

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

In the Matter of

Implementing the Infrastructure Investment) GN Docket No. 22-69
And Jobs Act: Prevention and Elimination of)
Digital Discrimination)

COMMENTS OF ADVOCATES FOR THE EMS DISABLED

Advocates for the EMS Disabled incorporate in these comments by reference the comments made by the EMS Disabled in response to the NOI in this proceeding on May 16, 2022 (with the attached White Paper by Susan Foster and Odette Wilkens) and reply comments of June 30, 2022.

Advocates for the EMS Disabled applaud the Commission’s stated initiative to implement the goals of the Infrastructure Investment and Jobs Act (Infrastructure Act) as set forth in Section 60506 to “ensure that all people of the United States benefit from equal access to broadband,” including by preventing and identifying steps to eliminate “digital discrimination of access ...” The Commission has also stated the laudable goal of identifying and addressing “the harms experienced by historically excluded and marginalized communities” and “to promote and facilitate digital opportunity for everyone.”

These comments will make two principal points, one general and the other specific. First, the Commission must continue to recognize that wireless-based services do not now and likely never will “provide[] comparable speeds, capacities, latency, and other quality of service metrics in a given area, for comparable terms and conditions” (§1754(a)(2)) in comparison to fiber to the premises. Wireless may constitute “advanced telecommunications capability” but it is still a complement to, not an adequate substitute for fiber-fed service. A wireless based user will not receive the same speed, capacity, latency or quality of service and the terms and conditions are

not comparable to those for wired (fiber) based access. This is especially so for mobile services, but even fixed wireless solutions are inferior to direct fiber-fed service to the premises. The Commission should always prioritize “to the premise” fiber solutions and rely on wireless only when wired is technically or economically infeasible or the main purpose is mobility.

In connection with the above stated goals, the Commission is seeking recommendations on a number of issues, the following being those that we are addressing here: (1) definitions of “consumer” and “subscriber” should include the EMS Disabled; (2) digital discrimination characteristics should include disability; (3) Commission rules and policies that are exacerbating digital discrimination of the EMS Disabled; (4) digital discrimination of access” of the EMS disabled and the need for “equal access” (5) fiber optics should be given priority for the disabled; and (6) a dedicated portal for consumer complaints related to digital discrimination.

(1) Definitions of “Consumer” and “Subscriber” Should Include the EMS Disabled

There is a much-ignored but large and growing number of consumers in the disability community that have been specially harmed and suffer unique digital discrimination: those who cannot be around Radio Frequency (RF) radiation because it makes them sick or sicker. Although there are various names for the condition, including radiation poisoning, a common term is electro-magnetic sensitivity (EMS).

They are the “EMS Disabled” community on behalf of whom these comments are filed. Wireless exposure is the direct cause of or a major contributing factor to the impairment.

Since broadband connectivity is to serve all individuals in the United States as consumers and subscribers, that would also include the EMS Disabled. They also require broadband connectivity on an equal basis with other Americans, except that they require broadband connectivity that will not make them sick. However, even if the EMS Disabled are not current

subscribers, they should still be included in the definition for consumers particularly if the reason why they can't subscribe is because of the lack of access to wired broadband.

The U. S. Access Board has recognized EMS as a disability going back to 2002.¹ EMS involves severe physiological injuries directly associated with RF radiation exposure manifested as a constellation of symptoms.² It is a “spectrum condition” ranging from discomfort to neurological and immunological disorders to debilitation and life-threatening impairments.³

Common EMS symptoms directly associated with RF radiation exposure include sleep disturbances, chronic fatigue, chronic pain, poor short-term memory, loss of immediate memory, difficulty concentrating (e.g., “brain fog”), mood disturbances (depression/ anxiety), skin problems (including skin lesions), dizziness, balance disorder, loss of appetite, heart palpitations, tremors, vision problems, tinnitus, nose bleeds, asthma, nausea, reproductive problems and headaches, among others.⁴ RF radiation exposure can also lead to blood-brain barrier leakage, damage to the immune system, chronic inflammation; impaired melatonin production and impaired blood flow to the brain.⁵ “A 2017 MRI (magnetic resonance imaging) study shows

¹ U.S. Access Board, [Advancing Full Access & Inclusion for All](https://www.access-board.gov/research/building/indoor-environmental-quality/), “Indoor Environmental Quality Project,” <https://www.access-board.gov/research/building/indoor-environmental-quality/>.

² Brief of Children’s Health Defense, and Building Biology Institute, et al as Amici Curiae in Support of Appellees/Cross-Appellants “Customers,” Sept 14, 2021, <https://childrenshealthdefense.org/wp-content/uploads/Brief-and-Addendum-Submitted-9-14.pdf>.

