

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Improving the Resiliency of Mobile Wireless Communications Networks)	PS Docket No. 13-239
)	
Reliability and Continuity of Communications Networks, Including Broadband Technologies)	PS Docket No. 11-60
)	

REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

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TABLE OF CONTENTS

- I. INTRODUCTION AND SUMMARY2
- II. THE COMMENTS CONFIRM THAT THE PROPOSED METRIC FAILS TO ACHIEVE THE COMMISSION’S OBJECTIVES AND MAY BE COUNTER-PRODUCTIVE.3
 - A. The Proposed Metric Will Not Serve Consumers.....3
 - B. Even Supporters Acknowledge the Weakness of the Proposed Metric5
 - C. The Proposed Metric Will Not Create Incentives to Improve Network Resilience7
 - D. The Proposed Metric Could Undermine Carriers’ Cooperative Restoration Efforts8
- III. THE COMMISSION SHOULD REJECT CALLS TO EXPAND THE PROPOSED REPORTING REQUIREMENTS10
 - A. The Commission Should Rebuff Efforts To Expand Reporting Beyond The Purposes of the *Notice*10
 - B. The Commission Should Decline To Expand Access to Sensitive Network Data11
- IV. THE COMMISSION SHOULD NOT ADOPT NETWORK PERFORMANCE STANDARDS, INCLUDING BACKUP POWER REQUIREMENTS12
- V. CONCLUSION.....14

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Networks, Including Broadband Technologies)

REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® (“CTIA”) respectfully replies to the comments submitted in response to the captioned *Notice of Proposed Rulemaking*.¹ The initial round of comments confirms the following:

- The proposed metric will not serve consumers. Rather, the metric would send consumers the incorrect message that site outage statistics are a reasonable proxy for the reliability of individual providers’ networks and the quality of their resiliency practices. Indeed, the proposed DIRS-related metric is statistically meaningless.
- The proposed metric will not create new, significant incentives to increase network resiliency. It may have the negative unintended consequences of creating incentives to favor individual cell site restoration over service restoration, and it may create disincentives for carriers to engage in the type of voluntary, mutual assistance that has successfully characterized restoration efforts on an ongoing basis.
- Some commenters’ calls to expand the reporting requirements go well beyond the consumer-transparency oriented focus of the *Notice* and should be rejected.
- Network performance standards, including backup power standards, are unwarranted. Such regulation would harm network reliability by restricting carriers’ abilities to implement innovative solutions that take into consideration the unique aspects of each disaster and each individual network.

¹ *Improving the Resiliency of Mobile Wireless Communications Networks, Reliability and Continuity of Communications Networks, Including Broadband Technologies*, 28 FCC Rcd 14373 (2013) (“*Notice*”).

I. INTRODUCTION AND SUMMARY

The wireless industry shares the Commission's fundamental goal of promoting robust, resilient wireless networks and maintaining continuity of service during and immediately after disasters. The initial comments demonstrate that the proposal – disseminating the percentage of operational cell sites during and immediately after major disasters in counties where the Commission has activated the Disaster Information Reporting System (“DIRS”) – will neither help consumers compare how different carriers are able to withstand and recover from disaster conditions, nor create new incentives for carriers to harden their networks. Perversely, the record confirms that the proposal could generate consumer confusion and could impede disaster preparedness and recovery efforts.

The comments demonstrate that cell outage statistics are not a reasonable proxy for network resiliency – and all the more so when the statistics are derived from very limited and extraordinary instances, *i.e.*, the DIRS activations. Moreover, adoption of the proposal may spur carriers to focus on restoring cell sites in a purely “by the numbers” approach to the exclusion of a more holistic service restoration plan. It may also deter industry's interest in a CSRIC-led best practices program for service providers, including infrastructure sharing methods to sustain communications in future emergencies.

