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Cellular Network Outage Reporting and Restoration During Disasters

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Amanda H. Peskin
Analyst in
Telecommunications
Policy

Cellular Network Outage Reporting and Restoration During Disasters

Communications during disasters are critical for first responders, public officials, and individuals. Should cellular network outages occur during or after a disaster, knowledge of where the outages have occurred and when communications have been restored may aid response. The Federal Communications Commission (FCC) has created two systems for cellular network outage reporting: the Network Outage Reporting System (NORS) for everyday outages and the Disaster Information Reporting System (DIRS) for outages during disasters. The FCC has also adopted a framework for network restoration: the Mandatory Disaster Response Initiative (MDRI), which requires providers to coordinate during large-scale or particularly severe disasters. Whereas NORS and DIRS are both reporting systems, the MDRI is a framework that enables information sharing and cooperation among communications providers during cellular network outages.

The FCC created NORS, DIRS, and the MDRI through rulemakings. The FCC created NORS following the September 11, 2001, terrorist attacks, requiring most providers to report any cellular network outage that lasts 30 minutes or longer. The FCC established DIRS in 2007 in response to the impact of Hurricane Katrina on communications networks. DIRS enables the FCC to aggregate and provide anonymized data on the status of communications infrastructure and service degradation during disasters to federal emergency management officials and the public. In 2022, the FCC codified the voluntary Wireless Network Resiliency Cooperative Framework, established by wireless providers, as the MDRI to promote mutual aid, roaming agreements, and cooperation during the network restoration process.

The FCC has activated these mechanisms to help coordinate disaster and incident management during emergencies like floods, hurricanes, wildfires, winter storms, and super typhoons that have damaged communications networks and caused cellular network outages. The FCC has used DIRS to provide daily information to the public on large-scale outages and restoration during major disasters and activated the MDRI to enforce collaboration between providers during network restoration efforts. Providers must submit outage reporting information to NORS, regardless of the scale of the disaster, for outages that last for a specified duration.

The FCC has periodically initiated rulemakings to seek public input on NORS, DIRS, and the MDRI and has adopted rules to improve cellular network outage reporting (e.g., making previously confidential information available to public safety officials, expanding reporting requirements for other communication providers, and streamlining its reporting requirements to avoid duplication).

Some Members of Congress have expressed interest in improving information sharing and enabling access to communications networks for their constituents during disasters. In previous Congresses, proposed legislation would have (1) required the FCC to release a preliminary report after DIRS activation relaying the number and duration of outages to broadband internet, interconnected Voice over Internet Protocol (VoIP), commercial mobile service, and commercial mobile data service providers and (2) directed the FCC to improve cellular network outage reporting. None of this legislation was enacted. Similar legislation, such as the Enhancing First Response Act, S. 725, and the Emergency Reporting Act, H.R. 5200, has been introduced in the 119th Congress.

Congress could codify the FCC's rules surrounding NORS, DIRS, and the MDRI into law, which would allow Congress to set the terms of activation and continued reporting on communication outages during disasters. Alternately, Congress could allow the FCC to continue to oversee the reporting and restoration of outages, and to initiate periodic rulemakings to continue to improve the programs, without requiring a change in legislation. Congress could also hold hearings on communication outages or require periodic reporting from the FCC.

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Introduction

Natural disasters (e.g., hurricanes, tornadoes, floods, and wildfires) and human-caused incidents (e.g., terrorist attacks, vandalism, and maintenance issues) can cause *cellular network outages*. Such outages occur when a portion of the cellular network infrastructure (also known as the mobile network infrastructure) is unavailable, preventing communication between devices and/or systems. Among other impacts, cellular network outages can create delays and errors in emergency response, potentially stalling disaster relief efforts, which can lead to loss of life and property damage. While wireless networks are privately owned, and private operators take responsibility for repairing their own networks and restoring services for their customers after disasters, some federal agencies such as the Federal Emergency Management Agency (FEMA) and the Federal Communications Commission (FCC) also have roles in the restoration process.

This report provides an overview of the two reporting systems established by the FCC for reporting cellular network outages—the Network Outage Reporting System (NORS) and Disaster Information Reporting System (DIRS)—as well as the Mandatory Disaster Response Initiative (MDRI), which is the framework codified by the FCC to help restore cellular networks. This report also discusses issues of possible interest to Congress, such as expanding and streamlining reporting requirements for communication providers, establishing criteria for when cellular network outage reporting and the MDRI are triggered, and updating confidentiality and network roaming requirements. Stakeholder positions on potential changes to the systems are also discussed.

Network Outage Reporting System (NORS)

The terrorist attacks of September 11, 2001, which caused the collapse of the World Trade Center towers, led to reports of cellular network outages and damaged telephone lines in Lower Manhattan.¹ In response, the FCC created NORS in 2004 to require reporting and collection of information on cellular network outages.² The FCC’s rulemaking that created NORS cited the “need for rapid, complete, and accurate information on service disruptions that could affect homeland security, public health or safety, and the economic well-being of our Nation.”³ The rules require wire line, cable, satellite, wireless, interconnected Voice over Internet Protocol (VoIP), and Signaling System 7 providers to report any outage lasting at least 30 minutes to NORS,⁴ including “sunny day” outages.⁵ Per the FCC, any data submitted to NORS are presumed confidential because of their sensitive nature.⁶

¹ National Research Council of the National Academies, *The Internet Under Crisis Conditions: Learning from September 11* (National Academies Press, 2003), p. 37, <https://nap.nationalacademies.org/read/10569/chapter/4#37>.

² Federal Communications Commission (FCC), *Report and Order and Further Notice of Proposed Rulemaking: New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, August 4, 2004, pp. 4-5, <https://docs.fcc.gov/public/attachments/FCC-04-188A1.pdf> (hereinafter FCC, *Report and Order and Further Notice of Proposed Rulemaking*, August 4, 2004).

³ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, August 4, 2004, p. 4.

⁴ The rules also require that providers of interconnected Voice over Internet Protocol (VoIP) and Signaling System 7—a protocol standard that defines how network elements in a public switched telephone network (PSTN) exchange information and control signals—report to the Network Outage Reporting System (NORS).

⁵ “Sunny day” outages are not caused by disasters or environmental factors but by human or technical errors.

⁶ FCC, “Network Outage Reporting System (NORS),” June 5, 2025, <https://www.fcc.gov/network-outage-reporting-system-nors>.

