Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the	M	atter	of
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Resilient Networks PS Docket No. 21-346

Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications PS Docket No. 15-80

New Part 4 of the Commission's Rules Concerning Disruptions to Communications ET Docket No. 04-35

COMMENTS OF PUBLIC KNOWLEDGE, COMMUNICATIONS WORKERS OF AMERICA, AND NEW AMERICA'S OPEN TECHNOLOGY INSTITUTE

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COMMENTS OF PUBLIC KNOWLEDGE, COMMUNICATIONS WORKERS OF AMERICA, NEW AMERICA'S OPEN TECHNOLOGY INSTITUTE

Public Knowledge,¹ Communications Workers of America,² and New America's Open Technology Institute³ (collectively "Consumer Advocates"), file these comments in the above

¹ Public Knowledge is a Washington DC-based advocacy organization that promotes freedom of expression, an open internet, and access to affordable communications tools and creative works. We work to shape policy on behalf of the public interest.

² CWA represents workers in private and public sector employment across telecommunications and information technology, news media, broadcast and cable television, education, health care, public service, manufacturing, and other fields. CWA's frontline technician members are also some of the first workers deployed during a natural disaster to ensure that communications networks stay online and accessible to first responders and the public.

³ New America is a nonprofit and nonpartisan organization dedicated to realizing the promise of America in an era of rapid technological and social change. The Open Technology Institute at New America (OTI) works at the intersection of technology and policy to ensure that every community has equitable access to digital technology and its benefits. OTI promotes universal access to communications technologies that are both open and secure.

captioned proceedings to urge the Commission to adopt the proposals set forth in the Further Notice of Proposed Rulemaking.⁴

SUMMARY

As the FNPRM explains, situational awareness in times of emergency requires information from all communications providers. Gone are the days when emergency communication simply meant one-way notifications from emergency officials and calls from individuals to 911. As the record in this proceeding, and in the recent Open Internet proceeding⁵ clearly show – effective response in a crisis relies on continuous two-way communications between public safety officials and the public. This can only happen if those responding to the crisis – and managing the response – have clear knowledge of the communications environment in as close to real time as possible. Additionally, members of the public need to know how to communicate with officials managing the crisis and with each other. Better knowledge of what communications infrastructure is available helps the public to cooperate and respond productively. By contrast, a loss of communications can generate panic and confusion.

For these reasons, the Commission should expand the mandatory DIRS reporting obligation to broadcasters, satellite providers, FirstNet and – most importantly – broadband internet access service (BIAS)⁶ providers. Differences between these services and the different

⁴ In re 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 & Order and Further Notice of Proposed Rulemaking, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35 (rel. January 26, 2024).

⁵ In re Safeguarding and Securing the Open Internet, Restoring Internet Freedom, Declaratory Ruling, Report and Order, and Order on Reconsideration, WC Docket Nos. 23-320, 17-108 (rel. May 7, 2024) (2024 OIO).

⁶ BIAS includes satellite service. Whatever the Commission determines with regard to other satellite communications services, it should require mandatory DIRS and NORS reporting for BIAS provided by satellite.

sizes of providers will require some tailoring of the means of reporting. Consumer advocates therefore recommend that the Commission establish working groups (either as part of CSRIC or independently) to work with the relevant stakeholders to develop online forms that provide the necessary information for each class of provider, and to determine how to relieve the burden on small providers to provide swift and accurate reporting. Additionally, the Commission should consider establishing a "hot line" with dedicated staff, activated when DIRS is activated, for the express purpose of assisting and providing tech support to small covered providers. The Commission should also conduct outreach and training for small providers not previously covered by the reporting requirements.

But reporting during an emergency is only one element of disaster preparedness. The Commission should therefore adopt the proposed requirement for mandatory "after action" reports. After action reports should include reports of effective planning and resource deployment as well as reporting where preparedness and response needs improvement. These reports should also seek to capture problems that lie outside the control of the providers or the jurisdiction of the Commission – such as supply chain problems or difficulty coordinating with other stakeholders. This will provide the Commission and the public with a more complete picture of how to improve emergency response and network resiliency as a whole. It will enable the Commission to act as an effective advocate, convener and go-between with other federal agencies, state and Tribal governments, and non-communications providers.⁸

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⁷ Because this process may take some time, the Commission should adopt interim reporting requirements in the final rule.

