

Northeast Nebraska Telephone Company - Polk County - Attachment Letter G 1

Proposed Project Details, Objectives and Project Purpose:

The project will provide fiber-to-the-premise to 176 unserved locations in rural Butler County. These locations, currently in the Windstream ILEC service area, are located outside of the Northeast Nebraska Telephone Company's ILEC service area. The project includes 25 miles of last mile fiber with a total project cost is estimated to be \$3,777,885.00. Fiber placed to each dwelling will be capable of speeds up to 1,000/1,000 Mbps or 1 GB upload and download.

NNTC's objective in expanding fiber broadband to rural Polk County is to improve connectivity. This not only includes internet access but also will provide better communication services such as voice and video calls, which contribute to better social and business interactions. NNTC also strives to build a sustainable network and establish a reliable fiber-optic network to accommodate future technological advancements in the area.

The purpose of this project in rural Polk County is to bring high-speed symmetrical broadband internet, essential for bridging the digital divide. In doing so, NNTC will improve overall development and well-being of the area.

Key purposes for bridging the digital divide include in rural Polk County are:

- promoting economic growth, entrepreneurship, and innovation
- enhancing educational opportunities at school and at home
- allowing for telehealth services to become more accessible
- provide access to farmers in the area with real-time data, market prices and crop management
- improving access to government services like permitting, online voting and information
- infrastructure development which often involves fiber-optics

Prior Grant Awards

NNTC has been awarded the following grants, but none have been completed with monies received:

1. An NBBP grant was awarded to NNTC for \$1,352,918.00 in December of 2022 to expand broadband in rural Antelope County. NNTC will be installing underground fiber north of Clearwater and south of Orchard and Royal to cover over 70 square miles of rural farmsteads and ag-based businesses. 111 homes and businesses will have access to Fiber Fast Internet once this project is complete.

2. An NBBP grant was awarded to NNTC for \$1,234,802.00 in December of 2022 to expand broadband in rural Dakota County. NNTC will expand broadband through a 100% fiber connection south of Hubbard and west of Homer, connecting 76 homes to Fiber Fast Internet. Fiber will be buried throughout the 27-square miles of rugged terrain within the bluffs of Dakota County.

3. A CPF grant was awarded to NNTC for \$2,443,102.00 in June of 2023 to expand broadband in rural Bulter County. This project will bring a 100% fiber connection east of David City and east of Brainard, connecting 89 homes to Fiber Fast Internet. Fiber will be buried throughout the 27-square miles of rugged and hilly terrain, bringing some residents internet for the very first time.

Risk factors or legal challenges

Northeast Nebraska Telephone Company (NNTC) is in good standing with the County. NNTC is not aware of any legal challenges that must be addressed prior or during the project in question, such as local zoning, right of way, and permitting process.

Financial Viability

NNTC has attached a financial viability analysis for the project (see Attachment Letter G_2). The project will be cash flow positive shortly after year 12. NNTC will receive \$3,777,885.00 in the form of a grant award through this application. Incremental expenses are estimated at \$300 per year per subscriber. This projected cash inflow is estimated to cover the cost of construction. If any short fall shall materialize, NNTC will internally finance the difference. The major assumptions for the viability analysis include an estimated take rate ranging from 75% to 89% with an average revenue per month of \$75 per subscriber in year 1 to \$95 per subscriber in year 15.

Long-Term Maintenance Plans

Technical staff for NNTC includes an Operations Manager, two Central Office Techs, an IT Specialist, two Network Engineers, eight Combination Technicians and a Construction and Plant Supervisor. The new proposed area would be served (and maintained throughout the useful life of the facility) by at least one combination technician with support from the Operations Manager, two Central Office Techs, the IT Specialist and Network Engineers. The company also has a brick-and-mortar office approximately 15 miles from the proposed area, staffed by a CSR and Combination Technician. Our ability to sustain and maintain the network is demonstrated by our technical staff, which has a combined work experience of 200 years in the industry.

Long-Term Viability Plan

New area customers will be served with brand-new ONTs by DZS™. Remaining equipment would also be supplied by DZS™. In business since 1969, DZS™ prides itself on being a U.S. based manufacture who supplies more ONTs to more providers than any other provider in the country. DZS™ offers the most sophisticated technology on the market today. Another technical advantage for NNTC customers and future customers is the Zyxel® router offered to all customers at no additional charge to ensure an optimal internet and Wi-Fi experience. The project would be 100% fiber-built, which is buried below the frost line to prevent damage to fiber facilities. DZS™ equipment in the projected area would also give NNTC the capability of even faster and easier upgrades in the future. The equipment installed will have the capability for up to 10 GB cards so as technology improves so will internet speeds. NNTC provides redundant paths to our subscriber gear at this point and there are linear paths to the subscriber. NNTC stores

replacement ONTs, spare cards and fiber locally to meet any downed or equipment failure. DZS Velocity OLT (Optical Line Terminal) equipment provides carrier class reliability and a useful life greater than 10 years. The demonstrated MTBF (Mean Time Between Failures) depends on the components designed into each card, with an average MTBF in excess of 75 years.

NNTC offers all customers cutting-edge fiber technology – buried and beyond inspection. At the core of this innovation lies unparalleled electronics positioned at the fiber's end, equipped with alarming capabilities. Should the fiber's performance deviate from the stringent standards the advanced system ensures instant alerts, guaranteeing top-notch performance at all times.