NORS Reporting Requirements

The FCC requires providers to submit a notification to NORS within 120 minutes of determining that an outage meets the FCC's reportability thresholds.⁷ The provider must also either (1) submit an initial outage report within 3 calendar days, followed by a final report no more than 30 days after discovering the outage, or (2) withdraw the notification and initial reports if a further investigation shows that the outage did not meet the reporting thresholds.⁸ All three of the NORS filings—the notifications, initial reports, and final reports—must address the reason the event is reportable; the incident date, time, and location details; the state(s) affected; the number of potentially affected customers; and whether 911 services were affected.⁹ The FCC's NORS rulemaking requires the Cybersecurity and Communications Reliability Division of the Public Safety and Homeland Security Bureau (within the FCC) to analyze NORS data to assess the magnitude of major outages, identify trends, and promote network reliability best practices to prevent or mitigate future disruptions.¹⁰

Disaster Information Reporting System (DIRS)

During severe or large-scale disasters, the FCC may ask providers to report operational status and restoration information to DIRS. The FCC established DIRS in 2007 in response to recommendations submitted to the FCC by the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks.¹¹ The panel found that impediments to the recovery effort resulted from a lack of coordination between the communications industry and federal, state, and local officials; inconsistent and unclear requirements for communications infrastructure repair crews and subcontractors; and limited access to power and generator fuel.¹²

DIRS was created as a voluntary, web-based system to collect information from wire line, wireless, broadcast radio and television, cable, interconnected VoIP, and broadband providers during major disasters and recovery efforts. As of February 20, 2025, wire line, wireless, cable, and interconnected VoIP providers are required to report to DIRS, similarly to how those

⁷ FCC, *Order on Reconsideration: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, Improving 911 Reliability, and New Part 4 of Commission's Rules Concerning Disruptions to Communications*, July 10, 2024, p. 6, <https://docs.fcc.gov/public/attachments/FCC-24-73A1.pdf>. Notice to public safety answering points (PSAPs) must be given no more than 30 minutes after an originating service provider discovers it has experienced an outage that potentially affects a PSAP. 47 C.F.R. §4.9(h).

⁸ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, August 4, 2004, p. 6; FCC, *Second Report and Order: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, March 17, 2021, p. 3, <https://docs.fcc.gov/public/attachments/FCC-21-34A1.pdf> (hereinafter FCC, *Second Report and Order*, March 17, 2021).

⁹ FCC, *Second Report and Order*, March 17, 2021, p. 3.

¹⁰ FCC, *Second Report and Order*, March 17, 2021, p. 3.

¹¹ FCC, *The FCC's Public Safety & Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, September 11, 2007, p. 1, <https://docs.fcc.gov/public/attachments/DA-07-3871A1.pdf>; letter from Nancy J. Victory, chair of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, to Kevin J. Martin, chair of the FCC, June 12, 2006, p. 5, <https://transition.fcc.gov/pshs/docs/advisory/hkip/karrp.pdf> (hereinafter letter from Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks to the FCC, June 12, 2006).

¹² The Commission charged the panel with (1) studying the impact of Hurricane Katrina on the telecommunications and media infrastructure, including public safety communications; (2) reviewing the sufficiency of the recovery effort with respect to this infrastructure; and (3) making recommendations for improving disaster preparedness, network reliability, and communication among first responders in the future. Letter from Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks to the FCC, June 12, 2006, p. 1.

providers are required to report to NORS.¹³ However, broadcast radio and television and broadband providers may report to DIRS on a voluntary basis.

Through DIRS, providers have a coordinated process to report their communications infrastructure status and request assistance. The FCC, in turn, uses these data to provide emergency management officials with network status information and the public with daily communications infrastructure status reports.¹⁴ DIRS enables the FCC to aggregate and release general outage information to the public during disasters. Because DIRS is confidential, these reports are released without attribution to individual providers and offer information such as the number of nonoperational cell sites in each county and the status of 911 centers, radio stations, and other communication services.

DIRS Activation

Unlike NORS, in which service providers initiate reports, DIRS is activated by the FCC through public notices and courtesy emails to registered DIRS communications providers when a disaster is anticipated, in progress, or has occurred.¹⁵ **Figure 1** illustrates the process for activating DIRS. The DIRS activation notice includes the geographic regions (e.g., by county) affected by the disaster and the instructions for providers to submit status information to DIRS.¹⁶ When DIRS is activated, the providers are required to report daily infrastructure status information for the geographic areas listed in the DIRS activation notice.¹⁷ When the FCC announces DIRS activation, the FCC suspends its NORS outage reporting requirements for DIRS participants.¹⁸ The FCC requires DIRS participants to provide a final summary report to the FCC within 24 hours of its activation.¹⁹ If DIRS and the Emergency Support Function-2 (ESF-2; a team of federal agencies designated to support communications restoration) are both activated,²⁰ then the MDRI is activated. (See “Activating the MDRI.”)

¹³ FCC, “Disaster Information Reporting System (DIRS),” June 24, 2025, <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>. Wire line, wireless, cable interconnected VoIP, and Signaling System 7 providers are required to report to NORS. FCC, “Network Outage Reporting System (NORS),” June 5, 2025.

¹⁴ FCC, “Disaster Information Reporting System (DIRS),” June 24, 2025.

¹⁵ FCC, *Disaster Information Reporting System (DIRS) User Guide*, December 2023, pp. 6-7, downloadable at <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>.

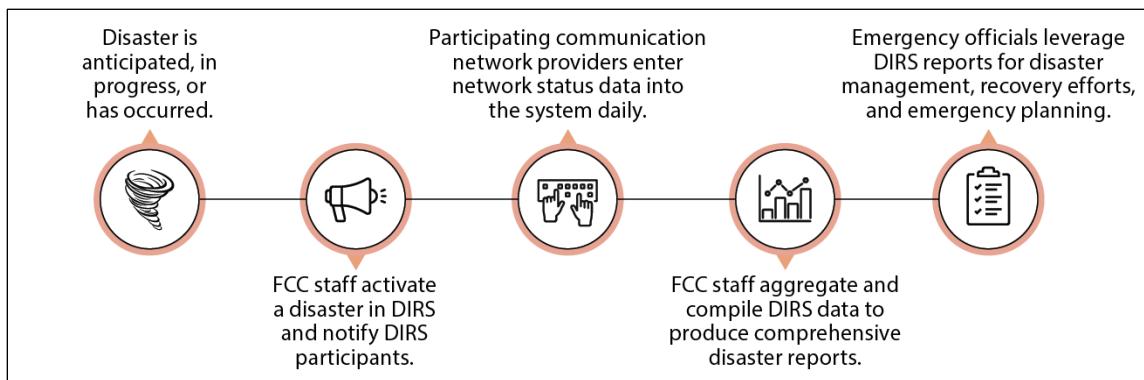
¹⁶ FCC, *Disaster Information Reporting System (DIRS) User Guide*, December 2023, p. 6.