⁸ The Government Accountability Office (GAO) has reported on this problem many times over the years, and has recommended greater planning and information sharing between the FCC and other stakeholders. See, e.g. GAO, Telecommunications: FCC Assisted in Hurricane Maria Network Restoration, But a Clarified Disaster Response Role and Enhanced Communication are Needed (2021); Emergency Communications: Actions Needed to Better

Finally, preparation for resiliency cannot stop at disasters. Ideally, reinforcement of networks takes place *before* a disaster, not after a system has failed when most needed. For this reason, the Commission should adopt the proposal to also require mandatory NORS reporting for the proposed services. This will fulfill the statutory mandate that the Commission "obtain[] maximum effectiveness from the use of radio and wire communications in connection with the safety of life and property." To aid this preparation, Consumer Advocates again call on the Commission to reconsider its misguided policy of treating NORS reports as confidential information. At a minimum, however, the Commission should adopt the proposal to share the information with state and Tribal governments in the same manner as it currently shares this information.

ARGUMENT

I. THE COMMISSION SHOULD EXPAND THE MANDATORY REPORTING REQUIREMENTS AS PROPOSED IN THE FNPRM.

The proposals in the FNPRM are sound, sensible policies and much needed. As a general matter, the complex nature of our modern communications environment requires situational awareness of all available communications assets in times of crisis. Responses to emergency are group efforts, not merely the responsibility of the damaged service provider. The conversion to IP of virtually all platforms facilitates means to route around damage if crisis managers know what resources are available. By the same token, crisis managers must know what resources are not available so that they can ensure adequate coverage and restore service as quickly as possible. When the disaster is multi-state, ensuring that a single source of reliable data is vital for

Coordinate Federal Efforts in National Capital Region, (2016); Emergency Communications: Vulnerabilities Remain and Limited Federal Collaboration Hamper Federal Efforts (2009).

⁹ 47 U.S.C. § 154(n).

¹⁰ See FNPRM n.46

cooperation among federal agencies and between various state and local agencies. In a crisis, speed and efficient deployment of resources saves lives. These proposals will enhance that speed and efficiency for everyone.

In addition to this general justification for the FNPRM's proposals, each service listed by the Commission requires inclusions for its own reasons. As the FNPRM notes, differences between the services (and between the providers of the services) require some individual tailoring. But these distinctions do not undermine the overall need for mandatory reporting requirements for each of these services. To the contrary, the unique contributions and unique reliance interests of each service make awareness of their availability in a crisis and overall reliability that much more essential.

In this section, Consumer Advocates discuss the importance of DIRS reporting specifically. The importance of general blackout reporting in NORS and the need for detailed after action reports are discussed in Section III.

A. BIAS Services Have Become Thoroughly Integrated Into Emergency Response and Must Therefore Have the Same Mandatory Reporting Requirements as Wireless, Wireline and VOIP Providers.

The Commission's recent Open Internet Order discusses at length the critical contribution of BIAS to public safety. First responders rely on the availability of broadband access to communicate with each other, to access resources, and to communicate with the general public. Similarly, the public relies on broadband to receive vital instructions and to generally track the course of recovery, and to access state and federal relief resources. Managing communications in the aftermath of the crisis event is equally critical as during the height of the crisis, and both

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¹¹ 2024 OIO at ¶¶ 51-66.

recovery managers and the general public need to know how to communicate with each and when damaged communications assets will be restored.

To take a simple example, people need to know when their mobile or home connection is down whether other providers can offer service. Will going to a neighbor with a different provider, or borrowing a friend's cell phone, let someone communicate? Is the inability to reach a loved one likely due to the failure of their provider? And, in a display of how all services interconnect to play a role, state and local officials and news outlets can use the data available in DIRS to advise the public even when members of the public themselves are experiencing blackouts.

