

# ACE Fiber Takes on Mississippi's Glaring Broadband Gap with Multi-Gig FTTH

ACE collaborates with other co-ops, confronting cost and culture challenges and providing broadband to more residents in Alcorn County.

By Sean Buckley / *Broadband Communities*

**A**lcorn County Electric Power Association (ACE) holds a unique status in the electric cooperative segment: It is the first rural electric cooperative formed in the United States. The Corinth, Mississippi, co-op was a product of President Franklin Delano Roosevelt's Rural Electrification Act and the Tennessee Valley Authority (TVA) Act in 1934. Now, through its fiber subsidiary, ACE Fiber, ACE will be the first electric cooperative in the region to offer multi-gigabit services.

By leveraging ADTRAN's XGS-PON technology, ACE Fiber can deliver up to 10G service across its entire footprint.

Specifically, ACE Fiber will offer three main packages to consumers: 200 Mbps for \$59 per month, 1 Gbps for \$79 per month, and 2 Gbps for \$99 per month. Customers can bundle the data services with managed Wi-Fi and phone.

ACE Fiber will offer businesses the same tiers, but the 2 Gbps tier requires a two-year contract and the 1 Gbps and 200 Mbps plans do not. ACE Fiber asks businesses to contact it for pricing.

With more than 18,500 meters on its electric network, ACE Fiber will be able to simultaneously support residential broadband and lucrative enterprise opportunities.

"Out of the meters we serve, about 14,500 are residential," says ACE CFO Sean McGrath.

"We feel there are about 2,000 to 2,500 eligible industrial customers we're trying to take advantage of as well."

## GLARING NEED FOR BROADBAND

Like other electric cooperatives owned by their customers, ACE saw an opportunity to give its rural base access to high-speed broadband service.

Some Corinth residents can access Comcast's DOCSIS 3.1 cable service or AT&T U-verse DSL, but broadband options are limited for many rural areas of Alcorn County.

"Our county remains underserved or unserved with broadband, and we're trying to help the people in those areas," McGrath says. "All the income generated from the fiber subsidiary will be returned to the electric co-op. Those dividends can be distributed to help offset electric rates."

Mississippi has never been a leader in broadband access among U.S. states; it has ranked near the bottom. However, ACE Fiber wants to change that perception. It is a beneficiary of the Mississippi Broadband Enabling Act, passed in 2019. The law allows electric cooperatives to deliver fiber-based broadband internet access. Before passage, the state's electric co-ops could not provide

broadband services. Mississippi Governor Phil Bryant signed the bipartisan legislation after it cleared the state Senate unanimously and the House 115-3.

The new law does not mandate that electric co-ops pursue broadband but expands their authority to do so through affiliates that are separate from their electric businesses. Co-ops can install fiber on their existing utility poles and lease it to the affiliates. Also, an electric co-op's fiber affiliate can partner with an internet provider, such as an independent telco, to deliver broadband services.

Since the law took effect, four co-op boards approved plans to enter the retail broadband space, including Alcorn County EPA, Tallahatchie Valley EPA, Prentiss County EPA and Tombigbee Electric Power Association.

"When we got started with broadband, the Mississippi legislature back in early 2019 identified a glaring need for rural broadband," McGrath says. "Mississippi was very deficient in broadband with speeds between 10–12 Mbps."

ACE initially called its fiber

## ACE is a beneficiary of the Mississippi Broadband Enabling Act, passed in 2019, which allows electric cooperatives to deliver fiber-based broadband internet access.

subsidiary FirstLight Fiber, but the co-op renamed it ACE Fiber because the name resonated better.

"We are member owned and are part of the ACE family," McGrath says. "Our customers know us as ACE, so we decided to rebrand as ACE Fiber."

The co-op, which began deploying FTTH in March, is now turning up paying customers. For ACE's network growth plans, it relied on FiberRise to provide the engineering, procurement and construction management.

"It has been a light speed process, but we feel like we were behind on a national level," McGrath says. "We feel like we're primed from an economic development standpoint for the rest of the nation to take note of what we're doing in northeastern Mississippi."

### JUMPING TO XGS-PON

Because it is entering the FTTH industry now, ACE can bypass previous generations of PON technology by going to XGS-PON, which can support 10 Gbps symmetrical data transfer and is part of the ITU-T G.987 family of access network standards.