¹⁷ FCC, “FCC Acts to Improve Communications Network Reliability and Transparency During Disasters,” press release, January 25, 2024, <https://docs.fcc.gov/public/attachments/DOC-400007A1.pdf>.

¹⁸ FCC, “FCC Acts to Improve Communications Network Reliability and Transparency During Disasters,” January 25, 2024.

¹⁹ FCC, “FCC Acts to Improve Communications Network Reliability and Transparency During Disasters,” January 25, 2024.

²⁰ The Federal Emergency Management Agency (FEMA) activates the Emergency Support Function-2 (ESF-2) when it expects or observes a significant impact to the nation’s communications infrastructure.

Figure 1. DIRS Activation Process

Source: CRS, adapted from Federal Communications Commission (FCC), *Disaster Information Reporting System (DIRS) User Guide*, December 2023, p. 7, downloadable at <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>.

Mandatory Disaster Response Initiative (MDRI)

After challenges with communications systems during Superstorm Sandy in 2012 (i.e., power outages lasting weeks),²¹ the FCC sought comment on measures to improve wireless network resiliency, including any voluntary measures that could be taken by industry, and to require providers to disclose operational cell sites during major emergencies.²² After the close of the comment period, the FCC approved the Wireless Network Resiliency Cooperative Framework (Framework) in 2016.²³ The Framework was initially a voluntary agreement between facilities-based mobile wireless service providers “to promote resilient communications and situational awareness during disasters through roaming agreements, mutual aid, and other measures.”²⁴ Under the Framework, participants committed to

- providing for reasonable roaming capacity²⁵ under disaster arrangements when technically feasible,²⁶

²¹ Joanna Burger et al., “Trusted Information Sources Used During and After Superstorm Sandy: TV and Radio Were Used More Often than Social Media,” *Journal of Toxicology and Environmental Health, Part A*, vol. 76, no. 20 (2013), p. 1138, <https://doi.org/10.1080/15287394.2013.844087>.

²² FCC, *Notice of Proposed Rulemaking: Improving the Resiliency of Mobile Wireless Communications Networks, Reliability and Continuity of Communications Networks, Including Broadband Technologies*, September 26, 2013, p. 1, <https://docs.fcc.gov/public/attachments/FCC-13-125A1.pdf>, and FCC, *Order: Improving the Resiliency of Mobile Wireless Communications Networks and Reliability and Continuity of Communications Networks, Including Broadband Technologies*, December 14, 2016, p. 2, <https://docs.fcc.gov/public/attachments/FCC-13-125A1.pdf> (hereinafter FCC, *Order*, December 14, 2016).

²³ FCC, *Order*, December 14, 2016.

²⁴ FCC, “Wireless Network Resiliency During Disasters,” June 4, 2024, <https://www.fcc.gov/wireless-network-resiliency-during-disasters>. The seven signatories to the Framework were AT&T, CTIA, GCI, Southern Linc, T-Mobile, U.S. Cellular, and Verizon.

²⁵ Data roaming occurs when people use their cellular device outside of their home wireless provider’s coverage area; it can result in additional charges from the home provider, with fees varying depending on the location and data usage. T-Mobile, “What Is Data Roaming? A Guide to Managing Cellular Data Usage,” December 2, 2025, <https://www.t-mobile.com/dialed-in/wireless/what-is-data-roaming>.

²⁶ However, roaming is required only when specific conditions are met: (1) a requesting provider’s network has become inoperable and the requesting provider has taken all steps to attempt to restore its own network, and (2) the provider receiving the request has determined that roaming is technically feasible and will not adversely affect service to their (continued...)

- fostering mutual aid among wireless providers during emergencies;
- enhancing municipal preparedness and restoration by convening with local government public safety representatives to develop best practices;
- establishing a provider contact database;
- increasing consumer readiness and preparation through development and dissemination with consumer groups of a consumer readiness checklist; and
- improving public awareness and stakeholder communications on service and restoration status through the FCC posting of data on cell site outages on an aggregated, county-by-county basis in the relevant area through DIRS.²⁷

After several natural disasters in 2021 and 2022, such as Hurricane Ida, severe winter storms in Texas, and wildfires in New Mexico, the FCC acted under its authority in Section 1 of the Communications Act of 1934 to “promot[e] safety of life and property through the use of wire and radio communication” to codify the Framework on June 27, 2022, as the MDRI.²⁸ In doing so, the FCC mandated that all facilities-based mobile wireless providers, regardless of their size, comply with the provisions of the Framework.²⁹ The rule deferred for later consideration whether entities other than facilities-based wireless providers (i.e., satellite providers) should be required to comply with the MDRI.³⁰

Activating the MDRI

The FCC activates the MDRI mainly in response to large-scale emergencies and only under one of the following conditions: (1) when FEMA, as part of its responsibilities in coordinating the national response to disasters, activates ESF-2—within the National Response Framework³¹—and the FCC activates DIRS, or (2) the Chief of the Public Safety and Homeland Security Bureau within the FCC issues a public notice activating the MDRI at a state’s request.³²

In a recent example in which the MDRI was activated, Hurricane Helene made landfall on September 24, 2024, causing many fatalities, flooding, and damage to personal property and critical infrastructure, including communications networks. The storm caused damage in parts of Florida, Alabama, Georgia, North and South Carolina, Tennessee, and Virginia. On September 25, 2024, the FCC activated DIRS and the MDRI at Florida’s request.³³ Activation of these systems

own subscribers. When networks are down, carriers must restore their own network before allowing roaming. CRS discussions with FCC Attorney Advisor, May 29, 2025.