Contrary to the arguments of some carriers in the FNPRM, expanding the reporting requirement to BIAS would not replicate existing reporting requirements. An increasing number of BIAS providers do not offer voice or video services subject to existing DIRS reporting requirements. Many rural providers have become internet only providers (or never offered any other service in the first place). This trend continues to grow and is spreading even into urban markets. This trend is further accelerated by the rise of fixed wireless access as a stand alone service by major carriers. An outage that impacts only the FWA offering but not the CMRS offering arguably would not require reporting in DIRS or NORS under the current rules. Finally,

¹² See, e.g., Matthew Keys, "MyBundle CEO: 'Hundreds' of cable operators to drop traditional payTV in Coming Years," StreamTV Insider (Dec. 20, 2023). https://www.streamtvinsider.com/video/mybundle-ceo-hundreds-cable-operators-drop-traditional-pay-tv-coming-years; Jeff Baumgartner, "CableOne's Video Biz Approaches End of Days," LightReading (Nov. 3, 2023). https://www.lightreading.com/cable-technology/cable-ones-video-biz-approaches-the-end-days.

¹³ See Phill Britt, "Fixed Wireless Drives Broadband Growth," Telecompetitor (March 12, 2024). https://www.telecompetitor.com/report-fixed-wireless-drives-broadband-growth/

even where a provider does offer a combination of a currently covered service with BIAS, an outage may only impact the BIAS offering.¹⁴

Finally, whether or not the Commission adopts the general reporting obligations for satellite services proposed in the FNPRM, it should adopt reporting requirements for BIAS provided by satellite. Satellite BIAS plays a unique role in emergencies as a backup system whose backbone transmission infrastructure remains undamaged by the circumstances on the ground. All stakeholders, government and civilian, may rely on the availability of satellite BIAS. In addition, rural populations are particularly reliant on satellite BIAS as their only option. Real time knowledge of the availability of satellite BIAS is therefore critical.

B. Broadcasters Should Be Obligated To Report Outages in DIRS and NORS, and Should Report Separately on Their ATSC 3.0 Capability as Well As ATSC 1.0

As the FNPRM observes, the current broadcast blackout reporting requirements are inadequate. Inclusion of broadcasters in DIRS and NORS will enhance situational awareness in a crisis and enhance efficiency by providing a central database for all communications assets. Broadcasting remains a vital means of sharing information with the public, with very different capabilities and reach than texting. Additionally, broadcast reporting independent of official communications serves a vital role in keeping the public informed during a crisis and its aftermath.

¹⁴ This is more likely to be relevant to the proposed expansion of mandatory NORS reporting than as a consequence of physical damage in a disaster when DIRS is triggered. But it is not unlikely that service will be restored to voice service ahead of BIAS service. In such cases, providers may stop reporting before restoration of BIAS.

 $^{^{15}}$ FNPRM at ¶¶ 41-43. (Broadcasters do not report in NORS and are generally only required to notify the Commission within 10 days of discontinuing operations. Only 20%-35% of Broadcasters report voluntarily in DIRS.

To avoid confusion, the Commission must specify that reporting requirements would apply to both ATSC 1.0 and ATSC 3.0 transmissions. This specificity is necessary to avoid confusion during the period of mandatory signal simulcast, so that broadcasters understand that they must report an outage of their ATSC 3.0 signal even if their ATSC 1.0 signal stays on the air (and vice versa). ATSC 3.0 is not backward compatible with ATSC 1.0, which means that members of the public with ATSC 3.0 television sets will not be able to receive information if the ATSC 3.0 signal stops functioning.¹⁶

ATSC 3.0 promises to incorporate many new features that proponents say will aid the public in emergencies, such as the ability to provide video narration for the blind and translation into multiple languages in addition to existing closed captioning and ATSC 1.0 translation services. Knowledge of the availability of these services will aid local officials in their communication with the public. Because these services are not tested, it is entirely possible that these additional features may fail when the overall ATSC 3.0 stream remains on air. The Commission should require reporting of outages of translation and video description services in DIRS and NORS, even if the primary signal remains on air, and should require more detailed description in after action reports on the performance of these functions. This will have the additional benefit of allowing the Commission to monitor the deployment of ATSC 3.0 and to gauge whether it lives up to its promise.