In addition, the Commission should rebuff efforts to commandeer this proceeding with calls for government mandates covering reporting of all outages (emergency and non-emergency alike) on a national basis, expanding data to be reported, enlarging the pool of entities entitled to access emergency outage information, and supporting the use of particular emergency alert technologies. These proposals all exceed the basic purpose of this proceeding – to promote transparency to consumers regarding network performance during and immediately after

emergencies and encourage robust, resilient wireless networks and continuity of service during these situations.

Finally, CTIA cautions the Commission against regulatory mandates regarding network performance standards and backup power. The Commission can best promote network resiliency and reliability by ensuring that providers have the flexibility to employ those techniques that are best suited to address individual emergency situations.

II. THE COMMENTS CONFIRM THAT THE PROPOSED METRIC FAILS TO ACHIEVE THE COMMISSION’S OBJECTIVES AND MAY BE COUNTER-PRODUCTIVE

A. The Proposed Metric Will Not Serve Consumers

The record reflects compelling reasons to doubt that the proposed metric will provide consumers with a reliable “yardstick” for measuring how well mobile wireless networks maintain service during disasters.² Simply put, the proposal fails as a reasonable proxy intended to inform consumers about mobile providers’ network resiliency.

As several commenters point out, wireless networks are often configured with redundancies that enable them to remain operational even in the event of cell site failure. “[A] figure showing the percentage of operational cell sites will not clearly indicate the level of coverage consumers in the area would experience during an emergency.”³ To the contrary, the metric risks overstating the degree to which cell site outages adversely affect service availability. As an example, the metric does not account for the fact that “[m]acrocels often have overlapping coverage areas to increase capacity,” as Sprint notes.⁴ This risk becomes further exacerbated as carriers move to deploy “small cells” and Distributed Antenna System (“DAS”) configurations

² *Notice*, 28 FCC Rcd at 14373.

³ PCIA Comments at 6.

⁴ Sprint Comments at 7.

operating within existing coverage.⁵ As Verizon describes, if small cell and DAS sites are included, the Commission’s metric is more likely to “reflect the differences between service providers’ cell site density within a particular county, rather than the reliability and resiliency of their networks or their service restoration practices.”⁶

Nor does the metric provide meaningful information regarding the general reliability of individual providers’ networks and the quality of its practices. T-Mobile presents hypothetical (but realistic) examples demonstrating why there is little, if any, nexus between operational cell sites and a provider’s overall network resiliency.

Carrier A deploys backup power at every cell site, in addition to a state of the art switch. In contrast, Carrier B does not deploy backup power and utilizes an older switch prone to more outages during normal operations than the Carrier A switch. An earthquake strikes and the epicenter is at Carrier A’s switch. Carrier A’s entire facility would be destroyed in the event. Although Carrier A invested substantially more to make its network resilient, the Commission’s disclosure proposal would lead the public to incorrectly believe that Carrier B, and not Carrier A, had taken the steps necessary to deploy the more resilient network.⁷

The Commission’s metric merely presents a snapshot in time of the condition of a provider’s network during a single, specific high-impact event.⁸ The fact that a network performed better than its competitors in one disaster may be due simply to the fortuitous location of its facilities or to events beyond the provider’s control.⁹

⁵ CTIA Comments at 10; PCIA Comments at 7; Verizon Comments at 12.

⁶ Verizon Comments at 8.

⁷ T-Mobile Comments at 5-6.

⁸ CTIA Comments at 12-13; ATIS Comments at 2-3.

⁹ AT&T Comments at 11-13; Sprint Comments at 7-8; CTIA Comments at 12-13; T-Mobile Comments at 6-7.

Further, the record only underscores that there is no basis to conclude that a DIRS-related metric is statistically meaningful. There have been seven full DIRS activations since DIRS was introduced, and these events are by their nature “sporadic, isolated, and non-representative.”¹⁰ As Sprint points out, all but one of these were for hurricanes on the Gulf Coast and the Eastern Seaboard.¹¹ “Only 19 states (including the District of Columbia) have ever been subject to a DIRS activation and only Florida, Louisiana, and Mississippi have been subject to more than one DIRS activation affecting more than four counties.”¹² As such, the metric would not produce data that is consistent across carriers and their networks – site outage percentages due to a Gulf Coast hurricane have no bearing on network resiliency in other parts of the country.

