during DIRS activations and the potentially simplified reporting processes for BIAS providers. We seek comment on our cost estimates for broadband service providers to comply with the NORS and DIRS filing rules.¹⁶⁷

70. With respect to reporting obligations of BIAS providers, we seek comment on how to define an “outage” within the context of BIAS provision. Is the current threshold of 900,000 user minutes appropriate in this context?¹⁶⁸ What other ways should the Commission measure “impact” for BIAS outage reporting purposes? Is the current 30-minute threshold otherwise utilized in Part 4 appropriate, coupled with a scope metric?¹⁶⁹ Should the duration metric be higher or lower? Should reporting be required based on significant degradation in throughput and, if so, how should that be measured? Should the definition consider redundant or alternate pathways for data already being reported to the Commission pursuant to some other requirement? We seek comment on how an appropriate threshold would support the ability of the Commission to discern when outages or significant network degradation stemming from issues such as cybersecurity breaches, wire cuts, infrastructure damages from natural disasters, and/or

¹⁶³ We calculate the cost as follows: 288 broadband service providers × (10/60) hours per report × 2,175 reports × (\$21.90 + \$9.86) × 105.5% per hour = \$3,498,109, which we round to \$3.5 million. See *Office and Administrative Support Wage, Compensation Benefit Mark-up and Inflation Adjustment*. We seek comment on this calculation.

¹⁶⁴ Staff calculation of fixed (including coaxial cable, copper wire, fixed wireless, optical, and satellite) broadband service providers as of June 30, 2022 based on Form 477 filings certified as of July 24, 2023 and BDC filings certified as of August 4, 2023. Taking a simple average of unique fixed broadband service providers across counties, we estimate that an average county has 13.1 unique fixed broadband service providers, which we round to 13. This estimate may overstate the cost because many fixed BIAS providers are required to report outages of their voice services through NORS and DIRS, and we believe that the marginal cost of simultaneously reporting the broadband outage is minimal. Mobile BIAS providers are not included in our cost estimate because they also provide voice services, requiring them to report outages in NORS and, once the *Second Report and Order* is in effect, DIRS. *Supra* note 164..

¹⁶⁵ Staff calculation based on DIRS data between 2017 and 2023. *Supra* note 80.

¹⁶⁶ We calculate the cost of DIRS reporting for broadcasters as follows: 1 office and administrative support worker × (\$21.90 + \$9.86) × 105.5% per hour × [(10/60) hours for the initial entry + (10/60) hours for daily updates × 14 days + (10/60) hours for the final report] × 339 counties × 13 service providers = \$393,772, which we round to \$394,000. We seek comment on this calculation.

¹⁶⁷ The estimate may also be overstated because we rely on the average number of reports from all types of providers, including wireless providers which tend to file more reports than other types of providers.

¹⁶⁸ The 900,000-user minute threshold is taken from 47 CFR § 4.9 which speaks to outage reporting requirements and threshold criteria. More specifically, the 900,000 refers to affected user minutes. User minutes is defined as, “assigned telephone number minutes . . . for telephony, including non-mobile interconnected VoIP telephony, and for those paging networks in which each individual user is assigned a telephone number” and “The mathematical result of multiplying the duration of an outage, expressed in minutes, by the number of end users potentially affected by the outage, **for all other forms of communications** (emphasis added).” See 47 CFR § 4.7(e)(1)-(2).

¹⁶⁹ The 30-minute threshold is taken from 47 CFR § 4.9, which speaks to outage reporting requirements and threshold criteria. More specifically, the 30 minutes refers to the minimum amount of time an outage must last to become reportable to the Commission. Any outage that lasts at least 30 minutes duration would have to be reported to the commission if the outage also affects specific instances like user minutes affected, special offices and facilities affected, or affects a 911 special facility. See 47 CFR § 4.9.

operator errors or misconfigurations in support of its public safety obligations, and what those thresholds should be.

71. In considering the record to date, parties objecting to the inclusion of BIAS in reporting obligations argued that such reporting would be redundant, as many providers in this space already report outages under different provisions of Part 4. We do not believe, however, that requiring the Commission or other emergency response personnel to infer when a BIAS outage occurs from an outage report made by a communications provider as to a related service is a tenable way to mitigate the impact of a network outages, or promptly and clearly provide emergency managers with an understanding of how they can communicate with the public and how the public can communicate with them. We seek comment on this view, and more generally on the costs and benefits of our proposal. We also seek comment on any other service categories that might be included in order to gain a relevant picture of network outage impact on the call/data transmission chain; for example, should SS7 providers or other transport providers be required to report in DIRS? Are there other classes of broadband providers that should be reporting in NORS and/or DIRS? We also seek comments on ways to mitigate any perceived burden for filers that would otherwise be obligated, in whole or in part, to report outages on services already subject to the Commission's Part 4 rules.

E. Reporting Mobile Recovery Assets in DIRS

72. We seek comment on whether current or future providers who are subject to DIRS reporting requirements should be required to supply the Commission with information concerning the location of their mobile recovery assets, and specifically whether providers should be required to supply the Commission with information on the location of their Cells on Wheels (COWs) and Cells on Light Truck (COLTs) or comparable assets, either as a component of their daily DIRS reporting or through alternate means. Additionally, we seek comment on whether subject providers should be required to quantify the traffic load provided by those assets. For example, could providers report on select metrics such as the number of texts, voice minutes, broadband data provided by a recovery asset over the last 24 hours as well as the total data provided since that recovery asset was incorporated into that location?

73. The Commission does not currently systematically collect information regarding the location of mobile recovery assets, although staff experience in providing disaster response support indicates to the Commission that public safety organizations and first responders critically need this information in the aftermath of disaster events to improve situational awareness and assist in coordinating on the ground recovery efforts. Currently, the Bureau's OEM Division will contact providers for this information on an event-by-event basis, with varying degrees of responsiveness to OEM's (non-compulsory) request.

74. We tentatively conclude that if information regarding the location of mobile recovery assets were required to be supplied in DIRS, the Commission would obtain this information more efficiently and uniformly across providers than is currently the case, likely leading to better public safety outcomes. We seek comment on this conclusion. Should we require such reporting? If so, which subject providers should be required to provide such information?

75. If reporting is adopted, we seek comment on what types of mobile assets should be reported (including COWs and COLTs) based on provider type, the level of granularity for which location information should be reported (e.g., on a zip code or street address basis) and on whether this information should be reported directly in existing DIRS forms or through other means. Should information on the time of deployment, coverage, or available power for such assets be reported as well? We further seek comment on whether the reporting should indicate whether the mobile recovery assets support WEAs, as we note in particular the ability to disseminate WEAs in disaster environments may be of critical importance for evacuation, safety of life, or other disaster mitigation and response efforts.

76. We also seek comment on the logistics and parameters of these submissions. How frequently should this information be reported? We note that in some instances mobile assets are

repositioned at the request of state or local emergency managers; should such repositioning be reported? Should this information be available to those entities that have access to DIRS under the Commission's information sharing framework? Should this information be treated as presumptively confidential? We further seek comment on the costs and benefits of adopting a reporting requirement for mobile recovery assets. What would be additional improvements to public safety and other measures of welfare due to improved information to the Commission about mobile recovery assets? How would the magnitude of these benefits compare to the benefits estimated in the *Second Report and Order*?¹⁷⁰

F. After Action Reporting

77. In the *Second Report and Order*, we establish a mandate for subject providers to furnish the Commission with a conclusive status report within 24 hours following the deactivation of DIRS.¹⁷¹ This report will serve as a crucial source of information concerning the restoration of communication infrastructure that may still be offline in the aftermath of a disaster. However, it is important to note that this report alone will not offer a comprehensive overview of how networks performed throughout the disaster. For that reason, we seek comment as to whether providers subject to DIRS reporting requirements should be required to supply the Commission with "after action" reports detailing more specifically how their networks fared after the event or exigency and the nature, timing, duration, and effectiveness of their pre-disaster response plans after the Commission's deactivation of DIRS and within 60 days of when the Bureau, under delegated authority, issues a Public Notice announcing such reports must be filed. We seek comment as to whether providers would prefer an after action report template to complete or if the flexibility of a free-text document would be better suited to an entity's individual needs for reporting.

78. The Commission does not currently collect qualitative information on how a provider's efforts and preparation may have impacted the resiliency of its networks over the duration of a DIRS event. The Commission recently adopted a related rule, however, that requires facilities-based mobile wireless providers to submit a report detailing the timing, duration, and effectiveness of their implementation of the Commission's MDRI provisions within 60 days of when the Bureau, under delegated authority, issues a Public Notice announcing such reports must be filed.¹⁷²

79. We believe that the collection of this "after action" information could better inform the Commission's analysis and any subsequent assessment or action that the Commission may take in the aftermath of disaster events.¹⁷³ Further, we believe that this approach could complement the MDRI reports required of facilities-based mobile wireless providers by detailing additional aspects of a provider's network resiliency plans and actions. We seek comment on this belief, and on whether these reports should be required of all DIRS filers, or just a subset, and seek comment on how to address potential overlap between reports filed pursuant to the MDRI and under the proposal herein. Are there ways to minimize such overlap, or to incorporate MDRI related filings such that burden is minimized for this class of filers? Should subject providers be held to these after action reports? Should such reports be confidential, or should they be shared, for example, with the Federal, state, local, Tribal and territorial public response agencies that managed a particular disaster pursuant to which such reports are filed? We

¹⁷⁰ See *Second Report and Order* at paras. 40-80.