Finally, the Commission should include all broadcasters and broadcast elements in its reporting requirements. As an initial matter, the Commission's recent decision to permit FM and

¹⁶ Even if one assumes that a disaster is likely to impact both ATSC 1.0 and ATSC 3.0 infrastructure, the separate mandatory reporting requirements remain important for NORS, as outages can occur for many reasons besides damage to the equipment. Additionally, where both ATSC 1.0 and ATSC 3.0 signals cease simultaneously, the broadcaster may restore service to one signal well before restoring the other signal.

LPFM broadcasters to originate original programming using boosters¹⁷ demonstrates that precisely targeted information is possible using portions of the broadcast network that do not generally initiate programming. This geographic-targeted information is an emerging and increasingly important part of public safety response in crisis. Alerts transmitted to unaffected areas can create panic situations or, alternatively, can create "message fatigue" that leads people to ignore relevant alerts.¹⁸ But even without the ability to originate targeted alerts or local content, the operation of boosters, translators and other parts of the broadcast network are important to maintaining situational awareness.

Consumer Advocates sympathize with the difficulties highlighted by REC NETWORKS with regard to the burden on small operators. LPFM stations in particular during a crisis may remain operational with only a handful of personnel, or may be operating in an area with no operational communications with which to file reports with the Commission. Section II discusses how the Commission should address these concerns.

C. The Commission should mandate reporting for all satellite providers.

Fixed satellite service (FSS) and mobile satellite service (MSS) play critical roles in emergencies. This role goes beyond the importance of satellite services as a platform for communications for public safety personnel when terrestrial infrastructure is destroyed or inoperative. In isolated areas, FSS and MSS may be the primary means of communications. The importance of FSS and MSS has increased in light of agreements between mobile carriers and

¹⁷ Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations, Report & Order and Further Notice of Proposed Rulemaking, MB Docket No. 20-401(rel. April 2, 2024).

¹⁸ See CSRIC VIII Working Group 6: Report on WEA Performance Reporting at 13-14 (Dec. 2022) (discussing importance of geo-fencing and geo-targeting).

MSS providers to integrate systems for 911 access and other purposes.¹⁹ Again, the ability of members of the public to reach out to 911 and other first responders can be as important as the ability of public safety personnel to contact each other. Situational awareness of outages is therefore as important for satellite providers as for any other communications service provider.

DBS, SDARS and other satellite providers should not be exempt from NORS or DIRS reporting. True, disasters that impact terrestrial systems are unlikely to impact satellite systems in the same way. But as even some providers acknowledge, some satellite services have terrestrial components which may become inoperable in a disaster. But these systems may experience outages from a variety of other causes that would be captured by NORS reporting and may require their own after action reports. These range from electronic or mechanical failures, Kessler Syndrome, ²⁰ solar fares, or as yet unforeseen occurrences.

Centralizing outage reporting in the NORS system (except during emergencies, when DIRS is activated) will enhance efficiency and enable better tracking of the reliability and resiliency of the communications network as a whole.²¹ Requiring NORS reporting for these platforms will serve the same important purposes as NORS reporting for other communications platforms. It will also allow the Commission to track outages and recovery in a comprehensive way during space-based disasters that impact multiple satellite providers and satellite services

Messaging," Telecompetitor (Jan. 10, 2024). Available at: https://www.androidauthority.com/t-mobile-starlink-satellite-connectivity-3207661/.

¹⁹ See Calvin Wankhede, "T-Mobile and StarLink Satellite Connectivity Explained: What You Need to Know," Android Authority (May 3, 2024). Available at: https://www.androidauthority.com/t-mobile-starlink-satellite-connectivity-3207661/; Joan Engbretson, "Iridium Project Stardust Satellite to Cellphone Offering Will Support 5G

²⁰ Kessler Syndrome is the general name for collisions between satellites and/or other debris in orbit, which may in turn produce new collisions creating a cascade of collisions. *See* "Kessler Syndrome," Wikipedia.org. Available at: https://en.wikipedia.org/wiki/Kessler syndrome

²¹ Commenters elaborate on this point further in Section III.

but do not trigger activation of DIRS. For example, a devastating series of solar flares may have widespread impact on satellite services, but would not have impact on Earth to trigger DIRS. But in such a case, the Commission (and other stakeholders) would want to have real-time tracking of satellite outages and satellite service recovery.