²⁷ FCC, *Report and Order and Further Notice of Proposed Rulemaking: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, June 27, 2022, p. 3, <https://docs.fcc.gov/public/attachments/FCC-22-50A1.pdf> (hereinafter FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022).

²⁸ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 2. Communications Act of 1934 (P.L. 73-416), <https://transition.fcc.gov/Reports/1934new.pdf>.

²⁹ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 5.

³⁰ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 5.

³¹ CRS In Focus IF12779, *Restoration of Cell Phone Services: Hurricane Helene*, by Jill C. Gallagher and Amanda H. Peskin. The National Response Framework is a FEMA-created guide for how the nation should respond to all types of disasters and emergencies. FEMA, “National Response Framework,” August 21, 2025, <https://www.fema.gov/emergency-managers/national-preparedness/frameworks/response>.

³² FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 4.

³³ FCC, “The Federal Communications Commission Announces the Activation of the Disaster Information Reporting System (DIRS) and the Mandatory Disaster Response Initiative (MDRI) for Communications Impacts from Hurricane (continued...)

provided the FCC with information on the outages; enabled the FCC to share that information with others, including public safety officials; and required wireless providers to coordinate with the FCC to ensure that people had access to communications.

Recent FCC Changes to NORS and DIRS

In recent years, the FCC has made changes to NORS and DIRS. This section describes the FCC's actions and the stakeholder response to two rulemakings that expanded the FCC's NORS and DIRS information-sharing practices and made changes to the DIRS reporting requirements.

Changes to NORS and DIRS Information-Sharing Practices

Prior to 2021, the FCC shared NORS and DIRS data with the Department of Homeland Security's (DHS's) National Cybersecurity and Communications Integration Center but did not share the data with other federal agencies or state and local governments.³⁴ In a 2021 rulemaking, the FCC expanded its information-sharing practices by making previously confidential information from NORS and DIRS available to public safety officials as needed.³⁵ The FCC allowed recipients of NORS and DIRS data to release aggregated and anonymized versions of that data to the public. The FCC also provided guidance for how to best aggregate and anonymize data.³⁶

During the notice-and-comment period leading up to the rule, some stakeholders supported the proposal. Overall, parties disagreed on data-sharing practices with state and local jurisdictions, among other things.

State public utility commissions and groups representing telecommunications industry workers supported the changes, which they believed would help states respond more efficiently to outages and allow workers to actively collaborate with providers to prevent and mitigate future outages.³⁷ For instance, the Massachusetts Department of Telecommunications and Cable argued that granting state and local government entities direct access to NORS data would help those entities provide timely and accurate information about ongoing outages.³⁸ Communications workers mentioned that access to information in NORS and DIRS helps set restoration priorities by providing the status of communications infrastructure.³⁹ Some industry groups, however, asserted

Helene in Florida, Georgia, North Carolina and South Carolina," September 25, 2024, <https://docs.fcc.gov/public/attachments/DA-24-991A1.pdf>.

³⁴ FCC, *Second Report and Order*, March 17, 2021, pp. 2, 4.

³⁵ FCC, *Second Report and Order*, March 17, 2021, p. 6.

³⁶ FCC, *Second Report and Order*, March 17, 2021, p. 6.

³⁷ FCC, *Second Report and Order*, March 17, 2021, pp. 7-8.

³⁸ Commonwealth of Massachusetts Department of Telecommunications and Cable, *Comments of the Massachusetts Department of Telecommunications and Cable: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications and Petition of California Public Utilities Commission and the People of the State of California for Rulemaking on States' Access to Network Outage Reporting System ("NORS") and a Ruling Granting California Access to NORS*, April 30, 2020, p. 7, <https://www.fcc.gov/ecfs/document/104292835802850/1>.

³⁹ Communications Workers of America, District 7, *Comments of Communications Workers of America, District 7: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications and Petition of California Public Utilities Commission and the People of the State of California for Rulemaking on States' Access to Network Outage Reporting System ("NORS") and a Ruling Granting California Access to NORS*, April 30, 2020, pp. 2-3, <https://www.fcc.gov/ecfs/document/104300629506056/1>. (The Communications Workers of America represents public and private industry communications workers.)

that certain data in NORS would cause confusion to state agencies and that DIRS data should be shared only under a secure process.⁴⁰

While many providers, public safety entities, and government agencies supported the FCC's proposal to share NORS and DIRS data, they emphasized the need to institute safeguards over information sharing, such as limiting data sharing,⁴¹ sharing only information that is necessary for emergency management and situational awareness,⁴² and protecting confidential information related to national security and competition.⁴³

In response to stakeholder feedback on sharing NORS and DIRS data, the 2021 FCC rule ultimately limited direct access to NORS and DIRS databases to the federal government, states, the District of Columbia, tribal nations, and U.S. territories on a "need-to-know" basis; allowed data recipients to release aggregated and anonymized data to the public; and released guidance for how to best aggregate and anonymize data.⁴⁴

The FCC continues to seek improvement in the cellular outage network restoration and recovery process by simplifying access to NORS and DIRS data and streamlining information-sharing practices.⁴⁵

Changes to DIRS Reporting Requirements

Since 2016, DIRS has been activated with increasing frequency.⁴⁶ Citing increased "severity and frequency of natural disasters" and the need to "improve network reliability and resiliency and operational transparency both during and in the aftermath of disasters and outages," in 2024, the FCC revisited the voluntary nature of DIRS reporting criteria and promulgated a rule to require reporting and to manage and mitigate both the short- and long-term impacts that disasters have on communications networks.⁴⁷ Specifically, the rule

⁴⁰ Alliance for Telecommunications Industry Solutions, *Comments of the Alliance for Telecommunications Industry Solutions: Amendments to Part 4 of the Commission's Rules*, April 30, 2020, p. 7, <https://www.fcc.gov/ecfs/document/10430097699092/1>.

⁴¹ T-Mobile, *Comments of T-Mobile USA, Inc.: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, April 30, 2020, p. 3, <https://www.fcc.gov/ecfs/document/1043011666500/1>.

⁴² AT&T, *Comments of AT&T: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, April 30, 2020, pp. 1-2, <https://www.fcc.gov/ecfs/document/1043025558840/1>.

⁴³ Competitive Carriers Association, *Comments of Competitive Carriers Association: Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications and Petition of California Public Utilities Commission and the People of the State of California for Rulemaking on States' Access to Network Outage Reporting System ("NORS") and a Ruling Granting California Access to NORS*, April 30, 2020, p. 3, <https://www.fcc.gov/ecfs/document/104301686222502/1>.