³ Brief of Children’s Health Defense, and Building Biology Institute, et al as Amici Curiae in Support of Appellees/Cross-Appellants “Customers,” Sept 14, 2021, <https://childrenshealthdefense.org/wp-content/uploads/Brief-and-Addendum-Submitted-9-14.pdf>.

⁴ *Electrohypersensitivity as a Newly Identified and Characterized Neurologic Pathological Disorder: How to Diagnose, Treat and Prevent It*, Belpomme and Irigary, Int’l Journal of Molecular Sciences, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7139347/>; see also, Letter by Dr. Beatrice Golomb, Professor of Medicine, UC San Diego School of Medicine, Aug. 22, 2017, <https://mdsafetech.org/wp-content/uploads/2017/09/golomb-sb649-5g-letter-8-22-20171.pdf>; see also, Pittsfield Board of Health Emergency Order, <https://ehtrust.org/wp-content/uploads/Pittsfield-Health-Board-Cell-Tower-Order-to-Verizon-April-11-2022-FINAL-REDACTED.pdf> (providing a comprehensive summary of scientific findings of health hazards from RF radiation).

⁵ Letter by Dr. Beatrice Golomb, Professor of Medicine, UC San Diego School of Medicine, Aug. 22, 2017, <https://mdsafetech.org/wp-content/uploads/2017/09/golomb-sb649-5g-letter-8-22-20171.pdf>.

clear evidence of impaired blood flow in 10 electro-sensitive subjects.”⁶ The symptoms are from the physiological injuries these individuals have sustained.⁷

Wireless technology is making millions of Americans sick, and it is past time that this pan-epidemic be recognized and addressed. These disabled individuals suffer significant injuries from RF radiation exposure from wireless base stations, cell towers, electric utility smart meters and other communications infrastructure and transmitters (collectively, “wireless infrastructure”) placed right next to their homes, businesses, schools, libraries, medical facilities and other public locations frequented by the public. User equipment like mobile and portable devices and wireless routers are also causing significant injury.

(2) Digital Discrimination Characteristics Should Include Disability

The Commission’s Communications Equity and Diversity Council (CEDC) was created to provide recommendations for “advancing equity in the provision of and access to digital communication services and products for all people of the United States, without discrimination on the basis of race, color, religion, national origin, sex, or **disability**.” [Emphasis added.] However, in its November 2022 report, it did not include recommendations for advancing equitable access for the EMS Disabled.

Although §1754(b)(1) of the Infrastructure Act does not expressly include the disabled community within its coverage, the general “equal access” to “all people” requirements in §1754(a)(2) and (3) implicitly do. Therefore, the Commission should conclude that the “listed characteristics in section 60506(b)(1)” are not “exclusive and disability status is a protected “characteristic” for purposes of the Infrastructure Act. This interpretation would be fully

⁶ *Functional brain MRI in patients complaining of electrohypersensitivity after long term exposure to electromagnetic fields*, Heuser and Heuser, Sept. 26, 2017, <https://pubmed.ncbi.nlm.nih.gov/28678737/>.

⁷ Letter by Dr. Beatrice Golomb, Professor of Medicine, UC San Diego School of Medicine, Aug. 22, 2017, <https://mdsafetech.org/wp-content/uploads/2017/09/golomb-sb649-5g-letter-8-22-20171.pdf>.

consistent with existing Commission authority, [Executive Order 13985 \(Jan. 20, 2021\)](#) and the Commission's [Equity Action Plan](#) responding to Executive Order 13985, which expressly recognizes that “persons with disabilities” “disproportionately lack access to broadband internet service.”

The Commission has other general and specific authority to ensure the disabled (including but not limited to the EMS Disabled) do not suffer digital discrimination and have equal access to broadband:

- Section 152(18) incorporates the Americans with Disabilities Act definition (42 U.S.C. §12102).
- Section 201(b) requires that common carrier communication service be just and reasonable and prohibits unjust and unreasonable charges, practices, classifications, or regulations. The Commission can and should find that disability discrimination (including but not limited to discrimination relating to the EMS Disabled) by any common carrier is an unjust and unreasonable practice, classification or regulation.
- Section 202(a) prohibits unreasonable discrimination by common carriers. The Commission should find that disability discrimination (including but not limited to discrimination relating to the EMS Disabled) is unjust and unreasonable discrimination for purposes of Section 202(a).
- Section 225 contains special authority for the speech and hearing impaired.
- Section 255 requires that telecommunications equipment, customer premises equipment and telecommunications services be “accessible to and usable by individuals with disabilities” or at least be “compatible with peripheral devices or specialized customer premises equipment commonly used by individuals with disabilities.”
- Section 1302(a) encourages “deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.” The disabled community (including but not limited to the EMS Disabled) are within this class. They require advanced wired communications because wireless technology injures them.

