



New Jersey Comment on BEAD copied into an online form on 11/21/2023

BEAD funding should only be used for fiber technology all the way to the end user and not on wireless infrastructure which will not meet future connectivity needs, harm the environment and the health of New Jersey residents. We encourage municipally owned broadband for these investments.

The poor performance metrics of wireless infrastructure costs our states billions of dollars when residents and businesses are held up by unreliable service, low speeds, and issues with cybersecurity and privacy. Wireless infrastructure fails when multiple users are on the same network making video calls, during inclement weather or when the path of the signal is obstructed. Fiber and current cable infrastructure can reliably offer superior service without these challenges.

Other countries, including China and much of Europe have invested heavily to reach 100% penetration in fiber to the premise infrastructure, ensuring that even rural communities with unfavorable terrain have fiber.

According to IEEE Magazine, 5G base stations are expected to consume roughly 3 times the power of 4G base stations and more 5G base stations are required to cover the same area. Energy consumption is expected to increase by 61 times from 2020 to 2030 with 5G. Fiber is 85% more energy efficient than copper yielding a reduction of 56,500 tons of CO2 emissions. One study done by the Federal Environment Ministry and the German Environment Agency found that video transmission through fiber optics is nearly 50 times more energy efficient than wireless.

No U.S. agency or international authority has ever acted to review research on wireless radiation effects on the environment nor set exposure limits to ensure protections for birds, bees, trees and wildlife. It is a critical regulatory gap.

In 2014, the U.S. Department of Interior wrote a letter to the NTIA detailing several published studies showing impacts of wireless radiofrequency radiation (RFR) to birds stating that “the electromagnetic radiation standards used by the FCC continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today.”

Significant research has accumulated indicating serious environmental effects, yet with no review by federal agencies. On August 13, 2021, the U.S. Court of Appeals for the D.C. Circuit ruled in our case against the FCC (EHT et al. v FCC) stating “we find the Commission’s order arbitrary and capricious in its complete failure to respond to comments concerning environmental harm caused by RF radiation.” To this date the FCC has not revisited its wireless radiation guidelines.

Extensive published scientific evidence indicates that wireless radiofrequency (RF) radiation at levels far below FCC limits can cause cancer, increased oxidative stress genetic damage structural and functional changes of the reproductive system, memory deficit, behavioral problems, and neurological impacts.

In *EHT et al. v. FCC* the court also ruled that the FCC ignored scientific evidence on negative health effects from long term wireless radiation exposure at current allowable levels, especially in regards to children, who the American Academy of Pediatrics states are more vulnerable to wireless radiation. The court ordered the FCC to examine the record evidence regarding long term exposure to children and health effects unrelated to cancer. So far, the FCC has not responded.

A review paper on corporate risk entitled “Limiting Liability with Positioning to Minimize Negative Health Effects of Cellular Phone Towers” The authors recommend restricting antennas near homes and within 500 meters of schools and hospitals to protect companies from future liability.

Currently, insurance authorities classify 5G and wireless radiation as “high” risk. Carriers define radio frequency as a pollutant and their insurers exclude it from health effects liability coverage.

Wireless companies inform shareholders of these risks but not municipalities.