Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of WC Docket No. 21-93

Amendment of Emergency Connectivity Fund

for Educational Connections and Devices to

Address the Homework Gap During the Pandemic

April 5th, 2021

Joint Comments

Energy Systems Network and Indiana 5G Zone

Energy Systems Network and Indiana 5G Zone submit these comments on the response to the above-referenced Notice of Proposed Rulemaking, released March 16.2021 ("Notice")

Great schools are transformative. They improve the lives of the students they serve and create new possibilities for the communities where they are located.

Energy Systems Network and Indiana 5G Zone are managing an initiative with the Richard Fairbank's Foundation, The Mind Trust and the City of Indianapolis to solve the digital divide problem for low-income families in Indianapolis and Marion County by providing broadband connectivity to 1500+ students in really low-income neighborhoods.

Energy Systems Network, Indiana 5G Zone, The Mind Trust, the City of Indianapolis, and the Richard Fairbank's foundation welcome Congress's decision to establish an Emergency Connectivity fund to help students, schools, staff, and libraries purchase equipment and telecommunication services to improve education learning severely impacted by the COVID-19 pandemic. This problem is exaggerated among families who cannot afford broadband connectivity at their homes.

The Commission seeks comments on several important topics for distribution of Emergency Broadband funds towards K-12 education in the most efficient way in the above Notice. We want to share with the Commission the approach that we have taken towards solving the broadband connectivity problem for low-income families in the City of Indianapolis.

1. Introduction

Traditionally, to address connectivity challenges, Educational Institutions have relied on service providers to deliver individual families or students' services. To do so, these service providers must invest in infrastructure—historically cable, fiber, or similar—with confidence that they will see a return on that investment over time. This model works well in densely populated and affluent areas, where infrastructure investments are likely to be recouped by the provider. However, this model faces challenges in low-density or disadvantaged areas, where infrastructure build-out can be costly relative to a provider's ability to recoup its investment over time. A traditional infrastructure model will not overcome this hurdle.

A possible solution to this problem requires a different approach through Private Networks that utilizes the shared CBRS spectrum. This model leverages existing infrastructure owned or leased by schools, deployed and managed by a third party on behalf of the school district, and can support all the required connectivity needs for school, students, and staff at and outside school locations. Private Networks can help students gain access to broadband connectivity using fixed wireless technology at their homes at an affordable cost to schools. Network deployment cost can be reduced significantly using existing

infrastructure like city-owned rooftops, water tanks, cell towers, and school rooftops to propagate wireless signals that can cover students' homes within the cell site's specific radius. We are using this approach in our E-Learning Pilot at Marion County for 1500 students under five school districts to provide these students reliable connectivity at under $ 25 per student per month.

2. Incorporating Private Networks as one of the approaches for providing broadband connectivity to students, schools, and libraries

We request Commission to have incorporated the above approach in the rulemaking for Emergency Connectivity Fund. The Commission should not have any exclusions in the rule making that prevent school districts from utilizing Private Networks to provide broadband connectivity to their students in low-income areas. These Private Networks are designed and customized to meet the needs of students for remote learning versus traditional mobile wireless networks that are catered more towards meeting the needs of the broader population. These networks can integrate with the school's content filtering and security platform, allowing students to access the Private Network for remote learning.

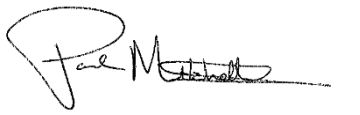
The device definition should include the Customer Premise Equipment or CPE which works like a hotspot but receives the CBRS signal and shares those services through Wi-Fi with other users and devices like laptops andtablets.

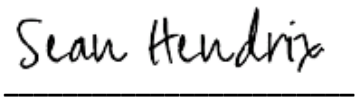
3. The Commission should neither impose any restriction on the location of where the services will be delivered Or installed
4. The Commission should assume that schools and libraries are following the proper procedure to procure devices and services.
5. The Commision should also consider including the Philanthropic Foundations focused on Education with emphasis on Digital Learning

6. Conclusion :

   a. Broadband Connectivity is critical for upliftment of society impacted heavily by the pandemic in the last year. The current funding model for broadband connectivity in schools and libraries is not aligned with society's needs in the pandemic. The expectations from Emergency Connectivity funding are to embrace these new models and methods required to meet the needs of low-income communities and give them the flexibility they need with proper controls to address the homework gap created with a lack of broadband connecitivity. We hope and trust that the Commission will not just gravitate towards traditional methods and instead give schools and cities the required flexibility to embrace new and innovative ways to meet their students' and families' needs.

Respectfully submitted,





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About Energy Systems Network

ESN is an Indianapolis-based nonprofit initiative focused on the development of the advanced energy technology and transportation sectors. Over the last decade, ESN has collaborated with a range of industry, academia, and government partners to deliver sustainable energy and mobility solutions, including electric car sharing, vehicle-to-smart grid communications, mobility-as-a-service, and others. ESN's mission is to leverage its network of global thought leaders to develop integrated energy solutions to increase quality of life for today and tomorrow. The company's focus is to: reduce costs, emissions and waste; influence policy; and advance technological innovation. For more information, and to download Emerging Mobility Technologies and Trends, visit www.energysystemsnetwork.com.

About Indiana 5G Zone

The Indiana 5G Zone (IN5GZ) is one of many Nine Twelve Institute collaboratives, advancing the transformation of physical industries by powering smart cities, intelligent logistic and advanced manufacturing.

The Lab is a state-based public-private partnership (PPP), the first in the U.S. to enable government, business and academia to designs and commercialize groudbreaking testbed offerigns with immediate practical applications. www.indiana5gzone.com