The proposed snapshot of networks’ cell site outage percentages during DIRS activations simply cannot support the more general conclusion that one network is more resilient than another or that a network that performed well in one circumstance will perform equally as well in the next.¹³

B. Even Supporters Acknowledge the Weakness of the Proposed Metric

While the record reflects some comments favorable to the proposal, they offer only tepid support of the “it is better than nothing” variety. Even these lukewarm supporters admit that the proposed metric will be of limited use to consumers, and may not provide meaningful information regarding network resilience.

¹⁰ Sprint Comments at 4.

¹¹ *Id.*

¹² *Id.* (citation omitted).

¹³ AT&T Comments at 11-13; T-Mobile Comments at 6-7; CTIA Comments at 12-13.

- The Vermont PSB concludes that the percentage of operational cell sites “is imperfect” because “outage differences between carriers may not necessarily reflect different policies on network resilience.”¹⁴
- CPUC recognizes that, under the proposed metric, “consumers might confuse the percent of operational cells with the percent of coverage.”¹⁵ As the CPUC notes, the “words can confuse, transitions are underway, and complexity exists. . . .”¹⁶
- UTC admits that “the public disclosure of DIRS information may have its drawbacks and may not accurately depict the reliability and continuity of a CMRS network during emergencies.”¹⁷ As UTC says, the Commission’s metric “could paint a misleading picture of the nature of the outage and the responsibility for it.”¹⁸ UTC goes on to conclude that “simply reporting the percentage of cell sites that are out during emergencies . . . may not adequately represent the impact of the outage nor enable customers to fairly compare the reliability of one network or another.”¹⁹
- AARP recognizes that the Commission’s proposal “provides a very limited snapshot of wireless carrier operations . . .” and admits that the proposal “by itself, will not lead to levels of next-generation broadband network performance and resiliency.”²⁰
- The Mobile EAS Coalition states that “a simple metric based on the percentage of operational cell sites within a county is useful . . . , but does not provide a complete enough picture.”²¹
- Even Consumers Union, the proponent of the metric, acknowledges that “relying on a single-moment snapshot for each day could result in misleading information gaps, as the operational status of sites changes during the course of a day.”²²

The record is clear: the proposed metric is more likely to confuse consumers rather than provide them with useful information.

¹⁴ Vermont PSB Comments at 2.

¹⁵ CPUC Comments at 14.

¹⁶ *Id.* at 15.

¹⁷ UTC Comments at 5.

¹⁸ *Id.*

¹⁹ *Id.* at 5-6.

²⁰ AARP Comments, at 7 and 9.

²¹ Mobile EAS Comments at 5.

²² CU Comments at 10.

C. The Proposed Metric Will Not Create Incentives to Improve Network Resilience

Given that the proposed metric fails as a “yardstick” for measuring how well mobile wireless networks maintain service during disasters, it follows that this metric will not create new, significant incentives for wireless providers to improve network resilience. To be sure, the metric would create incentives for carriers to restore non-operational sites as quickly as possible. But this may well be a false incentive, driving carriers to focus recovery plans on restoring *sites* rather than on restoring *service* to areas that lack service.²³

The competitive market in which wireless service providers operate already provides strong incentives for providers to invest in network resiliency and reliability. As Verizon puts it: “[p]roviders that do not adequately invest in reliability and resiliency and instead seek to compete solely on price or other factors, do so at their own peril.”²⁴ Indeed, the Commission can provide no greater incentive than the carriers’ existing interest in protecting their significant network investments and providing wireless consumers with robust service. The comments in this proceeding demonstrate the steps wireless carriers take to make their networks resilient using a variety of techniques and technologies.²⁵ As discussed, effective network design and planning, including redundancy and overlapping coverage, are important to provide service continuity in the face of damaged or non-operational cell-sites.²⁶ Network management techniques are also powerful tools for maintaining service continuity.²⁷ By way of example, AT&T described Cingular’s (now AT&T Mobility) experience during Hurricane Katrina when it

²³ AT&T Comments at 8-9; CTIA Comments at 13-14.