⁴⁴ FCC, *Second Report and Order*, March 17, 2021, p. 6; FCC, *Exemplar Aggregated Data*, September 28, 2022, available at <https://www.fcc.gov/outage-information-sharing>.

⁴⁵ For example, in August 2025, the FCC sought input on (1) ways to streamline information-sharing requirements to simplify access to NORS and DIRS data for use in restoration and recovery efforts and (2) whether to loosen restrictions on how nonconfidential data are shared and used. FCC, *Third Further Notice of Proposed Rulemaking and Order on Reconsideration: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, August 4, 2025, <https://docs.fcc.gov/public/attachments/FCC-25-45A1.pdf> (hereinafter FCC, *Third Further Notice of Proposed Rulemaking and Order on Reconsideration*, August 4, 2025).

⁴⁶ According to the FCC's records available publicly online, which go back to 2016, the FCC activated DIRS one time in 2016, three times in both 2018 and 2019, five times in 2023, and seven times in 2024, among other occasions. FCC, "Incident Management and Investigations," <https://www.fcc.gov/incident-management-and-investigations>.

⁴⁷ FCC, *Second Report and Order and Second Further Notice of Proposed Rulemaking: Resilient Networks*, (continued...)

- required cable, wire line, wireless, and interconnected VoIP providers to report their infrastructure status information in DIRS daily when the FCC activates DIRS, even if their infrastructure status has not changed;⁴⁸
- specified that providers' NORS obligations are waived while they are required to report in DIRS; and
- required communication providers who report in DIRS to submit a final report to the FCC describing the status of their infrastructure that remains unrestored at the time of deactivation within 24 hours of when the FCC deactivates DIRS.⁴⁹

Prior to this rule, providers reported cellular network outages to DIRS on a voluntary basis, and the obligations of providers to report to both NORS and DIRS was considered only “current practice”⁵⁰ and not a regulatory requirement.⁵¹ Prior to issuing this rulemaking, the FCC sought input on whether it should require service providers to report their infrastructure status information after the FCC activates DIRS.⁵² Stakeholders representing industry, localities, and public safety officials responded with different views.

ACA Connects, a trade association representing small and medium-sized broadband operators, expressed concern that small operators lack resources and personnel to make infrastructure status reports amid a disaster.⁵³ Some entities representing local government and public safety stakeholders responded that DIRS data from smaller providers gives the FCC more detailed information on how infrastructure and service has been disrupted.⁵⁴ They generally supported requirements for more information on outages—information that can improve situational awareness and aid in response.

In the report and order addressing the FCC’s inquiry into whether it should require service providers to report their infrastructure status information after a DIRS activation, the FCC directly responded that small providers often cover rural and underserved communities and that requiring DIRS reports would provide operational visibility into the performance of such providers.⁵⁵

Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications, January 25, 2024, pp. 2, 7, <https://docs.fcc.gov/public/attachments/FCC-24-5A1.pdf> (hereinafter FCC, Second Report and Order and Second Further Notice of Proposed Rulemaking, January 25, 2024).

⁴⁸ Television and radio broadcast providers are not required to report to DIRS.

⁴⁹ FCC, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, January 25, 2024, pp. 3-4.

⁵⁰ FCC, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, January 25, 2024, p. 4.

⁵¹ CRS discussions with FCC Office of Legislative Affairs Associate Director, August 25, 2025.

⁵² FCC, *Notice of Proposed Rulemaking: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, September 30, 2021, p. 13, <https://docs.fcc.gov/public/attachments/FCC-21-99A1.pdf> (hereinafter FCC, *Notice of Proposed Rulemaking*, September 30, 2021, p. 13).

⁵³ ACA Connects, *ACA Connects Comments: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, December 16, 2021, p. 6, <https://www.fcc.gov/ecfs/document/1217307190098/1>.

⁵⁴ Next Century Cities, *Comments of Next Century Cities: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, December 16, 2021, pp. 5-6, 8, <https://www.fcc.gov/ecfs/document/121601169275/1> (hereinafter Next Century Cities, *Comments of Next Century Cities*, December 16, 2021).

⁵⁵ FCC, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, January 25, 2024, p. 12.

As of February 20, 2025, cable, wire line, wireless, and interconnected VoIP providers must report their infrastructure status information to DIRS whenever it is activated in their geographic area.⁵⁶ The FCC is currently examining the efficacy of this change.⁵⁷

The FCC also examined whether it should require television and radio broadcasters to report in NORS and DIRS.⁵⁸ The National Association of Broadcasters (NAB) and others argued that mandating broadcasters submit information to DIRS could create an undue burden because many smaller stations lack the resources and capacity to create the required reports.⁵⁹ NAB contended that participation in DIRS should remain voluntary for radio and television broadcasters.⁶⁰ Public broadcasters responded that mandating DIRS reporting would strain station operators.⁶¹ However, state and local governments commented that including television and radio broadcasters in DIRS submissions would increase awareness of the ways households receive information during a disaster.⁶² One nonprofit organization stated that DIRS reporting should be mandatory, as some communities rely on AM radio stations for emergency information.⁶³ The FCC has yet to decide whether it should mandate television and radio broadcast reporting.

Congressional Considerations

Some Members of Congress have shown interest in understanding the status of communications during disasters, the availability of outage information, and the estimated timeline for restoration. While the FCC has addressed some of these issues, as discussed in “Recent FCC Changes to NORS and DIRS,” some Members have introduced legislation to improve reporting, information sharing, and resiliency of networks to avoid outages.

⁵⁶ FCC, “Public Safety and Homeland Security Bureau Announces Compliance Deadline for Disaster Information Reporting System Requirements,” press release, January 21, 2025, <https://docs.fcc.gov/public/attachments/DA-25-74A1.pdf>.

⁵⁷ FCC, *Third Further Notice of Proposed Rulemaking and Order on Reconsideration*, August 4, 2025, p. 10.

⁵⁸ FCC, *Notice of Proposed Rulemaking*, September 30, 2021, p. 13.

⁵⁹ National Association of Broadcasters (NAB), *Comments of the National Association of Broadcasters: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, December 16, 2021, p. 3, <https://www.fcc.gov/ecfs/document/121774852631/1> (hereinafter NAB, *Comments of the National Association of Broadcasters*, December 16, 2021).