The Commission must include the disabled generally and the EMS Disabled in particular within the list of protected characteristics for purposes of the digital discrimination rules. Any other outcome will not result in diversity, equity, inclusion, and accessibility.

(3) Commission Rules and Policies that are Exacerbating Digital Discrimination of the EMS Disabled

The Commission's 2022 Strategic Plan was released to provide broadband to 100% of the U.S. and to understand how its "rules, policies, and programs may ... inhibit advances in diversity, equity, inclusion, and accessibility."

The Commission's policies to accelerate and prioritize the deployment of wireless communications rather than wired deployments, such as fiber, has been a barrier for the EMS Disabled to access broadband services that will not injure them. The accelerated deployments of wireless infrastructure have forced involuntary and unwanted exposure of the EMS Disabled to wireless radiation that is causing them injury and displacement from their homes. Forcing exposure – even as part of a genuine and kind-hearted effort to afford broadband access – is itself a form of discrimination as a matter of law. More importantly, it is fundamentally inequitable because it leads to great harm. Those with severe symptoms are functionally excluded from public participation since almost all public spaces are flooded with RF – a toxin to them. Those with wireless facilities nearby cannot even take refuge in their own homes; they are driven out and consigned to a more miserable and sometimes hostile and threatening environment.

If the Commission is sincere about achieving "diversity, equity and inclusion" it must recognize this specific problem and take the kind of special measures to address it that are within its regulatory remit. In addition, there must be an allowance for RF-free "safe zones" in public spaces and buildings to ensure inclusion in public life. The Commission can and should establish such zones, or at least allow local and state authorities to do so without threat or fear of litigation on preemption grounds. Those who cannot be around RF must have the ability, as a matter of right, to obtain wired (e.g., fiber-based) broadband; otherwise, they will functionally be denied access to any broadband at all. The RF-sensitive community in general and especially the EMS

disabled community in particular must be allowed equal access to broadband in a form that does not threaten or worsen their health and well-being. To fail to seek accommodation for this growing population of EMS Disabled is to facilitate, albeit unintentionally, the direct opposite of the stated goal of achieving diversity, equity and inclusion.

The Commission should always prioritize “fiber to the premise” solutions and rely on mobile or fixed wireless only when fully wired is technically or economically infeasible or the main purpose is mobility. Those who are RF-sensitive and especially those with EMS disabilities must be allowed equal access to broadband in a form that does not threaten or worsen their health and well-being. They should be able to obtain fiber to the premises as a matter of right. There must be an allowance for RF-free “safe zones” in public spaces and buildings to ensure inclusion in public life. Those who cannot be around RF must have the ability, as a matter of right, to obtain wired (*e.g.*, fiber-based) broadband.

To illustrate the need for accommodation, the Advocates for the EMS Disabled offered in their May 16, 2022 NOI comments four (4) real-life accounts of individuals who have suffered EMS disability as a result of exposure to wireless radiation. Two of these cases were individuals who had cell towers placed in front of or within close proximity of their homes, one a macro tower and one a small cell. The other two individuals suffered disabling EMS symptoms after rooftop antennas were placed on the apartment buildings in which they lived. Other NOI comments also described how they suffered. More than 50% of the NOI comments requested fiber to the premises (FTTP). More than 62 percent advocated that the EMS Disabled be accommodated with fiber to the premises and wireless-free zones. 65.17 percent stated they suffered from EMS disability or their family members and/or friends experienced symptoms of Electromagnetic Sensitivity. This is a significant problem the Commission can no longer ignore.

(4) “Digital Discrimination of Access” of the EMS Disabled and the Need for “Equal Access”

An inclusive definition of “digital discrimination of access” would include, among other things, a “comprehensive concept that refers to all practices by all entities that disrupt an individual’s capacity to enjoy equal access—defined as comprehensively as possible—to broadband”⁸ and that broadband providers take whatever affirmative steps are necessary to provide equal access.

Being that “access” is the focal point, then the definition of digital discrimination should encompass disparate impact or effect, as well as discriminatory intent. This would capture discrimination as it occurs in the real world, and would produce more predictable results⁹ in preventing and eliminating digital discrimination, because “outcomes matter more than intent.”¹⁰

Safe harbor provisions for providers based on economic or technological infeasibility should not apply since wireless services otherwise depend on fiber for delivery and the solution would be to simply extend fiber to the premises, rather than stopping at the utility pole, and simply not providing the wireless service that would exacerbate the disability.

(5) Fiber Optics Should Be Given Priority for the Disabled

A choice needs to be built into the paradigm of providing internet and broadband access to the disabled. It is not a one size fits all solution. There need to be and there are technological alternatives that will make diversity, equity and inclusion a reality for those who are unable to use, or be near, RFR. And the numbers are growing.