¹⁷¹ *Supra* paras. 4 and 10.

¹⁷² *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking, FCC 22-50 (2022). The MDRI is activated by the Commission in response to real-world exigencies and requires that providers take steps to further network resiliency. *Id.*

¹⁷³ Free Press Foundation, Jan. 14, 2022, Reply Comments at 8-9.

have proposed that these after action reports be filed 60 days the Bureau issues a PN announcing such a requirement; should the trigger be tied to the event? Is 60-days too much or too little of a timeframe?

80. We also seek estimates on the benefits and costs of this proposal for mandatory after-action reports. How much would public safety and other measures of welfare improve due to additional information to the Commission caused by this proposal? How would the magnitude of these benefits compare to the benefits estimated in the *Second Report and Order*?¹⁷⁴

V. PROCEDURAL MATTERS

81. *Ex Parte Rules.* The proceeding initiated by the *Second Further Notice* shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules. 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.

82. *Comment Period and Filing Requirements.* 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. Comments may be filed using the Commission’s Electronic Comment Filing System (ECFS). *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS. <http://www.fcc.gov/ecfs>.
- *Paper Filers:* Parties that choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.
- Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street, NE, Washington DC 20554.

¹⁷⁴ See *Second Report and Order* at paras. 40-80.

- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, 35 FCC Rcd 2788, 2788-89 (OS 2020), <http://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

83. *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 and Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

84. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA),¹⁷⁵ requires that a regulatory flexibility analysis be prepared for notice and comment rulemaking proceedings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”¹⁷⁶ Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning potential rule and policy changes contained in this *Second Report and Order* on small entities. The FRFA is set forth in Appendix B.

85. We have also prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning the potential impact of rule and policy change proposals contained in the *Second Further Notice*. The IRFA is set forth in Appendix C. Written public comments are requested on the IRFA. Comments must be filed by the deadline for comments on the Second Further Notice indicated on the first page of this document and must have a separate and distinct heading designating them as responses to the IRFA.

86. *Paperwork Reduction Act Analysis.* Today’s rules may constitute new or modified information collection requirements. All such new or modified information collection requirements will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the Paperwork Reduction Act of 1995 (PRA).¹⁷⁷ OMB, the general public, and other Federal agencies are invited to comment on any new or modified information collection requirements contained in this proceeding. In addition, we note that, pursuant to the Small Business Paperwork Relief Act of 2002,¹⁷⁸ the Commission previously sought, but did not receive, specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. The Commission does not believe that any new information collection requirements will be unduly burdensome on small businesses. Applying these new information collection requirements will promote public safety response efforts, to the benefit of all size governmental jurisdictions, businesses, equipment manufacturers, and business associations by providing better situational information related to the nation’s network outages and infrastructure status. We describe impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the FRFA in Appendix B.

87. The *Second Further Notice* may contain proposed new or modified information collection requirements related to providers’ reporting of their roaming measures to the Commission. 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 any such 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-

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

¹⁷⁶ *Id.* § 605(b).

¹⁷⁷ 44 U.S.C. § 3507(d).

¹⁷⁸ Pub. L. No. 107-198, 116 Stat. 729 (2002) (codified at 44 U.S.C. § 3506(c)(4)).

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.

88. *Congressional Review Act.* The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule adopted in the *Second Report and Order* is “non-major” under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this *Second Report and Order* to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

89. *Providing Accountability Through Transparency Act.* The Providing Accountability Through Transparency Act requires each agency, in providing notice of a rulemaking, to post online a brief plain-language summary of the proposed rule.¹⁷⁹ Accordingly, the Commission will publish the required summary of this *Second Further Notice* on <https://www.fcc.gov/proposed-rulemakings>.

90. *Further Information.* For further information regarding the *Second Further Notice*, contact Logan S. Bennett, Attorney Advisor, Public Safety and Homeland Security Bureau at 202-418-7790 or Logan.Bennett@fcc.gov, or John M. Blumenschein, Attorney Advisor, Public Safety and Homeland Security Bureau at 202-418-1490 or John.Blumenschein@fcc.gov.

VI. ORDERING CLAUSES

91. Accordingly, IT IS ORDERED that, pursuant to the authority contained in Sections 1, 4(i), 4(j), 4(n), 201, 214, 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309, 316, 332, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j) & (n), 201, 214, 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403; sections 2, 3(b), and 6-7 of the Wireless Communications and Public Safety Act of 1999, 47 U.S.C. §§ 615 note, 615, 615a-1, 615b, section 106 of the Twenty First Century Communications and Video Accessibility Act of 2010, 47 U.S.C. § 615c, section 506(a) of the Repack Airways Yielding Better Access for Users of Modern Services Act of 2018 (RAY BAUM’S Act), and section 6206 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1426, this *Second Report and Order* and *Second Further Notice of Proposed Rulemaking* in PS Docket Nos. 21-346 and 15-80 and ET Docket No. 04-35 IS ADOPTED and Part 4 of the Commission’s Rules, 47 CFR Part 4, IS AMENDED as set forth in Appendix A. The *Second Report and Order* shall become effective the later of (i) 30 days after the Commission issues a Public Notice announcing that OMB has completed review of any new information collection requirements associated with today’s *Second Report and Order* or (ii) November 30, 2024.

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

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

FEDERAL COMMUNICATIONS COMMISSION

¹⁷⁹ 5 U.S.C. § 553(b)(4). The Providing Accountability Through Transparency Act, Pub. L. No. 118-9 (2023), amended section 553(b) of the Administrative Procedure Act.

Marlene H. Dortch
Secretary

APPENDIX A**Final Rules**

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 4 as follows:

PART 4 – DISRUPTION TO COMMUNICATIONS

1. The authority citation for part 4 continues to read as follows:

Authority: 47 U.S.C. 34-39, 151, 154, 155, 157, 201, 251, 307, 316, 615a-1, 1302(a), and 1302(b); 5 U.S.C. 301, and Executive Order no. 10530.

2. Add § 4.18 to read as follows:

§ 4.18 Mandatory Disaster Information Reporting System (DIRS) Reporting for Cable, Wireless, Wireline, and VoIP providers

(a) Cable, Wireline, Wireless, and Interconnected VoIP providers shall be required to report their infrastructure status information each day in the Disaster Information Reporting System (DIRS) when the Commission activates DIRS in geographic areas in which they provide service, even when their reportable infrastructure has not changed compared to the prior day. Cable, Wireless, Wireline and Interconnected VoIP providers are subject to mandated reporting in the Disaster Information Reporting System (DIRS) and shall:

(1) provide daily reports on their infrastructure status from the start of DIRS activation until DIRS has been deactivated.

(2) provide a single, final report to the Commission within 24 hours of the Commission's deactivation of DIRS and the termination of required daily reporting, detailing the state of their infrastructure at the time of DIRS deactivation and an estimated date of resolution of any remaining outages.

(b) Cable, Wireline, Wireless, and Interconnected VoIP providers who provide a DIRS report pursuant to paragraph (a) of this section are not required to make submissions in the Network Outage Reporting System (NORS) under this chapter pertaining to any incidents arising during the DIRS activation and that are timely reported in DIRS. Subject providers shall be notified that DIRS is activated and deactivated pursuant to Public Notice from the Commission and/or the Public Safety and Homeland Security Bureau.

(c)(1) This section may contain information collection and/or recordkeeping requirements.

Compliance with this section will not be required until this paragraph (c) is removed or contains compliance dates, which will not occur until the later of:

- (i) 30 days after the Office of Management and Budget completes review of such requirements pursuant to the Paperwork Reduction Act or the Public Safety and Homeland Security Bureau determines that such review is not required; or
- (ii) November 30, 2024.

(2) The Commission directs the Public Safety and Homeland Security Bureau to announce compliance dates for this section by subsequent Public Notice and notification in the Federal Register and to cause this section to be revised accordingly.

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications Notice of Proposed Rulemaking (2021 Resilient Networks Notice)* released in October 2021.² The Commission sought written public comment on the proposals in the *2021 Resilient Networks Notice*, including comment on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

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

2. In today's *Second Report and Order (Order)*, the Commission adopts rules based on the record developed in response to the *2021 Resilient Networks Notice* that require all cable, wireless, wireline and interconnected VoIP providers to comply with Mandatory Disaster Information Reporting System (DIRS) reporting. The Order requires these providers to report on a daily basis when the Commission has activated DIRS. To avoid duplicative reporting and ease the burden on providers subject to the reporting requirements, the Commission adopts a rule waiving the requirement for these providers to report in the Network Outage Reporting System (NORS) when DIRS has been activated. Additionally, the *Order* requires providers to send a final report to the Commission providing information on their infrastructure and restoration status of their equipment within 24 hours of the deactivation of DIRS. These new requirements and actions will improve the reliability, resiliency and continuity of communications networks during emergencies, and further provide the Commission and other partners with timely restoration effort updates and consistent reporting in times of crisis.