The Commission should require DIRS reporting during emergencies as well as NORS reporting generally. As an initial matter, the Commission codified the waiver of NORS reporting when DIRS is activated in the Second Report and Order.²² Additionally, as noted in the FNPRM, ²³ several satellite communications systems use terrestrial components which would naturally be included in DIRS. Finally, even if a satellite outage is merely coincidental in time with a terrestrial emergency, public safety responders and the public need to know whether these services are functioning or not. Maintaining one database during a crisis will enhance efficiency and effectiveness – especially for emergency responders familiar with DIRS but unfamiliar with other FCC outage reporting services.

II. THE COMMISSION SHOULD TAILOR REPORTING REQUIREMENTS, OUTREACH AND TRAINING TO EACH SPECIFIC CLASS OF STAKEHOLDER.

While all these communications are vital, not all providers have the same resources. For example, some WISPs or LPFM broadcasters may have only one or two employees. Other providers may be local non-profits, churches, schools and libraries, cooperatives. These small providers generally have roots in the community, offer specialized local services, and create local jobs. In a crisis, these providers may be fully occupied with disaster relief and assisting friends and neighbors. Alternatively, the people who could make the reports may be among those

²² ¶¶ 25-26. ²³ ¶¶ 55-56.

displaced by the disaster. The Commission must therefore carefully balance the need to have a comprehensive picture of available assets in a crisis, the need to study the overall resiliency of our nations' critical communications infrastructure, with the need to avoid unduly burdening these small providers.

The Commission should begin by recognizing that it should not take a punitive approach to enforcement in the case of small providers diligently trying to comply with the rules. The Commission should not impose fines or revoke licenses in cases where providers have fewer than 5 full time employees and are making every effort to comply, in cases where destruction of local communications infrastructure makes it impossible for small providers to file reports, or in cases where the individuals responsible for operating a small provider unaffiliated with a larger provider are forced to evacuate (although these providers should be encouraged to report as soon as possible).

The Commission should use CSRIC or create an additional task force to consider how to tailor outreach, training, and reporting requirements to each service sector, and to small providers within each sector. This should include consultation with trade associations that represent small providers, as well as anchor institutions that provide communications services. Unions that represent communications workers are also sources of knowledge about how communications infrastructure are maintained and restored, and should be included in stakeholder discussions designed to develop suitable reports for each sector. The Commission should consider whether for small providers it is sufficient to report "not operational until further notice" rather than requiring daily reports.

Finally, Consumer Advocates recommend the Commission establish an official hotline for the express purpose of providing assistance to small providers. In addition to providing

advice, this hotline should be empowered to receive basic operational status reports from small providers. Staff would then enter a basic entry in DIRS on the simple question of operational or not operational and, if not operational, whether the provider expects to be operational within the next 24 hours. Small providers should have the option to inform the Commission that they are not operational until further notice – and not be required to report until they restore operations. This way, small providers can serve the primary purpose of DIRS reporting – providing those responding to the emergency with situational awareness – even if they must evacuate or lack stable broadband access to file reports.

III. AFTER ACTION REPORTING AND NORS REPORTING WILL MAKE IMPORTANT CONTRIBUTIONS TO NETWORK RESILIENCE.

Section 4(n) of the Communications Act instructs the Commission "for the purpose of obtaining maximum effectiveness" of diverse systems of communications by wire and radio "in connection to the safety of life and property, to investigate and study all phases of the problem."²⁴ This goes beyond promoting situational awareness in times of crisis. It requires the Commission to generally monitor the reliability and resiliency of our diverse communications infrastructure so that they "maximize effectiveness." This means learning when things go wrong, studying *why* things go wrong, ascertaining the impact of when things go wrong, how to *stop* things from going wrong before they go wrong, and how to minimize the damage when they go wrong. NORS reporting and detailed after action reports are a critical component of this process.