²⁴ Verizon Comments at 3.

²⁵ CTIA Comments at 3-8; AT&T Comments at 2-6; Verizon Comments at 2-5.

²⁶ *See supra* at pp. 3-4.

²⁷ CTIA Comments at 13.

lost one entire mobile telephone switching office (“MTSO”) to flooding.²⁸ Cingular was able to leverage capacity in another New Orleans MTSO and re-home traffic to their facilities in Richardson, Texas.²⁹ Temporary sites such as Cells on Wheels (“COWs”) and Cells on Light Trucks (“COLTs”) are also used to supplement coverage and capacity until permanent sites are functioning and can be prepositioned for rapid response in the case of some emergencies, such as hurricanes.³⁰

The Commission’s proposal risks skewing providers’ decisions to divert resources from these highly effective means of restoring service to focus on restoring individual cell sites – and increasing the percentage of operational cell sites – even if other efforts would offer more meaningful ways to address loss of service.³¹

D. The Proposed Metric Could Undermine Carriers’ Cooperative Restoration Efforts

The proposed metric not only fails to meet its basic objective, but also risks interfering with carriers’ willingness and incentives to cooperate with one another in disaster recovery. The comments are rife with examples of mutual assistance in the face of a disaster,³² but mandated reporting on the percentage of operational sites “may radically alter this [cooperative] dynamic by throwing a competition monkey wrench in the cooperation gears of disaster recovery.”³³

²⁸ AT&T Comments at 11.

²⁹ *Id.*

³⁰ *Id.* at 11.

³¹ *See* CTIA Comments at 14.

³² *See* CTIA Comments at 7-8; AT&T Comments at 6-7; CCA/NTCA Comments at 5-6; ATIS Comments at 5-6.

³³ AT&T Comments at 8.

The concern is that the reporting mandate may lead carriers to focus on their own site outage percentages – at the expense of cooperative efforts.³⁴ Expending resources to aid a competitor with service restoration could slow restoration of damaged sites, thereby creating a disincentive for carriers to engage in joint recovery efforts.³⁵ Indeed, one easily can envision post-disaster advertising campaigns using these misleading site outage percentages in support of comparisons of network reliability between carriers.³⁶

The Commission should instead promote the development of voluntary industry measures on mutual assistance during disasters. CSRIC Working Group 9 is a cooperative effort among carriers, manufacturers, tower companies, local, state, and federal agencies, and other interested parties to explore methods of sharing infrastructure and assets in order to sustain communications in emergencies.³⁷ Under the existing schedule, Working Group 9 will present a first draft of recommended best practices for short-term focus items next month (March 2014), with a draft of recommended best practices for long-term focus in September 2014, and Final Recommendations with a white paper to be released in December 2014.³⁸ Commission support for this effort would do far more to enhance network resiliency than the proposed metric. In this context, the Commission could certainly “refer the question of providing greater transparency

³⁴ T-Mobile Comments at 7-8; CCA/NTCA Comments at 5-6; ATIS Comments at 5-6.

³⁵ T-Mobile Comments at 9.

³⁶ AT&T Comments at 9.

³⁷ See Status Report, Working Group 9: Infrastructure Sharing During Emergencies (Dec. 4, 2013), available at http://transition.fcc.gov/bureaus/pshs/advisory/csric4/CSRIC_IV_WG9_STATUS_120413.pdf.