3. Recent events including wildfires in Hawai'i, Hurricane Ida, earthquakes in Puerto Rico, severe winter storms in Texas, and hurricane and wildfire seasons continue to demonstrate how the United States' communications infrastructure remains susceptible to disruption during disaster events. These events led the Commission to create the Mandatory Disaster Response Initiative (MDRI) which requires facilities-based mobile wireless providers to implement roaming agreements, mutual aid arrangements, and performance reporting requirements in times of emergency. In addition to these efforts, it is equally important for the Commission and communications providers to receive up-to-date information about the state of infrastructure and what efforts are being made by providers in terms of restoration status for equipment. Mandating DIRS reports will ensure that all providers subject to the reporting requirements are providing timely and critical information to the Commission both during crises and in the immediate aftermath so providers and the Commission can be aware of shortcomings, need for aid and assistance, and track progress of resiliency and restoration efforts amongst providers.

4. The rules in today's *Order* also further address findings of the Government Accountability Office (GAO) concerning wireless network resiliency addressed in the *2021 Resilient Networks Notice*, and subsequently in the *2022 Resilient Networks Report and Order and Further*

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 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, FCC 21-99 (2021) (*Resilient Networks Notice*).

³ 5 U.S.C. § 604.

Notice.⁴ In 2017, the GAO, in conjunction with its review of federal efforts to improve the resiliency of wireless networks during natural disasters and other physical incidents, released a report recommending that the Commission improve its monitoring of industry efforts to strengthen wireless network resiliency.⁵ The GAO found that the number of wireless outages attributed to a physical incident—a natural disaster, accident, or other manmade event, such as vandalism—increased from 189 in 2009 to 1,079 in 2016. The GAO concluded that more robust measures and a better plan to monitor the MDRI Framework would help the FCC collect information on the Framework and evaluate its effectiveness, and that such steps could help the FCC decide if further action is needed.

5. In light of prolonged outages during several emergency events in 2017 and 2018, and in parallel with the GAO recommendations, the Public Safety and Homeland Security Bureau (Bureau) conducted several inquiries⁶ and investigations⁷ to better understand and track the output and effectiveness of the Framework and other voluntary coordination efforts that promote wireless network resiliency and situational awareness during and after these hurricanes and other emergencies. The Commission continues to build on these efforts and in the *Order* moves from a voluntary reporting approach to a mandated one in order to narrow the gap in information and ensure the small and rural providers are also sharing crucial information. Where the MDRI took the voluntary Framework of 2016 and expanded its activation triggers and required the coordination of roaming and mutual aid agreements, mandating DIRS reporting for subject providers will ensure that the Commission is receiving crucial information and timely status updates during emergencies and disasters in real time and that the Commission can see the resolution of these issues upon deactivation or see where providers may need aid or assistance from other providers.

⁴ See *Resilient Networks Notice*; see also *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruption to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*; PS Dockets No. 21-346 and 15-80; ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking, FCC 22-50 (July 6, 2022) (*Resilient Networks 2022 Order and Further Notice*).

⁵ Government Accountability Office (GAO), *FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* at 36 (Dec. 2017), <https://www.gao.gov/assets/gao-18-198.pdf> (GAO Report). The report recommended that the Commission develop specific and measurable objectives for the Framework and a plan to monitor and document the outputs and outcomes of the Framework to evaluate its effectiveness.

⁶ See *Public Safety and Homeland Security Bureau Seeks Comment on the Effectiveness of the Wireless Network Resiliency Cooperative Framework and for the Study on Public Access to 911 Services during Emergencies*, PS Docket No. 11-60, Public Notice, 33 FCC Rcd 5997 (Jun 13, 2018) (*Framework Effectiveness Public Notice*); News Release, FCC, *FCC Launches Re-Examination of Wireless Resiliency Framework in Light of Recent Hurricanes, Agency Sends Letters to Framework Signatories Asking Them to Provide Post-Disaster Action Reports* (Nov. 6, 2018), <https://docs.fcc.gov/public/attachments/DOC-354963A1.pdf>. The Bureau also issued three Public Notices seeking comment on improvements to the Framework. See *Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency to Promote Coordination through Backhaul Providers*, PS Docket No. 11-60, Public Notice, DA 18-1238 (Dec. 10, 2018) (*Backhaul Public Notice*); *Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency Through Encouraging Coordination with Power Companies*, PS Docket No. 11-60, Public Notice, DA 19-13 (Jan. 3, 2019) (*Power Public Notice*); *Public Safety and Homeland Security Bureau Seeks Comment on Improving the Wireless Network Resiliency Cooperative Framework*, PS Docket No. 11-60, Public Notice, DA 19-242 (Apr. 1, 2019) (*Effectiveness Public Notice*). In February 2020, following a series of PSHSB staff coordination meetings with wireless, backhaul and electric service providers to discuss the gaps identified in the above record, CTIA and the Edison Electric Institute (EEI) formed the Cross-Sector Resiliency Forum on February 27, 2020 and released a 12-step action plan to improving wireless resiliency.

⁷ Following Hurricane Michael, for example, the Bureau issued a report on the preparation and response of communications providers finding three key reasons for prolonged outages during that event: insufficiently resilient backhaul connectivity; inadequate reciprocal roaming arrangements; and lack of coordination between wireless service providers, power crews, and municipalities. See *Hurricane Michael Report* at 4, para. 6.

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

6. There were no comments filed that specifically address the proposed rules and policies in the IRFA.

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

7. 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 to provide a detailed statement of any change made to the proposed rules as a result of those comments.⁸

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

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

9. The RFA directs agencies to provide a description of and, where feasible, an estimate of, the number of small entities that may be affected by the rules, adopted herein.⁹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁰ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹¹ 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.¹²

10. The rules adopted in the *Order* apply only to cable, wireless, wireline and interconnected VoIP providers which include small entities as well as larger entities. The Commission has not developed a small business size standard directed specifically toward these entities. As described below, these entities fit into larger industry categories that provide these facilities or services for which the SBA has developed small business size standards.

1. Total Small Entities

11. *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.¹³ 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.¹⁴ These types of small

⁸ 5 U.S.C. § 604(a)(3).

⁹ 5 U.S.C. § 604(a)(4).

¹⁰ 5 U.S.C. § 601(6).

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

¹² 15 U.S.C. § 632.

¹³ See 5 U.S.C. § 601(3)-(6).

¹⁴ See SBA, Office of Advocacy, *What’s New With Small Business?*,

(continued....)

businesses represent 99.9% of all businesses in the United States, which translates to 33.2 million businesses.¹⁵

12. 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.”¹⁶ 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.¹⁷ Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.¹⁸

13. 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.”¹⁹ U.S. Census Bureau data from the 2017 Census of Governments²⁰ indicate there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.²¹ Of this number, there were

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

¹⁵ *Id.*

¹⁶ *See* 5 U.S.C. § 601(4).

¹⁷ 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. *See* Annual Electronic Filing Requirement for Small Exempt Organizations – Form 990-N (e-Postcard), “Who must file,”

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

¹⁸ *See* Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-EO-bmf>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2020 with revenue less than or equal to \$50,000 for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) that includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

¹⁹ *See* 5 U.S.C. § 601(5).

²⁰ *See* 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7”. *See also* Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

²¹ *See* U.S. Census Bureau, 2017 Census of Governments – Organization Table 2. Local Governments by Type and State: 2017 [CG1700ORG02], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). *See also* tbl.2. CG1700ORG02 Table Notes_Local Governments by Type and State_2017.

36,931 general purpose governments (county,²² municipal, and town or township²³) with populations of less than 50,000 and 12,040 special purpose governments—independent school districts²⁴ with enrollment populations of less than 50,000.²⁵ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”²⁶

2. Interconnected VoIP services

14. *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.²⁷ The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small.²⁸ 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.²⁹ Of those firms, 1,039 had revenue of less than \$25 million.³⁰ Consequently, under the SBA size standard a majority of firms in this industry can be considered small.

15. *Wired Broadband Internet Access Service Providers (Wired ISPs)*.³¹ Providers of wired broadband Internet access service include various types of providers except dial-up Internet access

²² See *id.* at tbl.5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

²³ See *id.* at tbl.6. Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

²⁴ See *id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2017.

²⁵ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

²⁶ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations Tbls. 5, 6 & 10.

²⁷ See U.S. Census Bureau, *2017 NAICS Definition*, “517919 All Other Telecommunications,” <https://www.census.gov/naics/?input=517919&year=2017&details=517919>.

²⁸ See 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

²⁹ 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>.

³⁰ *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.

³¹ Formerly included in the scope of the Internet Service Providers (Broadband), Wired Telecommunications Carriers and All Other Telecommunications small entity industry descriptions.

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.³² Wired broadband Internet services fall in the Wired Telecommunications Carriers industry.³³ The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small.³⁴ U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.³⁵ Of this number, 2,964 firms operated with fewer than 250 employees.³⁶

16. 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.³⁷ 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*,³⁸ we believe that the majority of wireline Internet access service providers can be considered small entities.

17. *Wireless Broadband Internet Access Service Providers (Wireless ISPs or WISPs)*.³⁹ 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 Internet[.]"⁴⁰ 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

³² See 47 CFR § 1.7001(a)(1).

³³ See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

³⁴ See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

³⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=EC1700SIZEEMPFIEM&hidePrevious=false>.

³⁶ *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.

³⁷ 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.