The standard offers ACE Fiber disruptive economics and higher network capacity compared with older fiber access technologies.

ACE Fiber is leveraging ADTRAN's XGS-PON to offer 2G services – a speed double the existing support of major cable and major fiber providers in the area.

The new broadband network will encompass all of Alcorn County, providing connectivity for the local businesses, manufacturing plants,

## VYING FOR WHOLE-HOME WI-FI

Any customer who signs up for ACE's FTTH service will get not only access to gigabit speed connections but also whole-home Wi-Fi.

McGrath says that its move to offer whole-home Wi-Fi with ADTRAN and Zyxel routers reflects how consumers access internet in their homes.

"When subscribers pay for monthly internet, they expect the internet to be wireless," he says. "That's a tough proposition because of the issues wireless presents."

Mesh Wi-Fi or whole-home Wi-Fi systems consist of a main router that connects directly to a customer's modem and a series of satellite modules, or nodes, placed around a house for full Wi-Fi coverage. Unlike traditional Wi-Fi routers, mesh Wi-Fi routers are all part of a single wireless network and share the same SSID and password.

Whole-home Wi-Fi is a concept gaining momentum

among broadband providers. Research firm Dell'Oro revealed in a recent report that consumer mesh routers have grown rapidly over the last year, with 23 million total units expected this year.

The research firm said that service providers are "identifying when mesh routers are required by means of delivering apps that allow new subscribers to describe their homes, the placement of their routers, and the types of devices throughout the home that might require closer proximity to a mesh base station or satellite."

Service providers are either reselling mesh routers or integrating mesh capabilities directly into their higher-end gateways.

Dell'Oro noted that global home networking unit shipments are expected to decline only by 1 percent in 2020, despite the disruptions caused by the coronavirus pandemic.

farms, hospitals, schools and residents.

“Our subscribers are going to reap the benefits of the highly available, high-speed broadband internet connection,” McGrath says.

## A COLLABORATIVE EFFORT

ACE Fiber is set on serving its own customers, but it is keen to collaborate with other electric cooperatives throughout Mississippi that are

deploying FTTH.

Mississippi has 25 electric cooperatives that deliver electricity to more than 793,900 meters (more than 682,600 residential meters) and one

## BROADBAND COVID-19 ACT PRESENTS NEW CO-OP OPPORTUNITIES

The Mississippi Public Service Commission is teeing up \$150 million in grants and matching funds under the Mississippi Electric Cooperatives Broadband COVID-19 Act to improve broadband access in the state.

Mississippi’s legislature created two funding opportunities: \$65 million for electric cooperatives and \$10 million for other broadband providers. Each program requires providers to match grant dollars, resulting in a total of \$150 million for broadband expansion throughout the state. ACE Power received a \$4.9 million grant to support its ongoing initiative to make broadband internet access available in unserved and underserved parts of Alcorn County.

Other awardees include Coast Electric Power Association (Coast Electric), Delta EPA, East Mississippi EPA, Monroe County EPA, Natchez Trace EPA, North East Mississippi EPA, and Tombigbee EPA. Collectively they have been awarded more than \$30 million to deploy fiber networks.

By making broadband more widely available, co-ops and other ISPs will enable telemedicine and telework applications. The Mississippi Public Service Commission said these broadband services also will provide connectivity to students who need access to online learning as schools phase back into modified operation, and to people who need adequate broadband to receive necessary services or to work in a healthy, safe environment.

Funding for the Mississippi Electric Cooperatives Broadband COVID-19 Act was appropriated by the legislature as part of the CARES Act funding appropriated by Congress and signed by President Trump. The program provides grants to electric cooperatives and other broadband providers to expand high-speed internet access throughout the state.

The grants and matching funds, which the Mississippi Public Service Commission says will be expended by the end of the year, represent more than \$150 million in investment in the state’s rural communities.

Electric cooperatives that have won grants estimate that broadband services will potentially reach more than 50,000 residents, of which more than 40,000 are deemed underserved by the FCC.

Today, the FCC outlines and maps underserved and unserved census blocks, which are used to determine whether a project is eligible. The Mississippi Public Service Commission staff encouraged as much investment as possible inside the underserved and unserved census blocks. The cooperatives that received funding will install more than 5,000 miles of fiber.