³⁸ *Id.*

into network recovery efforts of CMRS providers to CSRIC or [the Technology Advisory Committee],” as the *Notice* suggests.³⁹

III. THE COMMISSION SHOULD REJECT CALLS TO EXPAND THE PROPOSED REPORTING REQUIREMENTS

A. The Commission Should Rebuff Efforts To Expand Reporting Beyond The Purposes of the *Notice*

Some commenters seek to commandeer this proceeding and expand the Commission’s proposal beyond its purpose – “to promote transparency to consumers as to how mobile wireless service providers compare in keeping their networks operational in emergencies.”⁴⁰ Calls for the publication of carrier coverage during both “normal” and “emergency” conditions, and for call completion, dropped calls, and data throughput rates,⁴¹ requests for cell site performance, including hour-by-hour dropped calls and system busy calls,⁴² and an appeal to include another metric regarding a carrier’s backhaul capabilities,⁴³ are all well beyond the transparency metric proposed in the *Notice* for the benefit of consumers. To the extent these commenters see this proceeding as a means to assess service quality, there are already today a number of independent sources, including CU’s own publication *Consumer Reports*,⁴⁴ PC Magazine,⁴⁵ JD Power &

³⁹ *Notice*, 28 FCC Rcd at 14393. The Technological Advisory Committee is another federal advisory committee that could assist in the development of additional best practices in this area.

⁴⁰ *Id.* at 14373 (citation omitted).

⁴¹ AARP Comments at 9-10.

⁴² CPUC Comments at 6-8.

⁴³ CU Comments at 7.

⁴⁴ *See, e.g.*, Consumer Reports, Cell Phones & Services Ratings, <http://www.consumerreports.org/cro/-cell-phones-services.htm> (last visited Feb. 18, 2014).

⁴⁵ *See, e.g.*, PC Magazine, Fastest Mobile Networks 2013, <http://www.pcmag.com/article2/0,2817,2420333,00.asp> (last visited Feb. 18, 2014).

Associates,⁴⁶ RootMetrics,⁴⁷ and others⁴⁸ that evaluate wireless network quality – and there is no basis to add the FCC to this list.

Even more extreme, one commenter urges the Commission to look beyond simple outage reporting and embrace their proprietary technology as a means to provide “emergency information over-the-air to mobile phones and tablets.”⁴⁹ The Commission should decline to allow certain parties to use this proceeding as a mechanism for promoting their own self-interested technology changes.

Finally, one commenter, APCO, seeks to expand the reporting obligation to “the correct type and manner of wireless carrier disclosures” that “could be especially useful for PSAPs and other public safety personnel.”⁵⁰ As APCO itself acknowledges, however, “data that would be useful to public safety may be different, and certainly more detailed, than the information in the consumer-oriented disclosures proposed in the” *Notice*.⁵¹ CTIA and its wireless industry members are highly supportive of the public safety community and their mission, but the Commission should refrain from expanding the scope of issues in this proceeding beyond that which is identified in the *Notice*.

B. The Commission Should Decline To Expand Access to Sensitive Network Data

CTIA and its wireless industry members recognize and support the important public safety functions of state and local authorities, but the Commission should decline to provide state

⁴⁶ See, e.g., J.D. Power, 2013 U.S. Wireless Network Quality Performance Study – Vol. 1 (Mar. 7, 2013), <http://www.jdpower.com/consumer-ratings/telecom/ratings/909201499/2013-Wireless+Network+Quality+Performance+Study+%28Volume+1%29/index.com>.

⁴⁷ See, e.g., RootMetrics, <http://www.rootmetrics.com/> (last visited Feb. 18, 2014).

⁴⁸ See, e.g., Verizon Comments at 4.

⁴⁹ Mobile EAS Comments at 5.

⁵⁰ APCO Comments at 2.

⁵¹ *Id.*

and local entities with direct access to DIRS data⁵² or real-time access to specific wireless outages and restoration efforts, as well as specific information regarding temporary infrastructure deployments.⁵³

As an initial matter, these requests go well beyond the consumer–transparency focus of the *Notice* and the Commission should not entertain them on this basis alone. More broadly, these requests seek access to highly sensitive data to which the Commission has presumptively afforded confidential treatment.⁵⁴ Indeed, access to DIRS was intentionally limited to federal agencies like the Federal Emergency Management Agency that are legally bound to protect the confidentiality of these data.⁵⁵ The simple fact is that the more parties that are granted access to confidential information, the less “confidential” it inherently becomes and the greater the risk of disclosure. Thus, should the Commission conclude that it is appropriate to share sensitive outage information with state and local authorities, it must have assurances that these entities have implemented effective, meaningful safeguards to protect that data and mitigate the risks of unauthorized disclosure.