³⁸ 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*).

³⁹ Formerly included in the scope of the Internet Service Providers (Broadband), Wireless Telecommunications Carriers (except Satellite) and All Other Telecommunications small entity industry descriptions.

⁴⁰ 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>.

under the Commission's rules.⁴¹ 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).⁴² The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.⁴³ U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.⁴⁴ Of that number, 2,837 firms employed fewer than 250 employees.⁴⁵

18. 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.⁴⁶ 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,⁴⁷ as well as on terrestrial fixed wireless broadband providers in general,⁴⁸ we believe that the majority of wireless Internet access service providers can be considered small entities.

3. Wireline Providers

19. *Wired Broadband Internet Access Service Providers (Wired ISPs)*.⁴⁹ 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.⁵⁰ Wired broadband Internet services fall in the Wired Telecommunications Carriers industry.⁵¹ The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small.⁵² U.S. Census Bureau data for 2017 show that

⁴¹ See 47 CFR § 1.7001(a)(1).

⁴² 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>.

⁴³ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

⁴⁴ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

⁴⁵ *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.

⁴⁶ See *IAS Status 2019*, Fig. 30.

⁴⁷ See *Communications Marketplace Report*, GN Docket No. 22-203, 2022 WL 18110553 at 27, paras. 64-68. (2022) (*2022 Communications Marketplace Report*).

⁴⁸ *Id.* at 8, para. 22.

⁴⁹ Formerly included in the scope of the Internet Service Providers (Broadband), Wired Telecommunications Carriers and All Other Telecommunications small entity industry descriptions.

⁵⁰ See 47 CFR § 1.7001(a)(1).

⁵¹ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁵² See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

there were 3,054 firms that operated in this industry for the entire year.⁵³ Of this number, 2,964 firms operated with fewer than 250 employees.⁵⁴

20. 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.⁵⁵ 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*,⁵⁶ we believe that the majority of wireline Internet access service providers can be considered small entities.

21. *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 Carriers⁵⁷ is the closest industry with an SBA small business size standard.⁵⁸ The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.⁵⁹ U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.⁶⁰ Of this number, 2,964 firms operated with fewer than 250 employees.⁶¹ 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.⁶² Of these providers, the Commission estimates that 916 providers have

⁵³ 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: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁵⁴ *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.

⁵⁵ 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.

⁵⁶ 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*).

⁵⁷ See U.S. Census Bureau, *2017 NAICS Definition*, "517311 Wired Telecommunications Carriers," <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁵⁸ See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

⁵⁹ *Id.*

⁶⁰ 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: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

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 Federal-State Joint Board on Universal Service, *Universal Service Monitoring Report* at 26, Tbl. 1.12 (2022), <https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf>.

1,500 or fewer employees.⁶³ 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.

22. *Interexchange Carriers (IXCs)*. Neither the Commission nor the SBA have developed a small business size standard specifically for Interexchange Carriers. Wired Telecommunications Carriers⁶⁴ is the closest industry with a SBA small business size standard.⁶⁵ The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.⁶⁶ U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.⁶⁷ Of this number, 2,964 firms operated with fewer than 250 employees.⁶⁸ 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.⁶⁹ 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.

23. *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.⁷⁰ The SBA small business size standard classifies a business as small if it has 1,500 or fewer employees.⁷¹ U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.⁷² Of this number, 2,964 firms operated with fewer than 250 employees.⁷³ 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.⁷⁴ Of these providers,

⁶³ *Id.*

⁶⁴ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁶⁵ See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

⁶⁶ *Id.*

⁶⁷ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Tbl. ID: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁶⁸ *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.

⁶⁹ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Tbl. 1.12 (2022), <https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf>.

⁷⁰ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁷¹ See 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

⁷² 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: EC1700SIZEEMPFI, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

⁷³ *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.

⁷⁴ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Tbl. 1.12 (2022),

(continued....)

the Commission estimates that all 20 providers have 1,500 or fewer employees.⁷⁵ Consequently, using the SBA's small business size standard, all of these providers can be considered small entities.

4. Wireless Providers – Fixed and Mobile

24. To the extent the wireless services listed below are used by wireless firms for fixed and mobile broadband Internet access services, the Notice's proposed rules may have an impact on those small businesses as set forth above and further below. Accordingly, for those services subject to auctions, we note 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.

25. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves.⁷⁶ 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.⁷⁷ The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.⁷⁸ U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.⁷⁹ Of that number, 2,837 firms employed fewer than 250 employees.⁸⁰ 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.⁸¹ Of these providers, the Commission estimates that 511 providers have 1,500 or fewer employees.⁸² Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

26. *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.⁸³ Wireless Telecommunications

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

⁷⁵ *Id.*

⁷⁶ 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>.

⁷⁷ *Id.*

⁷⁸ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

⁷⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePrevious=false>.

⁸⁰ *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.

⁸¹ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Tbl. 1.12 (2022), <https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf>.

⁸² *Id.*

⁸³ See 47 CFR §§ 27.1 – 27.1607.

Carriers (*except* Satellite)⁸⁴ 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.⁸⁵ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.⁸⁶ Of this number, 2,837 firms employed fewer than 250 employees.⁸⁷ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

27. 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.⁸⁸

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

29. *1670–1675 MHz Services.* These wireless communications services can be used for fixed and mobile uses, except aeronautical mobile.⁸⁹ Wireless Telecommunications Carriers (*except* Satellite)⁹⁰ 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.⁹¹ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire

⁸⁴ 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>.

⁸⁵ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

⁸⁶ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

⁸⁷ *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.

⁸⁸ 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.

⁸⁹ See 47 CFR § 27.902.

⁹⁰ 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>.

⁹¹ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

year.⁹² Of this number, 2,837 firms employed fewer than 250 employees.⁹³ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

30. According to Commission data as of November 2021, there were three active licenses in this service.⁹⁴ 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.⁹⁵ The 1670-1675 MHz service band auction's winning bidder did not claim small business status.⁹⁶

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

32. *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).⁹⁷ The size standard for this industry under SBA rules is that a business is small if it has 1,500 or fewer employees.⁹⁸ For this industry, U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated for the entire year.⁹⁹ Of this number, 2,837 firms employed fewer than 250 employees.¹⁰⁰ Additionally, based on

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

⁹³ *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.

⁹⁴ 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.

⁹⁵ See 47 CFR § 27.906(a).

⁹⁶ 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).

⁹⁷ 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>.

⁹⁸ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

⁹⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁰⁰ *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.

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.¹⁰¹ Of these providers, the Commission estimates that 255 providers have 1,500 or fewer employees.¹⁰² Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

33. *Broadband Personal Communications Service.* The broadband personal communications services (PCS) spectrum encompasses services in the 1850-1910 and 1930-1990 MHz bands.¹⁰³ The closest industry with a SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (except Satellite).¹⁰⁴ The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.¹⁰⁵ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁰⁶ Of this number, 2,837 firms employed fewer than 250 employees.¹⁰⁷ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

34. Based on Commission data as of November 2021, there were approximately 5,060 active licenses in the Broadband PCS service.¹⁰⁸ 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.¹⁰⁹ Winning bidders claiming small business credits won Broadband PCS licenses in C, D, E, and F Blocks.¹¹⁰

35. 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

¹⁰¹ 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>.

¹⁰² *Id.*

¹⁰³ See 47 CFR § 24.200.

¹⁰⁴ 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>.

¹⁰⁵ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹⁰⁶ See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁰⁷ *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.

¹⁰⁸ Based on an 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.

¹⁰⁹ See 47 CFR § 24.720(b).

¹¹⁰ 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>.

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.

36. *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)¹¹¹ 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.¹¹² 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.¹¹³ Of this number, 2,837 firms employed fewer than 250 employees.¹¹⁴ 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.¹¹⁵ Of this number, the Commission estimates that all 95 providers have 1,500 or fewer employees.¹¹⁶ Consequently, using the SBA's small business size standard, these 119 SMR licensees can be considered small entities.¹¹⁷

37. *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.¹¹⁸ Wireless Telecommunications Carriers (*except* Satellite)¹¹⁹ 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.¹²⁰

¹¹¹ 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>.

¹¹² See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹¹³ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePrevious=false>.

¹¹⁴ *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.

¹¹⁵ 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>

¹¹⁶ *Id.*

¹¹⁷ 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.

¹¹⁸ 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>.

¹¹⁹ 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>.

¹²⁰ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹²¹ Of this number, 2,837 firms employed fewer than 250 employees.¹²² Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

38. According to Commission data as of December 2021, there were approximately 2,824 active Lower 700 MHz Band licenses.¹²³ 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.¹²⁴ In auctions for Lower 700 MHz Band licenses seventy-two winning bidders claiming a small business classification won 329 licenses,¹²⁵ twenty-six winning bidders claiming a small business classification won 214 licenses,¹²⁶ and three winning bidders claiming a small business classification won all five auctioned licenses.¹²⁷

39. 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.

40. *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-

¹²¹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹²² *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.

¹²³ 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.

¹²⁴ See 47 CFR § 27.702(a)(1)-(3).

¹²⁵ 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>.

¹²⁶ 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>.

¹²⁷ 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>.