The Commission and stakeholders must recognize that mandatory reports are not a punishment.²⁵ They are a vital mechanism to "maximize effectiveness" and to find "the best methods of obtaining cooperation and coordination among these [communications] systems."

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²⁴ 47 U.S.C. § 154(n).

²⁵ Although they may reveal carelessness or dereliction of duty worthy of punishment.

For this reason, all covered providers should be obligated to report on outages that are the result of the failure of connected systems or are otherwise not "their fault." Outage reporting of this nature provides important information on the weaknesses of the system and what steps are needed to prevent future outages.

In particular, our increasing reliance on functioning broadband for nearly every aspect of our economy, provision of medical care, and even management of our social lives requires the Commission to include BIAS in NORS, and to mandate detailed after action reports following outages (whether disaster related or "sunny day" outages). But the Commission should also consider that outages are not simply "on" or "off." Broadband networks can experience significant degradation in performance that render many important functions and applications inoperable but are not "outages" in the sense that the network has not wholly ceased to function.

The Commission should therefore develop suitable metrics for measuring performance to determine what constitutes an outage. The Commission should turn to CSRIC, BITAG or a specially constituted task force (or a combination of these) to make recommendations. Similarly, the Commission should use this process to determine what details should be included in any after action report. In the interim, the Commission should adopt a basic set of metrics so that reporting can begin as soon as possible.

Although the Commission continues to persist in denying the public access to the details of the NORS and DIRS databases, the Commission should at least make after action reports publicly accessible. The repository of all wisdom is not contained in the Commission. Allowing academics, researchers and consumer advocates to access after action reports will foster important public discussion that will both enhance the overall understanding of our communications networks, enhance public accountability, and allow for wide development and

dissemination of best practices. If necessary, the Commission can permit providers to submit redacted versions for the public record. The Commission already makes redacted versions of its own after action reports available to the public. It is difficult to see how requiring providers to submit public versions of their reports can compromise trade secrets. Embarrassment is not a trade secret, and providers who are negligent or reckless should not be shielded from public scrutiny and opprobrium.

Consumer Advocates note that the Commission has traditionally published redacted versions of its own investigations into outages and after action reports following natural disasters. If the Commission makes these reports mandatory for providers, it should continue the practice of making these reports available. The availability of this information has proven valuable to researchers, law makers, and advocates. If nothing else, the Commission should release a redacted aggregate report where staff combine the information from after action reports to produce a single report similar to those released by the Commission following the Commission's own investigations.

At a minimum, the Commission should adopt the proposal of the FNPRM to make the expanded filings mandated by any further order available to state and Tribal governments.²⁶ There is no reason to distinguish between already covered providers and those providers the Commission now proposes to add. Nor is there any reason to distinguish between new details the Commission may decide to require of existing covered providers. The same public interest rationale that prompted the Commission to share access to DIRS and NORS information in its previous order applies here. The Commission should therefore, at a minimum, expand the existing access rules to any new filings.

²⁶ ¶ 79.

CONCLUSION

The Commission's ongoing attention to enhancing the resilience of our critical communications infrastructure is a welcome exercise of the Commission's oversight authority. The reliable operation of each aspect of our communications infrastructure on a daily basis and in emergencies lies at the heart of the Commission's responsibilities and was a key purpose of Congress in creating the Commission.²⁷ Requiring BIAS providers, broadcasters and satellite providers to report outages in DIRS and NORS, and requiring all covered entities to submit after action reports following outages, is the first step in ensuring this reliability. While the Commission must adopt requirements that recognize the limits of small providers, targeted training and a specialized hotline to provide assistance when DIRS is activated will ensure that these small providers that play an important role in the communications ecosystem provide necessary information without being overwhelmed with new reporting responsibilities.

Respectfully submitted,

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²⁷ 47 U.S.C. § 151 (creating FCC for, among other reasons, "the purpose of promoting safety of life and property through the use of wire and radio communications").