⁶⁰ NAB, *Comments of the National Association of Broadcasters*, December 16, 2021, p. 7.

⁶¹ Letter from Kevin J. Leitch, president of One Ministries, Inc., to Marlene H. Dortch, secretary of the FCC, May 22, 2024, <https://www.fcc.gov/ecfs/document/105222396003183/1>; Public Broadcasters, *Joint Comments of Public Broadcasters: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, May 13, 2024, pp. 1-2, <https://www.fcc.gov/ecfs/document/1051309393440/1>; NAB, *Comments of the National Association of Broadcasters: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, May 13, 2024, p. 4, <https://www.fcc.gov/ecfs/document/10513111421498/1>.

⁶² Next Century Cities, *Comments of Next Century Cities: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, May 14, 2024, p. 4, <https://www.fcc.gov/ecfs/document/1051392353937/1>.

⁶³ The Utility Reform Network, *The Utility Reform Network Opening Comments: Resilient Networks, Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, and New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, May 13, 2024, p. 6, <https://www.fcc.gov/ecfs/document/10513284528812/1>.

Releasing NORS and DIRS Information to Public Safety Officials

Some Members of Congress have expressed interest in ensuring that the data-sharing practices for NORS and DIRS benefit localities during emergencies while keeping the data secure. Until 2021, NORS and DIRS data were not shared with other federal, state, or local partners.⁶⁴ Currently, NORS and DIRS data are stored at DHS's National Cybersecurity and Communications Integration Center. Information stored in NORS is treated as confidential because of potential national security and commercial proprietary concerns.

Per the March 2021 rulemaking, the FCC changed its NORS and DIRS restrictions to allow data to be shared with authorized state and federal agencies, subject to safeguards, on a need-to-know basis. The rulemaking lists several safeguards to protect NORS and DIRS data, including limiting the number of user accounts for participating agencies to five, requiring initial and annual security training, requiring agencies to certify that they will take appropriate steps to safeguard the information contained in the filings, certifying that agencies will treat information as confidential and not disclose it without a finding by the FCC, and holding agencies accountable for inappropriate disclosure of information.⁶⁵

One literature review conducted by the National Institute of Standards and Technology (NIST), which discussed data sharing in public safety, found that some first responders expressed concern that they may not be properly trained to handle or process new data.⁶⁶ In many cases, agencies do not have guidance on how to implement requirements for retaining, redacting, or destroying data.⁶⁷ A separate NIST study found that many privacy laws at the federal and state level do not address the exchange of incident-sensitive information among public safety agencies or state how such data should be managed and protected.⁶⁸ Agencies may be concerned that, even if they have data security procedures, the agency has no control over how data may be protected once shared with other agencies.⁶⁹ Experts have also discussed that local officials may not have the knowledge or technical skills required for safe data sharing, which creates risk of cyber threats.⁷⁰

Congress could consider requiring the FCC to seek comment on the efficacy of the safeguards used and the impact that data sharing has had on public safety entities. Congress could also consider giving the FCC discretion to decide whether and how to change current data-sharing practices.

Confidentiality and Transparency

Some Members have expressed concern about the lack of transparency concerning communication outages during disasters and restoration efforts. Currently, the FCC's communications status reports during a DIRS activation are limited to a county-by-county

⁶⁴ FCC, *Second Report and Order*, March 17, 2021, pp. 3-4.

⁶⁵ FCC, *Second Report and Order*, March 17, 2021, p. 6.

⁶⁶ Britta Voss, *Obstacles to Data Sharing in Public Safety Applications Require More than Technical Solutions Alone*, National Institute of Standards and Technology (NIST), September 2019, p. 9, <https://www.nist.gov/system/files/documents/2019/10/01/nist-special-publication-1243-obstacles-to-data-sharing-in-public-safety.pdf> (hereinafter Voss, *Obstacles to Data Sharing in Public Safety Applications*).

⁶⁷ Voss, *Obstacles to Data Sharing in Public Safety Applications*, p. 10.

⁶⁸ Britta Voss and Eric Anderson, *Interoperability of Real-Time Public Safety Data: Challenges and Possible Future States*, NIST, June 2019, p. 25, <https://nvlpubs.nist.gov/nistpubs/ir/2019/NIST.IR.8255.pdf> (hereinafter Voss and Anderson, *Interoperability of Real-Time Public Safety Data*).

⁶⁹ Voss and Anderson, *Interoperability of Real-Time Public Safety Data*, p. 25.

⁷⁰ Mattia Caldarulo et al., "Oversharing: The Downside of Data Sharing in Local Government," *Public Administration*, vol. 102, no. 4 (December 2024), p. 1648, <https://doi.org/10.1111/padm.12993>.

breakdown of the number of cell sites⁷¹ experiencing an outage. Congress could expand the scope of reporting for DIRS. For example, the Enhancing First Response Act, S. 725, and the Emergency Reporting Act, H.R. 5200, both introduced in the 119th Congress, would require the FCC to annually report outage information for broadband internet, interconnected VoIP, commercial mobile service, and commercial mobile data service providers and require that the report include the approximate number of users potentially impacted.

In 2021, the FCC expanded information sharing of NORS and DIRS data to include state and federal agencies, contingent on using security safeguards. Currently, the FCC prepares aggregated data for the National Cybersecurity and Communications Integration Center, which then distributes the data to a DHS-led group of federal agencies that coordinate disaster response efforts.⁷² (See “Changes to NORS and DIRS Information-Sharing Practices.”) However, some experts argue for greater transparency, stating that continually transferring data between the FCC and stakeholders during a disaster would provide a better analysis of long-term network stability because it would require the FCC to make publicly available reviews on infrastructure data to help show stakeholders where construction or infrastructure upgrades are needed.⁷³ That said, requiring regular reviews of data could create an administrative burden and expense for service providers,⁷⁴ expose commercially sensitive operational information from providers to their competitors,⁷⁵ and reveal national security data (i.e., infrastructure location).⁷⁶

Congress could consider requiring the FCC to release guidance explaining which information should remain confidential to protect commercial and national security interests and which information should be made publicly available to aid in response. Congress could conduct oversight to weigh the value of releasing certain communications information and the potential risks to competition and national security. Congress could also let the FCC decide whether and how it should expand transparency of NORS and DIRS data.