763 MHz and 788-793 MHz bands.¹²⁸ 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.¹²⁹ Wireless Telecommunications Carriers (*except* Satellite)¹³⁰ 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.¹³¹ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹³² Of that number, 2,837 firms employed fewer than 250 employees.¹³³ Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

41. According to Commission data as of December 2021, there were approximately 152 active Upper 700 MHz Band licenses.¹³⁴ 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.¹³⁵ Pursuant to these definitions, three winning bidders claiming very small business status won five of the twelve available licenses.¹³⁶

42. 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

¹²⁸ See 47 CFR § 27.4.

¹²⁹ 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.

¹³⁰ 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>.

¹³¹ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

¹³² See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

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 Based on an FCC Universal Licensing System search on Dec. 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.

¹³⁵ See 47 CFR § 27.502(a).

¹³⁶ 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) (Mar. 20, 2008). The results for Upper 700 MHz Band C Block can be found on pp. 62-63.

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.

43. *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)¹³⁷ 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.¹³⁸ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹³⁹ Of this number, 2,837 firms employed fewer than 250 employees.¹⁴⁰ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

44. According to Commission data as of December 2021, there were approximately 224 active 700 MHz Guard Band licenses.¹⁴¹ 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.¹⁴² 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.¹⁴³ 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 2021.¹⁴⁴

45. 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

¹³⁷ 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>.

¹³⁸ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

¹³⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁴⁰ *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.

¹⁴¹ Based on an FCC Universal Licensing System search on Dec. 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.

¹⁴² See 47 CFR § 27.502(a).

¹⁴³ 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>.

¹⁴⁴ Based on a FCC Universal Licensing System search on Dec. 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.

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.

46. *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.¹⁴⁵ 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.¹⁴⁶

47. The closest industry with an SBA small business size standard applicable to these services is Wireless Telecommunications Carriers (*except Satellite*).¹⁴⁷ The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.¹⁴⁸ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁴⁹ Of this number, 2,837 firms employed fewer than 250 employees.¹⁵⁰ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

48. Based on Commission data as of December 2021, there were approximately four licensees with 110 active licenses in the Air-Ground Radiotelephone Service.¹⁵¹ 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.¹⁵² In the auction of Air-Ground Radiotelephone Service licenses in the 800 MHz band, neither of the two winning bidders claimed small business

¹⁴⁵ 47 CFR § 22.99.

¹⁴⁶ 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>.

¹⁴⁷ 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>.

¹⁴⁸ See 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

¹⁴⁹ See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁵⁰ *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.

¹⁵¹ Based on a FCC Universal Licensing System search on Dec. 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.

¹⁵² See 47 CFR § 22.223(b).

status.¹⁵³

49. 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.

50. *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.¹⁵⁴ Wireless Telecommunications Carriers (except Satellite)¹⁵⁵ 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.¹⁵⁶ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁵⁷ Of this number, 2,837 firms employed fewer than 250 employees.¹⁵⁸ Thus, under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

51. According to Commission data as of December 2021, there were approximately 4,472 active AWS licenses.¹⁵⁹ 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.¹⁶⁰ Pursuant to these definitions, 57 winning bidders claiming status as small or very small businesses won 215 of 1,087 licenses.¹⁶¹ In the most recent auction of AWS licenses 15 of 37 bidders qualifying for

¹⁵³ See FCC, 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>.

¹⁵⁴ See 47 CFR § 27.1(b).

¹⁵⁵ 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>.

¹⁵⁶ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹⁵⁷ See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁵⁸ *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.

¹⁵⁹ Based on a 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 = 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.

¹⁶⁰ See 47 CFR §§ 27.1002, 27.1102, 27.1104, 27.1106.

¹⁶¹ See FCC, 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>.

status as small or very small businesses won licenses.¹⁶²

52. 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.

53. *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).¹⁶³ Licensees are permitted to provide services on a non-common carrier and/or on a common carrier basis.¹⁶⁴ Wireless broadband services in the 3650-3700 MHz band fall in the Wireless Telecommunications Carriers (*except Satellite*)¹⁶⁵ industry with an SBA small business size standard that classifies a business as small if it has 1,500 or fewer employees.¹⁶⁶ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁶⁷ Of this number, 2,837 firms employed fewer than 250 employees.¹⁶⁸ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

54. 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.¹⁶⁹ 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.

55. *Fixed Microwave Services.* Fixed microwave services include common carrier,¹⁷⁰

¹⁶² 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) (Jan. 30, 2015).

¹⁶³ See 47 CFR §§ 90.1305, 90.1307.

¹⁶⁴ See *id.* § 90.1309.

¹⁶⁵ 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>.

¹⁶⁶ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹⁶⁷ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁶⁸ *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.

¹⁶⁹ 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.

¹⁷⁰ See 47 CFR Part 101, Subparts C and I.

private-operational fixed,¹⁷¹ and broadcast auxiliary radio services.¹⁷² They also include the Upper Microwave Flexible Use Service (UMFUS),¹⁷³ Millimeter Wave Service (70/80/90 GHz),¹⁷⁴ Local Multipoint Distribution Service (LMDS),¹⁷⁵ the Digital Electronic Message Service (DEMS),¹⁷⁶ 24 GHz Service,¹⁷⁷ Multiple Address Systems (MAS),¹⁷⁸ and Multichannel Video Distribution and Data Service (MVDDS),¹⁷⁹ where in some bands licensees can choose between common carrier and non-common carrier status.¹⁸⁰ Wireless Telecommunications Carriers (*except* Satellite)¹⁸¹ 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.¹⁸² U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁸³ Of this number, 2,837 firms employed fewer than 250 employees.¹⁸⁴ Thus under the SBA size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

56. 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.¹⁸⁵

57. 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

¹⁷¹ See *id.* Subparts C and H.

¹⁷² 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.

¹⁷³ See 47 CFR Part 30.

¹⁷⁴ See 47 CFR Part 101, Subpart Q.

¹⁷⁵ See *id.* Subpart L.

¹⁷⁶ See *id.* Subpart G.

¹⁷⁷ See *id.*

¹⁷⁸ See *id.* Subpart O.

¹⁷⁹ See *id.* Subpart P.

¹⁸⁰ See 47 CFR §§ 101.533, 101.1017.

¹⁸¹ 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>.

¹⁸² See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹⁸³ See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePrevious=false>.

¹⁸⁴ *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.

¹⁸⁵ See 47 CFR §§ 101.538(a)(1)-(3), 101.1112(b)-(d), 101.1319(a)(1)-(2), and 101.1429(a)(1)-(3).

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.

58. *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.¹⁸⁶ 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.¹⁸⁷ Wireless Telecommunications Carriers (*except Satellite*)¹⁸⁸ 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.¹⁸⁹ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.¹⁹⁰ Of this number, 2,837 firms employed fewer than 250 employees.¹⁹¹ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

59. According to Commission data as of December 2021, there were approximately 524 active LMDS licenses.¹⁹² 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.¹⁹³ Pursuant to these definitions, 93 small and very small businesses won

¹⁸⁶ See 47 CFR § 101.3.

¹⁸⁷ See FCC, 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>.

¹⁸⁸ 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>.

¹⁸⁹ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

¹⁹⁰ See U.S. Census Bureau, 2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

¹⁹¹ *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.

¹⁹² Based on an FCC Universal Licensing System search on Dec. 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.

¹⁹³ See 47 CFR § 101.1112(b)-(c).

approximately 277 A Block licenses and 387 B Block licenses.¹⁹⁴ In the re-auction of LDMS licenses 74% of the licenses were won by small businesses.¹⁹⁵

60. 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.

61. *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,"¹⁹⁶ 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)).¹⁹⁷ 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.¹⁹⁸

62. 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).¹⁹⁹ The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.²⁰⁰ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.²⁰¹ Of this number, 2,837 firms employed

¹⁹⁴ 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) (Mar. 26, 1998).

¹⁹⁵ 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).

¹⁹⁶ The use of the term "wireless cable" does not imply that it constitutes cable television for statutory or regulatory purposes.

¹⁹⁷ 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).

¹⁹⁸ 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.

¹⁹⁹ 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>.

²⁰⁰ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

²⁰¹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312,

(continued....)

fewer than 250 employees.²⁰² Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

63. According to Commission data as December 2021, there were approximately 5,869 active BRS and EBS licenses.²⁰³ 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.²⁰⁴ 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.²⁰⁵ One of the winning bidders claiming a small business status classification in the BRS license auction has an active licenses as of December 2021.²⁰⁶

64. 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.²⁰⁷ 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.

<https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

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.

²⁰³ Based on a 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 =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.

²⁰⁴ See 47 CFR § 27.1218(a).

²⁰⁵ 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>.

²⁰⁶ Based on a 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 =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.

²⁰⁷ See 47 CFR § 27.1219(a).

5. Cable Service Providers

65. *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.²⁰⁸ 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.²⁰⁹ By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.²¹⁰ Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.²¹¹

66. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.²¹² U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.²¹³ Of this number, 2,964 firms operated with fewer than 250 employees.²¹⁴ 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.²¹⁵ Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees.²¹⁶ Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

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.²¹⁷ Based on industry data, there are about 420 cable companies in the U.S.²¹⁸ Of these, only seven have more than 400,000

²⁰⁸ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ 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.

²¹² See 13 CFR § 121.201, NAICS Code 517311 (as of Oct. 1, 2022, NAICS Code 517111).

²¹³ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

²¹⁴ *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.