IV. THE COMMISSION SHOULD NOT ADOPT NETWORK PERFORMANCE STANDARDS, INCLUDING BACKUP POWER REQUIREMENTS

As a final matter, CTIA cautions against mandating network performance standards, as advocated by some of the commenters.⁵⁶ As discussed above and in the initial comments, carriers build redundant networks where appropriate, employ temporary facilities, provision

⁵² CPUC Comments at 13.

⁵³ New York Comments at 2.

⁵⁴ *See The FCC’s Public Safety & Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, Public Notice, 22 FCC Rcd 16757 (PSHSB 2007).

⁵⁵ *See DIRS Reporting Data To Be Shared with Federal ESF 2 Agencies*, Public Notice, 23 FCC Rcd 13444 (PSHSB 2008).

⁵⁶ *See* AARP Comments at 21-28; CPUC Comments at 8-9; New York Comments at 6-7; UTC Comments at 6.

individual sites and switches with backup power supplies, tailor their network resiliency and continuity of service plans to the needs of individual localities, and employ network management techniques to address damaged or destroyed sites. Network resiliency has improved and will continue to improve under the voluntary, flexible approach carriers and the Commission have utilized to date. The Commission should continue to promote this framework.

The circumstances of each natural disaster are unique and wireless providers need the flexibility to engage in real-time coordination and respond quickly and appropriately to the situations as they occur on the ground, not as they are anticipated by regulators and interested parties in Washington, DC. However well-intended, prescribing specific network performance and backup power standards could have the negative unintended consequence of harming network reliability by restricting carriers' abilities to implement innovative solutions that take into consideration the unique aspects of each disaster and each individual network.

In this regard, CTIA has previously documented the challenges involved in supplying backup power to all cell sites.⁵⁷ These challenges become progressively more complex as the wireless industry evolves. As discussed, networks take advantage of a variety of configurations involving stand-alone towers, rooftop sites, DAS and small cells, and other specialty installations.⁵⁸ Such diversity has significant resiliency benefits; as networks become more diverse they also become more resilient.⁵⁹ However, each form of installation has unique backup power considerations that cannot be addressed by rigid, governmental standards. For instance, in

⁵⁷ See *Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket No. 11-60, Comments of CTIA – The Wireless Association, at 14-18 (filed July 7, 2011); *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119, Petition for Reconsideration of CTIA – The Wireless Association (filed Aug. 10, 2007).

⁵⁸ See, e.g., PCIA Comments at 12-13.

⁵⁹ See, e.g., Verizon Comments at 7 (“By adding new capacity, service providers will make these wireless networks inherently more reliable.”).

the case of small cell technologies, a COW or COLT may be a better solution than a back-up power source. The Commission's interest in promoting network resiliency would be best served by ensuring that carriers retain the flexibility to make judgments about what solutions make the most sense in any given situation. To that end, the Commission should support the CSRIC Working Group 9 initiative to establish best practices to more rapidly sustain communications in emergencies.⁶⁰

V. CONCLUSION

The wireless industry remains firmly focused on network reliability and continuity of service, particularly in disaster or emergency scenarios. The Commission should avoid unnecessary and burdensome reporting obligations that provide no meaningful information to consumers and could hinder planning and recovery efforts. Instead, the Commission should utilize CSRIC and other similar collaborative mechanisms to further consider and advance voluntary industry best practices with respect to network resiliency. The Commission also should reject efforts by parties to commandeer this proceed by expanding the reach of any reporting requirements beyond the consumer-oriented focus of the Commission's original

⁶⁰ *See supra* note 37.

proposal. The Commission also should decline to establish network performance and backup power standards.

Respectfully submitted,

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