To further provide access, the public utilities staff also sought commitments from applicants to provide Wi-Fi hot spots in their communities. The staff requested that hot spots be strategically located at no cost to any user.

PROVIDER NAME	AMOUNT AWARDED
Telepak Networks, Inc. dba C Spire Fiber	\$850,658
North Lauderdale Water Association	\$175,000
Sebastopol Water Association	\$100,000
Uplink Internet	\$150,000
Alcorn County Electric Power Association	\$4,911,998
Coast Electric Power Association	\$5,425,826
Delta Electric Power Association	\$4,431,896
Dixie Electric Power Association	\$3,324,675
East Mississippi Electric Power Association	\$5,425,826
4-County Electric Power Association	\$5,425,826
Monroe County Electric Power Association	\$3,804,101
Natchez Trace Electric Power Association	\$3,942,547
North East Mississippi Electric Power Association	\$3,706,380
Northcentral Electric Power Association	\$2,486,837
Prentiss County Electric Power Association	\$4,521,522
Tallahatchie Valley Electric Power Association	\$4,080,917
Tippah Electric Power Association	\$5,425,826
Tishomingo County Electric Power Association	\$4,288,654
Tombigbee Electric Power Association	\$3,797,167
<b>Total</b>	<b>\$66,275,658</b>

Recipients of the Mississippi Electric Cooperatives Broadband COVID-19 Act

generation and transmission cooperative (Cooperative Energy in Hattiesburg), which distributes wholesale power to 11 electric power associations. The TVA provides wholesale power to the other 14 electric power associations.

“There are 26 co-ops in Mississippi and we’re friendly with all of them,” McGrath says. “From a collaboration standpoint, we’re helping each other out by identifying what other people are doing.”

He adds, “We don’t have any partnerships with any other co-ops at this time, but that’s a possibility down the road.”

ACE is collaborating with other co-ops through its membership in a consortium to bid in the FCC’s Rural Digital Opportunity Fund (RDOF). Formed by FiberRise, the RDOF.com consortium focuses on helping electric cooperatives navigate the RDOF application process. The RDOF will allocate \$20.4 billion to construct rural broadband networks.

RDOF.com offers resources to help electric cooperatives with feasibility and business modeling as well as application expertise. It assists cooperatives with two stages: The first stage helps cooperatives determine if RDOF is right for them, and the second establishes an exclusive partnership with a qualified consortium focused on strategy development.

RDOF is just one of many funding sources ACE Fiber hopes to use, but most of the network will be built with its own capital.

“We looked at our situation and said we want to remain self-sufficient,” McGrath says. “We did not want to rely on any government funding, so we created a business plan we felt we could make work without the need for government funding.”

Unlike traditional telco or cable operators, which target specific areas where they think they can get a high profit for high-speed services, ACE plans to offer 10 Gbps capability to all its members.

“We’re going to provide up to 10 Gbps to 100 percent of our membership regardless of whether we get any funding,” McGrath says. “If we can get funding in the form of RDOF or any other grant money, we’re going

to take that and probably accelerate our build with it.”

### CULTURAL, FINANCIAL SHIFT

For electric co-ops such as ACE that have spent their entire existence delivering electricity to rural areas, broadband brings on a new set of responsibilities and costs.

A study commissioned by a majority of Mississippi’s 26 co-ops estimates it will cost \$1.5 billion to deliver broadband fiber to the home to 75 percent of members. But the cost of deploying the network is only half the battle. The co-op had to adjust its long-standing company culture.

ACE reached out to fellow electric co-ops that have made similar transitions. Some co-ops created fiber divisions within the companies, and others created subsidiaries.

“One of the things we struggled with is culture within the co-op,” McGrath says. “Now there was a division between

the legacy electric employees and these new fiber employees we were bringing on board.”

Whenever new team members join the fiber part of the company, they are classified as co-op employees.

“We have tried to instill the idea that we are all ACE Power employees,” McGrath says. “We have an 86-year-old history with our membership.”

He adds that ACE plans to leverage and build on the relationship it has always had on the electric side with its customers.

“While we are a for-profit subsidiary and broadband company, we’re going to approach our business with the same cooperative principles that we’ve always had,” McGrath says. “I think that’s what’s going to help us be successful because we are that trusted resource.” ❖

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