²¹⁵ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Tbl. 1.12 (2022), <https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf>. <https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf>

²¹⁶ *Id.*

²¹⁷ 47 CFR § 76.901(d).

²¹⁸ S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

subscribers.²¹⁹ In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.²²⁰ Based on industry data, there are about 4,139 cable systems (headends) in the U.S.²²¹ Of these, about 639 have more than 15,000 subscribers.²²² 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.”²²³ 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.²²⁴ Based on industry data, only six cable system operators have more than 498,000 subscribers.²²⁵ 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.²²⁶ 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.

6. Other Telecommunications

69. *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.²²⁷ 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.²²⁸ 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.²²⁹

²¹⁹ 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).

²²⁰ 47 CFR § 76.901(c).

²²¹ S&P Global Market Intelligence, S&P Capital IQ Pro, U.S. MediaCensus, *Operator Subscribers by Geography* (last visited May 26, 2022).

²²² S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 12/21Q* (last visited May 26, 2022).

²²³ 47 U.S.C. § 543(m)(2).

²²⁴ *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).

²²⁵ 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).

²²⁶ 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).

²²⁷ *See* U.S. Census Bureau, *2017 NAICS Definition, “517919 All Other Telecommunications,”* <https://www.census.gov/naics/?input=517919&year=2017&details=517919>.

²²⁸ *Id.*

²²⁹ *Id.*

The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small.²³⁰ U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.²³¹ Of those firms, 1,039 had revenue of less than \$25 million.²³² Based on this data, the Commission estimates that the majority of “All Other Telecommunications” firms can be considered small.

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

70. The requirements in the *Order* will impose new or modified reporting, recordkeeping and/or other compliance obligations on small entities. The rules adopted in the *Order* require all cable, wireless, wireline and interconnected VoIP providers to make adjustments to their reporting practices. Providers previously had the option to report in DIRS, but now will be required to do so. More specifically, small and other providers will be required to report each day that DIRS is activated as well as file a final report with 24 hours of deactivation of DIRS. The mandatory reporting in DIRS requiring providers to create reports and share them with the Commission on a daily basis, and to share a subsequent report upon deactivation, may be a reporting process that some small providers may not have been doing previously since DIRS reporting was voluntary. While adopting this mandatory DIRS reporting requirement, the Commission simultaneously codified its practice of waiving of NORS reporting requirements for providers while reporting in DIRS, which should help minimize the burden for some small providers. Small and rural providers that may not have previously reported in DIRS under the voluntary reporting framework are likely to already engage in the production of some type of report(s) or reporting to track emergency events, and therefore the Commission does not expect that small providers will have to hire professionals to comply with the DIRS reporting requirement. In the final DIRS deactivation report that must be completed within 24 hours of DIRS deactivation, the Commission offers small and other providers flexibility by allowing providers to submit detailed written information that identifies and provides the status of its outstanding infrastructure equipment, and its estimated dates for resolving all outstanding issues remaining at the time of deactivation, in a free form text box.

71. Small and other regional and local cable, wireless, wireline and VoIP providers that are not currently reporting their infrastructure status in DIRS will incur one-time implementation costs to transition from their exiting reporting processes or lack thereof to new reporting processes to comply with this Order. The Commission estimates that the nation’s regional and local cable, wireless, wireline and VoIP providers as a whole will experience costs related to initial entry of contact information and initial entry of critical information. Based on our previous analyses we know that provider responses, and DIRS reports generally, will differ and appear unique for each emergency or disaster due to differing events, geographic areas and the types of services being provided. As a result, we estimate that each provider subject to the DIRS reporting requirement will enter approximately 37 unique reports of critical information over an average of five DIRS activations per year.²³³ We believe that critical information will be input initially, and each unique entry of critical information subsequently updated an average of

²³⁰ See 13 CFR § 121.201, NAICS Code 517919 (as of Oct. 1, 2022, NAICS Code 517810).

²³¹ 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>.

²³² *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.

²³³ FCC, 3060-1003 – *DIRS Supporting Statement for Communications Disaster Information Reporting System (DIRS)*, (Aug. 2023), <https://omb.report/icr/202307-3060-031/doc/134173500>.

approximately six times. We estimate a time requirement for initial entry of contact information of 0.1 hours, for initial entry of critical information of 0.5 hours, and 0.1 hours for updates of critical information.²³⁴

72. Impacted providers may also incur an annual recurring cost, imposed by the new reporting requirements, but the Commission has determined that these costs are likely to be mitigated for a number of reasons. The incremental costs of reporting are lessened to the extent that providers already engage in voluntarily reporting in DIRS or similarly reporting in NORS with the Commission or produce internal reports already to keep track of and learn from emergency events. Moreover, these cost increases will be substantially offset, over the long term, by the lowering of administrative costs. Under our new rules, a provider will only need to report in DIRS upon activation and not have to use time or resources for dual reporting in NORS. They will have a reporting system in place after their first time reporting in DIRS thereby lowering the cost of subsequent reporting, decreasing staff time spent on reporting, and having more staff familiar with the reporting process.

73. Based on the record, the Commission concluded that the benefits of participation by small entities and other providers likely will exceed the costs for affected providers to comply with the rules adopted in today's *Order*. The benefits attributable to improving resiliency in the context of emergency situations are substantial and may have significant positive effects on the abilities of these entities to promote the health and safety of residents during times of natural disaster or other unanticipated events that impair telecommunications and communications infrastructure.

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

74. 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."²³⁵

75. The actions taken by the Commission in the *Order* were considered to be the least costly and minimally burdensome for small and other entities impacted by the rules. The Commission took a number of actions in the *Order* to minimize any significant economic impact on small entities and considered several alternatives. Specifically, the *Order's* requirements are only applicable to cable, wireless, wireline and interconnected VoIP providers, and thus modifies our proposal in the *2021 Resilient Networks Notice* which included Direct Broadcast Satellite (DBS), Satellite Digital Audio Radio Service (SDARS), and TV and radio broadcasting small entity providers in the scope of the mandatory reporting requirements. While we considered mandating DIRS reporting for the satellite and broadcast industries, factors relevant to these industries during a disaster such as the impact to the specific technology, the impact of operational restrictions such as the loss the underlying telephone, Internet, or power services relied upon to provide service, and the types of information that is likely relevant for disaster response as it pertains to these groups that may impact what data needs to be collected from these entities, led us to limit the scope of DIRS reporting at this time, and in the *Second Further Notice of Proposed Rulemaking* included with *Order* we seek further information to build a more complete record.

76. Several of the adopted requirements are based on, or incorporate industry-developed standards, and utilize and are consistent with existing Commission requirements which should lessen the reporting burden for small entities. Moreover,]==in developing the requirement that cable, wireless, wireline and interconnected VoIP providers must report in DIRS daily upon activation, we do not unnecessarily require excess reports in the normal course of business when there is no ongoing disaster or

²³⁴ *Id.*

²³⁵ 5 U.S.C. § 604(a)(6).

emergency, and we only focus on times where reporting is crucial for public safety and wellbeing. The Commission's mandate of DIRS reporting in a system that already exists and is utilized voluntarily by providers while eliminating the need for providers to report in a second system – NORS, when DIRS reporting is activated and outages are timely reported in DIRS, should increase the likelihood that small entities are familiar with the reporting system and already have processes and procedures in place to facilitate compliance with the rules we adopt in today's *Order*. Our decision to remove the burden of a dual reporting requirement in DIRS and NORS should be a significant benefit for small entities.

77. Further, Cable, Wireline, Wireless, and Interconnected VoIP providers who provide a DIRS report pursuant to paragraph (a) of this section are not required to make submissions in the Network Outage Reporting System (NORS) under this chapter pertaining to any incidents arising during the DIRS activation and that are timely reported in DIRS. Subject providers shall be notified that DIRS is activated and deactivated pursuant to Public Notice from the Commission and/or the Public Safety and Homeland Security Bureau. This section may contain information collection and/or recordkeeping requirements. Compliance with this section will not be required until this paragraph (c) is removed or contains compliance dates, which will not occur until the later of: (i) 30 days after the Office of Management and Budget completes review of such requirements pursuant to the Paperwork Reduction Act or the Public Safety and Homeland Security Bureau determines that such review is not required; or (ii) November 30, 2024.

78. The Commission considered the arguments put forth by commenters that mandatory reporting should not be adopted because small entities may not be able to submit the required reports during an ongoing disaster and questioning the usefulness of DIRS reports during a disaster.²³⁶ However, we moved forward to adopt a mandatory DIRS reporting requirement in light of the Commission's ability to address any significant or unusual burden small providers may encounter on a case-by-case basis pursuant to its authority to waive mandatory DIRS requirements, the offsetting benefits to small and other providers from our waiver of the NORS reporting requirement when providers are reporting in DIRS, and the evidence in the record in the *2021 Resilient Networks Notice*, and in the Commission's Disaster Communications Field Hearing, providing information regarding the value of DIRS data to improving public safety and ensuring network reliability.²³⁷

H. Report to Congress

79. The Commission will send a copy of the *Second Report and Order and Second Further Notice of Proposed Rulemaking*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.²³⁸ In addition, the Commission will send a copy of the *Second Report and Order and Second Further Notice of Proposed Rulemaking*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Second Report and Order and Second Further Notice of Proposed Rulemaking* and FRFA (or summaries thereof) will also be published in the *Federal Register*.²³⁹

²³⁶ NTCA—The Rural Broadband Association, Dec. 16, 2021, Comments at 9 (NTCA Comments).