Codification of NORS, DIRS, and the MDRI

The FCC has promulgated rules related to NORS, DIRS, and the MDRI. None have been codified into law. Congress could decide to formalize NORS, DIRS, and the MDRI in legislation.

NORS and DIRS

In the current and recent previous Congresses, legislation was introduced related to DIRS. Both the Enhancing First Response Act, S. 725 (also introduced in the 117th and 118th Congresses as the Emergency Reporting Act, S. 390, and the Enhancing First Response Act, S. 3556, respectively), and the Emergency Reporting Act, H.R. 5200 (also introduced in the 117th and 118th

⁷¹ A *cell site* is a “set of equipment needed to receive and transmit radio signals for cellular voice and data transmission.” Gartner, “Cell Site,” accessed December 8, 2025, <https://www.gartner.com/en/information-technology/glossary/cell-site>.

⁷² FCC, *Second Report and Order*, March 17, 2021, p. 4.

⁷³ Benjamin Duwve, “From One Sector to Another: Applying a Proactive Framework to the FCC’s Network Resiliency Efforts,” *Federal Communications Law Journal*, vol. 76, no. 1 (November 2023), pp. 292-293, https://heinonline.org/HOL/Page?handle=hein.journals/fedcom76&div=16&g_sent=1&casa_token=&collection=journals (hereinafter Duwve, “From One Sector to Another”).

⁷⁴ Duwve, “From One Sector to Another.”

⁷⁵ Clare Hochgraf et al., “Providing First Responders with Real-Time Status of Cellular Networks During a Disaster,” paper presented at the 2018 IEEE International Symposium on Technologies for Homeland Security, Woburn, MA, October 2018, p. 4, <https://ieeexplore.ieee.org/document/8574145>.

⁷⁶ FCC, *Second Report and Order*, March 17, 2021, p. 2.

Congresses under the same name as H.R. 1250 and H.R. 7043, respectively), would require the FCC to publish an annual report on the number and duration of specified outages, the approximate number of potentially impacted individuals, the number and duration of outages impacting emergency communications centers, the number of outages at public safety answering points after the FCC has activated DIRS, and recommendations by the FCC to improve network resiliency.

During the 117th Congress, the identical legislation, the Generating Resilient and Energy Efficient Network (GREEN) Communications Act, H.R. 8178 and S. 1506, sought to improve resiliency and energy efficiency of communications networks. The bills would have required, in part, that eligible program participants participate in DIRS and submit annual reports to the FCC that relay the number, duration, and frequency of outages. In addition to codifying aspects of DIRS rules, these two bills would have required any public or private entity that owns or operates a communications network or communications infrastructure to report outages. Currently, wire line, cable, satellite, wireless, interconnected VoIP, and Signaling System 7 communications providers are the only providers required to report to NORS. Congress could consider reintroducing legislation to require broadband providers to report to NORS.

MDRI

After communications systems faced challenges during Superstorm Sandy in 2012, the FCC approved the industry-led voluntary Wireless Network Resiliency Cooperative Framework in 2016. The 114th and 116th Congresses considered legislation that would have expanded on and formalized the Framework.⁷⁷ However, none passed and no similar legislation has been introduced since. After several natural disasters in 2021 and 2022, the FCC codified the Framework as the MDRI. (See “Mandatory Disaster Response Initiative.”) Recent efforts to eliminate regulations by the executive branch could lead to changes or the elimination of the MDRI. Per a series of executive orders⁷⁸ signed by President Donald J. Trump, the FCC initiated the proceeding “Delete, Delete, Delete” on April 11, 2025, to identify “FCC rules for the purpose of alleviating unnecessary regulatory burdens.”⁷⁹ Through the proceeding, the FCC is seeking to identify and eliminate rules determined to be unnecessary, burdensome, or detrimental to the development, expansion, competition, and technological innovation of communications. Because the MDRI is based in agency rulemaking and not codified in law, this framework could be subject to elimination.

Congress could enact legislation to enable the MDRI’s continued operation. In doing so, Congress could direct the FCC to set related MDRI rules and criteria. Alternately, Congress could refrain from enacting legislation about the MDRI and allow the FCC to determine whether any changes should be made. Congress could also consider requiring the FCC to release a report on

⁷⁷ In the 114th Congress, S. 2997, the Securing Access to Networks in Disasters Act of 2016, sought to require that 911 professionals, first responders, and local governments adhere to the Framework. In the 116th Congress, H.R. 5926, the Reinforcing and Evaluating Service Integrity, Local Infrastructure, and Emergency Notification for Today’s Networks (RESILIENT) Act, would have required the FCC to promulgate a rule to require that providers (1) coordinate during emergencies, (2) institute reasonable roaming and peering agreements, and (3) make reasonable arrangements for providing mutual aid during emergencies.

⁷⁸ Executive Order 14192 of January 31, 2025, “Unleashing Prosperity Through Deregulation,” 90 *Federal Register* 9065, February 6, 2025; Executive Order 14219 of February 19, 2025, “Ensuring Lawful Governance and Implementing the President’s ‘Department of Government Efficiency’ Deregulatory Initiative,” 90 *Federal Register* 10583, February 25, 2025.

⁷⁹ FCC, “In Re: Delete, Delete, Delete,” press release, March 12, 2025, <https://docs.fcc.gov/public/attachments/DA-25-219A1.pdf>.

the MDRI's effectiveness generally or in the context of a specific disaster, which could give Congress insight into whether it wants to pass legislation formalizing the MDRI.

State and local governments, public safety entities, and large telecommunications providers supported the FCC's decision to make the Framework mandatory for its seven signatories, as well as other facilities-based mobile wireless providers.⁸⁰ Public safety representatives believed that formalizing the provisions of the Framework into law would improve the effectiveness and consistency of outage reporting and create more accountability between providers.⁸¹

Some groups, such as the NTCA—the Rural Broadband Association—have argued that compliance with the MDRI should not be mandatory for small providers.⁸² They argued that they lack the resources required for compliance and that member customers would be better served by allowing small providers to prioritize work on their own networks.⁸³ However, a counterpoint the FCC made was that each provision of the MDRI requires preparation and coordination in advance of an emergency, reducing the resources needed to comply during an ongoing event (e.g., mutual aid agreements and data-roaming contracts).⁸⁴ While smaller providers assert that they face challenges implementing the MDRI because of financial and resource constraints, public interest groups have stated that mandating the requirement to enter data-roaming agreements would lower the transaction costs the small and mid-sized providers would face, making their overall adoption of the MDRI more viable.⁸⁵

Every time the MDRI is activated, providers are required to submit reports to the FCC that include details on the timing, duration, and effectiveness of the provider's implementation of the MDRI.⁸⁶ Because the reports are presumptively confidential, the FCC has not yet produced any public-facing reports about the effectiveness of the MDRI.⁸⁷ Having a report on its effectiveness could inform Congress's decision on whether to take any further action related to the MDRI.