Our Zyxel® home router is designed for seamless connectivity and optimal performance. Our innovative approach ensures that the router remains inaccessible for inspection, prioritizing privacy and security. NNTC has implemented a centralized reporting server that serves as the nexus for communication with the router. This centralized hub not only acts as a secure pathway for firmware and software upgrades but also conducts daily check-ins to guarantee the router's continuous and efficient operation. With our commitment to proactive monitoring and maintenance, customers know their NNTC network is in safe hands, providing a worry-free and reliable connection for digital needs.

NNTC takes pride in ensuring the optimal performance of our DZS OLT systems through meticulous care and cutting-edge technology. Our infrastructure is housed in a climate-controlled environment, guaranteeing stability and reliability. The heartbeat of our operations is our advanced software management system, which maintains constant communication with each device. In the event of any issue or if performance drops below our set standards, our system provides instant notifications, enabling swift corrective action. Our dedicated local technicians stationed in each Central Office offer daily feedback, responding promptly to visual or audible alarms. To uphold the highest standards, we conduct annual inspections of all Central Office locations. Firmware updates are seamlessly integrated into our process – as soon as they become available, they are thoroughly tested for general use before installation. This commitment to proactive monitoring, local support, and routine inspections ensures that NNTC and DZS delivers top-tier performance and reliability in every aspect of our service.

As a way to demonstrate the expected useful life of the facilities, we have attached the depreciation rates that RUS applies to facilities as part of its ReConnect grant program. (See Attachment Letter E_2). Our engineering professional believes the useful life of fiber facilities to be much longer than the depreciable life provided by RUS. The major components of the network and the depreciable and useful life of each component are as follows:

	<u>RUS</u>	<u>Engineer</u>
Buried fiber	20 years	25-50 years
Electronics equipment	10.67 years	10-15 years
ONTS	5-10 years	7-10 years

NNTC stays committed to providing the best and most outstanding service for our customers. As a cooperative in business since 1955, the business model paves the way for NNTC to be in business for generations to come.

Each year, millions are spent by the company to improve the network. At the end of 2023, NNTC finished a multi-year, multi-million-dollar transport project which provides a primary and secondary geo diverse route to each exchange we serve. This backbone brings the flexibility to serve each area with the bandwidth they require for superior service. This will allow for a more stable and dependable service for NNTC customers because if one route goes out, the new network provides backup routes for data transmission. The ability for NNTC to maintain service without interruption in the face of unexpected events goes up dramatically. In the event of a man made or natural disaster or other unforeseen disruptions, a redundant network like this allows for quicker recovery and restoration of services. Redundant networks like this are able to adapt to increased demand or changes in network traffic patterns. This is essential for accommodating the growth of the customer base and evolving technology requirements.

NNTC initiated outreach to the folks in rural Polk County in mid-November 2023. A postcard was sent to homeowners, business owners and tenants showcasing the opportunity for fiber internet in their area. Facebook ads featuring similar messaging from the postcard were conducted around the same time period, so the messaging was seen on multiple platforms. The information on the postcard and in the online ads directed folks to a form, which included information about Lifeline, ACP and Nebraska Relay.

NNTC Marketing Manager, Melissa Lanzourakis visited the area on January 5th. She visited with the secretary at the school who said she would talk to the superintendent who was busy at the time. Melissa also visited in person with Ryan Twogood, who is a board member of the Polk County Rural Public Power District and lives in the area. He did communicate that his internet is touch and go and provided by Windstream. He said he'd be in favor of fiber optics coming to the area.

Community Engagement

NNTC has contacted the following community leaders:

1. Polk County Commissioner and Chairman Jerry Westring was mailed a letter and the community feedback form, along with a self-addressed stamped envelope. NNTC's GM Pat McElroy called Jerry on Wednesday, January 10th, regarding NNTC's grant proposal.
2. Polk County Commissioner Mike Boss was mailed a letter and the community feedback form, along with a self-addressed stamped envelope. NNTC's GM Pat McElroy called Mike on Wednesday, January 10th, regarding NNTC's grant proposal and left a message. After a return call, Mike and Pat discussed the project and Mike was in favor of having fiber in the area.
3. Polk County Commissioner Ron Boruch was mailed a letter and the community feedback form, along with a self-addressed stamped envelope. NNTC's GM Pat McElroy called Ron on Wednesday, January 10th, regarding NNTC's grant proposal

- and left a message. After a return call and conversation, Ron was in favor of a fiber build in this area.
4. Polk County Rural Public Power District GM, Barb Fowler was mailed a letter and the community feedback form, along with a self-addressed stamped envelope. NNTC's GM Pat McElroy called Barb on Wednesday, January 10th, regarding NNTC's grant proposal and left a message. After a return call, Pat discussed the project with Barb. Barb is in favor of the fiber build because of the poor internet connection at the rural power hub site. Barb said she'd be happy to send in the community feedback form to the PSC.
 5. Polk County Rural Public Power District Board Member and resident of the proposed area, Ryan Twogood was mailed a letter and the community feedback form, along with a self-addressed stamped envelope. NNTC's GM Pat McElroy called Ryan Wednesday, January 10th, regarding NNTC's grant proposal and left a message. NNTC's Marketing Manager Melissa Lanzourakis visited with Twogood at his residence on Friday, January 5th regarding his current internet experience and asked Twogood to perform a speed test, which is shown in attachment M.

Copies of these 5 letters may be found in Attachment Letter G_3.

NNTC has also sent online surveys via a mailed postcard to homeowners, renters and business owners regarding their current internet experience and their thoughts on fiber internet being brought to their area. In Attachment Letter G_4, please find a copy of the postcard sent to those in this proposed service area, along with returned surveys from the residents. Surveys did provide information with links to the Lifeline Program, the Affordable Connectivity Program and Nebraska Relay.