²³⁷ *2021 Resilient Networks Notice* at paras 8-12; Testimony of Harold Feld, Senior Vice President, Public Knowledge, FCC Field Hearing on Network Resiliency, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35 (Oct. 26, 2021), at 3-4.

²³⁸ 5 U.S.C. § 801(a)(1)(A).

²³⁹ 5 U.S.C. § 604(b).

APPENDIX C

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Second Further Notice of Proposed Rulemaking (Second Further Notice)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Second Further Notice*. The Commission will send a copy of the *Second Further 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. In the *Second Report and Order (Order)* preceding the *Second Further Notice*, the Commission adopts rules requiring cable, wireless, wireline and interconnected VoIP providers to report network outages in the Commission's Disaster Information Reporting System (DIRS) when it is activated, suspends Network Outage Reporting System (NORS) reporting obligations when DIRS reporting is in effect, and a mandates final report within 24 hours of the deactivation of DIRS for those subject providers.

3. The *Second Further Notice* further explores potential expansion of the reporting requirements of the *Order*. We propose additional providers to consider for mandated DIRS reporting including broadcast, satellite, and broadband providers, as well as specific types of reporting requirements. We further inquire whether FirstNet should be subject to NORS and/or DIRS reporting, and whether FirstNet and all other relevant providers should be required to send "after action" reports to the Commission after an emergency. In the *Second Further Notice* we seek comment on:

- A proposal to require TV and radio broadcasters to report in NORS and DIRS subject to simplified reporting processes and the scope of these simplified reporting processes;
- A proposal to require satellite providers to report in DIRS, and information on whether modifications to existing DIRS satellite forms are warranted in a mandatory regime and whether the NORS reporting thresholds for satellite providers should be modified to reflect technological changes;
- The extent to which FirstNet should be subject to NORS and/or DIRS reporting requirements;
- The extent to which BIAS providers should be required to report in NORS and/or DIRS;
- reporting mobile recovery assets;
- Whether providers subject to DIRS reporting requirements should be required to supply the Commission with "after action" reports detailing how their networks fared and the timing, duration and effectiveness of their pre-disaster response plans;
- The extent to which DIRS reporting providers should be required to provide the location of mobile recovery assets deployed in support of an incident, as well as information on other

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 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² 5 U.S.C. § 603(a).

³ *See id.*

specifications of those assets; and

- Specific cost and benefit estimates for the proposal and matters discussed in the *Second Further Notice*.

4. Our proposals and the matters upon which we seek comment in the *Second Further Notice* are intended to build upon today's *Order* by expanding the list of applicable providers for required DIRS reporting, explore how to further expand today's rule in terms of "after action" reports and advances in technology, provide transparency and insight into FirstNet and its reporting, and creating a more complete record for DIRS and NORS reporting requirements.

B. Legal Basis

5. The proposed action is authorized pursuant to sections 1, 4(i), 4(j), 4(n), 201, 214, 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309316, 332, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j) & (n), 201, 214, 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403; sections 2, 3(b), and 6-7 of the Wireless Communications and Public Safety Act of 1999, 47 U.S.C. §§ 615 note, 615, 615a-1, and 615b.

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

6. The RFA directs agencies to provide a description of and, where feasible, and estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁵ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁶ A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷

7. *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.⁸ 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.⁹ These types of small businesses represent 99.9% of all businesses in the United States, which translates to 33.2 million businesses.¹⁰

⁴ 5 U.S.C. § 603(b)(3).

⁵ 5 U.S.C. § 601(6).

⁶ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632(a)). Pursuant to the RFA, 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."

⁷ 15 U.S.C. § 632.

⁸ See 5 U.S.C. § 601(3)-(6).

⁹ 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).

¹⁰ *Id.*

8. 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.”¹¹ 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.¹² Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.¹³

9. 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.”¹⁴ U.S. Census Bureau data from the 2017 Census of Governments¹⁵ indicate there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.¹⁶ Of this number, there were 36,931 general purpose governments (county,¹⁷ municipal, and town or township¹⁸) with populations of less than 50,000 and 12,040 special purpose governments—independent school districts¹⁹ with enrollment

¹¹ See 5 U.S.C. § 601(4).

¹² 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. See Annual Electronic Filing Requirement for Small Exempt Organizations – Form 990-N (e-Postcard), “Who must file,”

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

¹³ See Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2020 with revenue less than or equal to \$50,000 for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) that includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

¹⁴ See 5 U.S.C. § 601(5).

¹⁵ See 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7”. See also Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

¹⁶ See U.S. Census Bureau, 2017 Census of Governments – Organization Table 2. Local Governments by Type and State: 2017 [CG1700ORG02], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also tbl.2. CG1700ORG02 Table Notes_Local Governments by Type and State_2017.

¹⁷ See *id.* at tbl.5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

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

¹⁹ See *id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also tbl.4. Special-Purpose Local

(continued....)

populations of less than 50,000.²⁰ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”²¹

10. *Wired Broadband Internet Access Service Providers (Wired ISPs).*²² 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.²³ Wired broadband Internet services fall in the Wired Telecommunications Carriers industry.²⁴ The SBA small business size standard for this industry classifies firms having 1,500 or fewer employees as small.²⁵ U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.²⁶ Of this number, 2,964 firms operated with fewer than 250 employees.²⁷

11. 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.²⁸ 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*

Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2017.

²⁰ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

²¹ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations tbls. 5, 6 & 10.

²² Formerly included in the scope of the Internet Service Providers (Broadband), Wired Telecommunications Carriers and All Other Telecommunications small entity industry descriptions.

²³ See 47 CFR § 1.7001(a)(1).

²⁴ See U.S. Census Bureau, *2017 NAICS Definition*, “517311 Wired Telecommunications Carriers,” <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

²⁵ See 13 CFR § 121.201, NAICS Code 517311 (as of Oct. 1, 2022, NAICS Code 517111).

²⁶ See U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

²⁷ *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.

²⁸ 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 (Mar. 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.

Marketplace Report,²⁹ we believe that the majority of wireline Internet access service providers can be considered small entities.

12. *Wireless Broadband Internet Access Service Providers (Wireless ISPs or WISPs)*.³⁰ 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 Internet[.]”³¹ 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.³² 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).³³ The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.³⁴ U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.³⁵ Of that number, 2,837 firms employed fewer than 250 employees.³⁶

13. 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.³⁷ 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,³⁸ as well as on terrestrial fixed wireless broadband providers in general,³⁹ we believe that the majority of wireless Internet access service providers can be considered small entities.

14. *Satellite Telecommunications*. This industry comprises firms “primarily engaged in

²⁹ 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*).

³⁰ Formerly included in the scope of the Internet Service Providers (Broadband), Wireless Telecommunications Carriers (except Satellite) and All Other Telecommunications small entity industry descriptions.

³¹ 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>.

³² See 47 CFR § 1.7001(a)(1).

³³ 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>.

³⁴ See 13 CFR § 121.201, NAICS Code 517312 (as of Oct. 1, 2022, NAICS Code 517112).

³⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

³⁶ *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.

³⁷ See *IAS Status 2019*, Fig. 30.

³⁸ See *Communications Marketplace Report*, GN Docket No. 22-203, 2022 WL 18110553 at 27, paras. 64-68. (2022) (*2022 Communications Marketplace Report*).

³⁹ *Id.* at 8, para. 22.

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.”⁴⁰ Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with \$38.5 million or less in annual receipts as small.⁴¹ U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year.⁴² Of this number, 242 firms had revenue of less than \$25 million.⁴³ Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 65 providers that reported they were engaged in the provision of satellite telecommunications services.⁴⁴ Of these providers, the Commission estimates that approximately 42 providers have 1,500 or fewer employees.⁴⁵ Consequently, using the SBA’s small business size standard, a little more than half of these providers can be considered small entities.

15. *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.⁴⁶ Transmission facilities may be based on a single technology or combination of technologies.⁴⁷ 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.⁴⁸ By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.⁴⁹

16. The SBA small business size standard for Wired Telecommunications Carriers classifies

⁴⁰ See U.S. Census Bureau, *2017 NAICS Definition, “517410 Satellite Telecommunications,”* <https://www.census.gov/naics/?input=517410&year=2017&details=517410>.

⁴¹ See 13 CFR § 121.201, NAICS Code 517410.

⁴² 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&hidePrevious=false>.

⁴³ *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.

⁴⁴ 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>.

⁴⁵ *Id.*

⁴⁶ See U.S. Census Bureau, *2017 NAICS Definition, “517311 Wired Telecommunications Carriers,”* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

⁴⁷ *Id.*

⁴⁸ 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).

⁴⁹ *Id.*

firms having 1,500 or fewer employees as small.⁵⁰ U.S. Census Bureau data for 2017 show that 3,054 firms operated in this industry for the entire year.⁵¹ Of this number, 2,964 firms operated with fewer than 250 employees.⁵² 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.⁵³ DIRECTV and DISH Network both exceed the SBA size standard for classification as a small business. Therefore, we must conclude based on internally developed Commission data, in general DBS service is provided only by large firms.