⁸ Lawyers’ Committee for Civil Rights Under Law NOI Comments at 25 (May 16, 2022).

⁹ Public Knowledge NOI Comments at 21-22 (rec. May 16, 2022).

¹⁰ Public Utilities Commission NOI Reply at 2-4 (rec. June 30, 2022).

Consumer choice has been a bulwark of our economy, and it should be no less for the EMS Disabled in the arena of broadband choice. Wireless should not be the only choice, and indeed, the NTIA has made fiber optics to the premises a priority over wireless, that, in order to achieve true broadband connectivity for the disadvantaged, underserved and unserved, fiber is the superior choice.

Otherwise, with wireless, the chasm of the digital divide will only be exacerbated by a growing population of EMS Disabled who will increasingly join the ranks of the disadvantaged, underserved and unserved. The U.S. Government Accountability Office (GAO), the highest audit institution of the federal government, has stated in its 2020 report that current wireless deployment is likely to exacerbate disparities in accessing telecommunications services.¹¹ Moreover, the National Digital Inclusion Alliance testified in Congress that the current wireless deployment will require cell phones with the new technology, which the underserved, low income households, will likely not be able to afford.¹²

The Commission's stated goals have been "diversity, equity and inclusion." if the Commission is sincere about achieving "diversity, equity and inclusion" it ***must*** recognize those disabled by RF radiation and who face digital discrimination as they are excluded from broadband access unless they have a hard-wired alternative and there are RF free zones that will allow them to have equal access to broadband and the internet afforded to others.

¹¹ US Government Accountability Office 2020 Report "FCC Needs Comprehensive Strategic Planning to Guide Its Efforts," <https://www.gao.gov/products/gao-20-468> (p.3). Full report <https://www.gao.gov/assets/gao-20-468.pdf#page=14>.

¹² Testimony of Angela Siefer, Executive Director, National Digital Inclusion Alliance, before the U.S. House of Representatives, Subcommittee on Communications and Technology, Committee on Energy and Commerce, Jan 29, 2020, <https://www.congress.gov/116/meeting/house/110416/witnesses/HHRG-116-IF16-Wstate-SieferA-20200129.pdf>.

Practically, fiber is more affordable, scalable from symmetrical (upload and download) speeds of 100 Mbps to 1Gbps to 10Gbps, has a longer life span of 25-50 years and is safer and more cybersecure, and has lower operational expenses.¹³ By contrast, wireless typically requires equipment upgrades, constant maintenance and re-investments about every 5 years. Wireless technology is not able to effectively compete with fiber-based high-speed Internet.^{14, 15} The Fiber Broadband Association (FBA) has shown that consumers prefer the symmetrical speeds that fiber provides.¹⁶ Fiber is the superior choice for broadband.¹⁷ The FBA also shows the superior technology of fiber in its white paper, “The Market Has Spoken.”¹⁸

Digital discrimination rules should incorporate broadly all digital access needs of the EMS Disabled which would also apply to “digital devices, app[lications], and any other touch points involved in accessing, acquiring, maintaining, and benefiting from digital services.”¹⁹

Conclusion

The Commission should always prioritize “fiber to the premise” (FTTP) solutions and rely on mobile or fixed wireless only when fully wired is technically or economically infeasible or the main purpose is mobility. The Commission must include the disabled generally and those with EMS Disability in particular within the list of protected characteristics. Those who are RF-sensitive and especially those with EMS disabilities must be allowed equal access to broadband in a form that does not threaten or worsen their health and well-being. They should be able to

¹³ <https://optics.fiberbroadband.org/Full-Article/reduce-network-operating-expenses-choose-ftth>.

¹⁴ <https://www.allconnect.com/blog/internet-speed-classifications-what-is-fast-internet>.

¹⁵ <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report>.

¹⁶ https://www.broadbandworldnews.com/document.asp?doc_id=773546.

¹⁷ See, e.g., <https://www.fiberbroadband.org/p/cm/ld/fid=978>; see also, “[Reinventing Wires: The Future of Landlines and Networks](#),” National Institute for Science, Law and Public Policy, authored by Timothy Schoechle, PhD; <https://electromagnetichealth.org/wp-content/uploads/2018/02/ReInventing-Wires-1-25-18.pdf>.

¹⁸ <https://www.fiberbroadband.org/p/cm/ld/fid=978>.

¹⁹ American Foundation for the Blind NOI Comments at 2, n 90.

obtain FTTP as a matter of right. There must be an allowance for RF-free “safe zones” in public spaces and buildings to ensure inclusion in public life. Those who cannot be around RF must have the ability, as a matter of right, to obtain wired (e.g., fiber-based) broadband.

Respectfully Submitted,

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