⁸⁰ The California Public Utilities Commission (CPUC) stated that mandating reporting would make the process more effective and consistent. CPUC, *Reply Comments of the California Public Utilities Commission: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, January 14, 2022, pp. 3-4, <https://www.fcc.gov/ecfs/document/10114042909272/1>; Association of Public-Safety Communications Officials-International (APCO International), *Comments of APCO International: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, December 16, 2021, p. 2, <https://www.fcc.gov/ecfs/document/1216404717012/1> (hereinafter APCO International, *Comments of APCO International*, December 16, 2021). Verizon believed that the Framework "could apply to all wireless providers." Verizon, *Verizon Comments: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, p. 3, <https://www.fcc.gov/ecfs/document/12170714315072/1> (hereinafter Verizon, *Verizon Comments*, December 16, 2021).

⁸¹ APCO International, *Comments of APCO International*, December 16, 2021, p. 2.

⁸² A "small provider" is independently owned and operated, is not dominant in its field of operation, and satisfies any additional criteria established by the Small Business Administration. 15 U.S.C. §632.

⁸³ NTCA—The Rural Broadband Association, *Comments of NTCA—The Rural Broadband Association: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, December 16, 2021, p. 4, <https://www.fcc.gov/ecfs/document/121613849839/1>.

⁸⁴ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 7.

⁸⁵ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 6; Public Knowledge, *Comment by Public Knowledge: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, February 17, 2022, p. 1, <https://www.fcc.gov/ecfs/document/10217773014546/1>.

⁸⁶ 47 C.F.R. §4.17(c).

⁸⁷ CRS discussions with FCC Attorney Advisor, May 6, 2025.

Congress could also consider conducting regular hearings after disasters to assess the effectiveness of the MDRI or allow the FCC to continue determining the MDRI's effectiveness.

Frequency of Activation

The FCC sets the criteria for activating the MDRI. Under the FCC rules, the MDRI is activated when (1) FEMA activates ESF-2, which is triggered during a national emergency when a state governor has requested support from the federal government,⁸⁸ and the FCC activates DIRS or (2) as determined by the chief of the FCC's Public Safety and Homeland Security Bureau in response to a state request in conjunction with the state activating its emergency operations center, activating mutual aid, or proclaiming a local state of emergency.⁸⁹

Some stakeholders assert that the terms for activation are too narrow. For example, public safety entities, such as the Association of Public-Safety Communications Officials—an organization representing public safety communications professionals—have stated that the circumstances for activating the MDRI are too narrow and that certain MDRI provisions should be routinely available (e.g., maintaining a database of service provider emergency communications center contacts).⁹⁰ Large providers and the wireless industry have supported expanding the activation criteria of the MDRI, as they already employ the MDRI's provisions in circumstances outside of the formal activation criteria.⁹¹ On the other hand, some state and local officials have argued that because ESF-2 is activated infrequently, and only when FEMA determines that the nation's communications infrastructure faces or will likely face a significant impact, the MDRI is not always activated as needed, even when there has been a major emergency.⁹²

Congress could consider defining the criteria under which the MDRI is activated. While this could create more certainty for state and local officials, it could also lead to an increasing number of activations and a greater burden on private communication providers. Congress could continue to defer to the FCC to define criteria for activation.

While expanding activation of the MDRI could aid in response for large and smaller-scale disasters, doing so could create additional burdens for providers who then may pass any potential implementation costs of new regulatory requirements on to consumers.⁹³ In addition, expanding use of the MDRI could create added burdens for smaller providers that may lack the resources necessary to adopt such a requirement.

Mandatory Roaming

Congress could consider conducting oversight into the efficacy and frequency of network roaming during the course of a disaster. Under the MDRI, wireless providers are required to enter

⁸⁸ See footnote 20.

⁸⁹ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, pp. 4, 13.

⁹⁰ APCO International, *Comments of APCO International*, December 16, 2021, p. 2.

⁹¹ Verizon, *Verizon Comments*, December 16, 2021, p. 6. CTIA, a trade association representing the wireless industry, argued that wireless providers engage in resiliency and restoration activities and coordination efforts outside of ESF-2 events. CTIA, *Comments of CTIA: Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, and New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, December 16, 2021, p. 15, <https://www.fcc.gov/ecfs/document/12161649222242/1>.

⁹² Next Century Cities, *Comments of Next Century Cities*, December 16, 2021, pp. 4-5.

⁹³ CRS In Focus IF12613, *AT&T Network Outage: Impact on Public Safety Services*, by Jill C. Gallagher and Colby Leigh Pechtolt.

into roaming agreements when another network is down, when technically feasible. The agreements are effective when

- the requesting provider’s network becomes inoperable and that provider has taken all appropriate steps to attempt to restore its own network and
- the requested (“home”) provider has determined that roaming is technically feasible and will not adversely impact service to its own subscribers.⁹⁴

Roaming agreements are limited in duration and contingent on the requesting provider’s “taking all possible steps to restore service on its own network.”⁹⁵ Although certain providers are subject to the MDRI, many are hesitant to allow roaming, as it requires them to carry more users on their networks and may affect the ability of their paying customers to communicate. Further, if a provider whose network is inoperable can use another’s network during a disaster, providers may be disincentivized from investing in making their network more resilient. However, allowing for roaming lets people communicate even when their network is down. Congress could consider legislation instituting network roaming during a disaster. Congress could also heighten restrictions on network roaming or allow the FCC to continue using its discretion to set network roaming requirements.

Author Information

Amanda H. Peskin
Analyst in Telecommunications Policy

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⁹⁴ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 4.

⁹⁵ FCC, *Report and Order and Further Notice of Proposed Rulemaking*, June 27, 2022, p. 4.