17. *Radio Stations.* This industry is comprised of “establishments primarily engaged in broadcasting aural programs by radio to the public.”⁵⁴ Programming may originate in their own studio, from an affiliated network, or from external sources.⁵⁵ The SBA small business size standard for this industry classifies firms having \$41.5 million or less in annual receipts as small.⁵⁶ U.S. Census Bureau data for 2017 show that 2,963 firms operated in this industry during that year.⁵⁷ Of this number, 1,879 firms operated with revenue of less than \$25 million per year.⁵⁸ Based on this data and the SBA’s small business size standard, we estimate a majority of such entities are small entities.

18. The Commission estimates that as of September 30, 2023, there were 4,452 licensed commercial AM radio stations and 6,670 licensed commercial FM radio stations, for a combined total of 11,122 commercial radio stations.⁵⁹ Of this total, 11,120 stations (or 99.98 %) had revenues of \$41.5 million or less in 2022, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Database (BIA) on October 4, 2023, and therefore these licensees qualify as small entities under the SBA

⁵⁰ See 13 CFR § 121.201, NAICS Code 517311 (as of Oct. 1, 2022 NAICS Code 517111).

⁵¹ 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: EC1700SIZEEMPFFIRM, NAICS Code 517311, <https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFFIRM&hidePreview=false>.

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 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).

⁵⁴ See U.S. Census Bureau, *2017 NAICS Definition, “515112 Radio Stations,”* <https://www.census.gov/naics/?input=515112&year=2017&details=515112>.

⁵⁵ *Id.*

⁵⁶ See 13 CFR § 121.201, NAICS Code 515112 (as of Oct. 1, 2022 NAICS Code 516110).

⁵⁷ 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.

⁵⁸ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard. We note that the U.S. Census Bureau withheld publication of the number of firms that operated with sales/value of shipments/revenue in the individual categories for less than \$100,000, and \$100,000 to \$249,999 to avoid disclosing data for individual companies (see Cell Notes for the sales/value of shipments/revenue in these categories). Therefore, the number of firms with revenue that meet the SBA size standard would be higher than 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.

⁵⁹ *Broadcast Station Totals as of September 30, 2023*, Public Notice, DA 23-921 (released Oct. 3, 2023) (*October 2023 Broadcast Station Totals PN*), <https://docs.fcc.gov/public/attachments/DA-23-921A1.pdf>.

definition. In addition, the Commission estimates that as of September 30, 2023, there were 4,263 licensed noncommercial (NCE) FM radio stations, 1,978 low power FM (LPFM) stations, and 8,928 FM translators and boosters.⁶⁰ 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.

19. We note, however, that in assessing whether a business concern qualifies as “small” under the above definition, business (control) affiliations⁶¹ must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, another element of the definition of “small business” requires that an entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific radio or television broadcast station is dominant in its field of operation. Accordingly, the estimate of small businesses to which the rules may apply does not exclude any radio or television station from the definition of a small business on this basis and is therefore possibly over-inclusive. An additional element of the definition of “small business” is that the entity must be independently owned and operated. Because it is difficult to assess these criteria in the context of media entities, the estimate of small businesses to which the rules may apply does not exclude any radio or television station from the definition of a small business on this basis and similarly may be over-inclusive.

20. *Television Broadcasting.* This industry is comprised of “establishments primarily engaged in broadcasting images together with sound.”⁶² These establishments operate television broadcast studios and facilities for the programming and transmission of programs to the public.⁶³ These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studio, from an affiliated network, or from external sources. The SBA small business size standard for this industry classifies businesses having \$41.5 million or less in annual receipts as small.⁶⁴ 2017 U.S. Census Bureau data indicate that 744 firms in this industry operated for the entire year.⁶⁵ Of that number, 657 firms had revenue of less than \$25,000,000.⁶⁶ Based on this data we estimate that the majority of television broadcasters are small entities under the SBA small business size standard.

21. As of September 30, 2023, there were 1,377 licensed commercial television

⁶⁰ *Id.*

⁶¹ “[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).

⁶² See U.S. Census Bureau, *2017 NAICS Definition, “515120 Television Broadcasting,”* <https://www.census.gov/naics/?input=515120&year=2017&details=515120>.

⁶³ *Id.*

⁶⁴ See 13 CFR § 121.201, NAICS Code 515120 (as of Oct. 1, 2022, NAICS Code 516120).

⁶⁵ 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>.

⁶⁶ *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.

stations.⁶⁷ Of this total, 1,258 stations (or 91.4%) had revenues of \$41.5 million or less in 2022, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Television Database (BIA) on October 4, 2023, and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission estimates as of September 30, 2023, there were 383 licensed noncommercial educational (NCE) television stations, 380 Class A TV stations, 1,889 LPTV stations and 3,127 TV translator stations.⁶⁸ 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.

22. *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.⁶⁹ 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.⁷⁰ 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.⁷¹ The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small.⁷² U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.⁷³ Of those firms, 1,039 had revenue of less than \$25 million.⁷⁴ Based on this data, the Commission estimates that the majority of "All Other Telecommunications" firms can be considered small.

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

23. The proposed requirements in the *Second Further Notice* if adopted, will impose new or modified reporting, recordkeeping and/or other compliance obligations on small entities. Specifically, we have proposed mandatory requirements implementing (1) a simplified DIRS reporting process for TV and radio broadcasters report in NORS and DIRS; (2) DIRS reporting for satellite providers, and potentially modifying existing DIRS satellite forms, and NORS reporting thresholds for satellite providers to reflect

⁶⁷ *Broadcast Station Totals as of September 30, 2023*, Public Notice, DA 23-921 (released Oct. 3, 2023) (*October 2023 Broadcast Station Totals PN*), <https://docs.fcc.gov/public/attachments/DA-23-921A1.pdf>.

⁶⁸ *Id.*

⁶⁹ See U.S. Census Bureau, *2017 NAICS Definition*, "517919 All Other Telecommunications," <https://www.census.gov/naics/?input=517919&year=2017&details=517919>.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² See 13 CFR § 121.201, NAICS Code 517919 (as of Oct. 1, 2022, NAICS Code 517810).

⁷³ 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>.

⁷⁴ *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.

technological changes; (3) NORS and DIRS reporting obligations for BIAS providers; and (4) a reporting requirement for all providers subject to DIRS reporting that would require these providers to submit “after action” reports to the Commission with detailed information on how their networks performed, as well as on the timing, duration, and effectiveness of their pre-disaster response plans within 60 days of the Public Safety and Homeland Security Bureau (Bureau) providing public notice that such reports must be filed.

24. The *Second Further Notice* seeks comment on a number of aspects mentioned above in section A, relating to our proposals and the matters we discuss, including on the extent to which DIRS reporting providers should be required to report the location of mobile recovery assets deployed in support of an incident, as well as information on other specifications of those assets. In assessing the cost of compliance for small entities, at this time the Commission is not in a position to determine whether, if adopted, the proposals and matters upon which we seek comment in the *Second Further Notice* will require small entities to hire professionals to comply, and we cannot quantify the cost of compliance with any of the potential rule changes that may be adopted. We expect the comments we receive in response to the *Second Further Notice* to include information which should help the Commission further identify, and evaluate relevant issues and burdens for small entities, including compliance costs, before adopting final rules.

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

25. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (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 or 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.⁷⁵

26. The Commission has taken specific steps to address some of the costs for providers subject to the potential rules discussed in the *Second Further Notice*. We seek to give small and other providers maximum flexibility and reduce potential costs of compliance, with for example, our proposal to implement simplified reporting for TV and radio broadcasters. These entities would simply report whether their operations were on air or off air, any issues affecting their operations, and the time estimate to fully restore its operations. While we propose to apply DIRS reporting to TV and radio broadcasters in the *Second Further Notice*, the Commission considered not mandating DIRS reporting for TV and radio broadcasters and seeks comment on both approaches, seeks comment on exempting low power broadcasters, and proposes to exempt translator and booster stations. However, we note that because of the critical role that broadcasters play in informing the public during emergency situations, we believe it is in the public interest for the Commission to have information on broadcasters’ networks during emergencies. We also recognize, however, that in some instances filing in NORS and/or DIRS by small providers, including those providing BIAS or other broadband services, may be supported by the public interest benefits ensuring prompt access to, or restoration of, these services when they are disabled. Nevertheless, we seek comment on ways to minimize burdens on these entities while ensuring the fulfillment of the stated public safety purposes. For example, we seek comment on how to minimize burdens where a BIAS provider may already be subject to reporting for another service they provide.

27. Recognizing the challenges that mandatory DIRS reporting may present for satellite providers, the Commission considered and seeks comment in the *Second Further Notice*, on making modifications to the types of information that satellite providers would submit with mandatory DIRS reporting. Additionally, we considered and inquired whether, and if so, how to modify NORS reporting thresholds to reflect technological network changes which could benefit small satellite providers. Finally,

⁷⁵ 5 U.S.C. § 603(c)(1)-(4).

with our proposal to require providers subject to mandated DIRS reporting to submit an “after action” report described in the previous section, we considered and seek comment on whether to apply this requirement to all DIRS filers, or in the alternative, only to a subset of DIRS filers.

28. We expect to consider the economic impact more fully on small entities following our review of comments filed in response to the *Second Further Notice* and this IFRA. 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

29. None.