



# Broadband USA

## Broadband Infrastructure Application Submission to RUS (BIP) and NTIA (BTOP)

<b>Submitted Date:</b> 9/11/2009	<b>Easygrants ID:</b> 1026
<b>Funding Opportunity:</b> Broadband Initiatives Program and Broadband Technology Opportunities Program	<b>Applicant Organization:</b> North Central Telephone Cooperative, Inc.
<b>Task:</b> Submit Application - Infrastructure Programs	<b>Applicant Name:</b> Ms. Nancy Johnson White

## C. Executive Summary

### Executive Summary of Project for BIP and BTOP:

#### 8. Infrastructure Projects Executive Summary

North Central Telephone Cooperative (NCTC) is a non-profit, member owned telecommunications cooperative with service in north central Tennessee and southern Kentucky.

NCTC's telecommunications services include local and long distance telephone service, internet and subscription video.

#### a) Opportunity the proposed system seeks to address

NCTC seeks to enable the delivery and ensure robust adoption of advanced broadband service to the communities in the proposed funded service areas.

While [REDACTED] of NCTC's access lines subscribe to internet service today, [REDACTED] of our internet customers ([REDACTED] of access lines) are subscribed to broadband service providing two-way data transmission with advertised speeds of at least 768 kilobits per second (kbps) downstream and at least 200 kbps upstream to end users. With respect to broadband penetration, NCTC's proposed service areas are clearly underserved and well below the 43% Tennessee statewide average for broadband adoption (source: connectedtennessee.org).

The service area is underserved because it is extremely rural with challenging terrain. It has proven cost prohibitive, even for a non-profit, to fund and finance the infrastructure needed to deliver broadband service to the service areas at speeds consistent with the NOFA Broadband Definition. The funding opportunities presented by BIP and BTOP eliminate NCTC's cost constraints and create a viable scenario for addressing the needs of the underserved areas. NCTC's proposed project incorporates the necessary facilities, electronics and installed CPE investments needed to affect the delivery of dramatically higher broadband data speed offerings and video services to the proposed funded service areas.

On 2/5/2008, a tornado ripped through a portion of the service areas we seek to fund. Fourteen people were killed, 231 homes totally destroyed and approx 1,000 homes damaged. A federal disaster zone was declared. Our proposed project will bring renewed hope to this area. As a result of the proposed project,



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residents, businesses and strategic institutions in the service areas will enjoy access and use of state of the art broadband infrastructure.

One story illustrates the significance of bringing high speed internet to the Community. Recently [REDACTED] of Lafayette, TN fell off a roof on a Friday afternoon and went to Macon County General Hospital for x-rays. They took the x-rays but told him that it would be Monday before they could have anyone read them as the hospital does not have the ability to send x-rays for examination on an electronic basis. This Critical Access Hospital (CAH) is applying for stimulus funds to support their telemedicine needs and the introduction of their EMR systems. We are partnering with them and will offer the CAH a discount of 25% off our advertised prices if we are successful in this application.

If funded, our service pricing will ensure that broadband adoption rates will exceed statewide averages. The investment will enable residents to participate more fully in the life of the community, have access to valuable information from the internet, education and government services. It will foster business development through on-line entrepreneurial, home based activity. Finally, the broadband infrastructure will ensure jobs in the service area will be saved or created as businesses and strategic institutions will have access to broadband service at speeds which meet or exceed those offered elsewhere in the United States.

**b) A general description of the proposed funded service areas**

NCTC's proposed project includes [REDACTED] service areas in rural Tennessee; [REDACTED] [REDACTED] The [REDACTED] service areas are located in [REDACTED] north central Tennessee. Each service area represents a single community and NCTC telephone service exchange.

**c) Number of households and businesses passed**

The [REDACTED] service areas include [REDACTED] households and [REDACTED] businesses.

**d) Number of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project**

The [REDACTED] service areas pass a total of [REDACTED] Strategic Institutions. We have attached letters of endorsement from Strategic Institutions and local Mayors which detail the benefits of broadband access.

**e) Proposed services and applications for the proposed funded service areas and users**



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NCTC will offer Broadband data service at speeds ranging from [REDACTED] mbps to [REDACTED] mbps. Additionally, we will offer IP Subscription Video Television service with premium programming options, pay per view, on demand and DVR, meaning that a customer who has all these services will receive in excess of [REDACTED] mbps at their home or business. NCTC's proposed project will exceed the bandwidth requirements for the services listed above and additionally support telemedicine, real time voice and video conferencing, support for schools and colleges using distance learning opportunities and access to on-line governmental services and information. In addition each school in the serving area has been given a local channel for their video classes, football games, school announcements, etc. NCTC also posts replays of local events on our website for viewing by anyone. While there is clearly a demand for these services, they are difficult to quantify at this time, so our financial analysis has conservatively modeled only the revenue streams associated with our proposed Broadband and Video service offerings.

**f) Approach to addressing the non-discrimination and interconnection obligations**

NCTC is committed to the non-discrimination and interconnection obligations as is required under the BIP and BTOP programs. The system will be offered as an open access platform which is compatible with all wireless, wire-line, and IP protocols.

**g) Type of broadband system that will be deployed**

This project will build a fiber-to-the-home network connected via a backbone fiber feeder to deliver services to families, community organizations and businesses. This design will utilize [REDACTED] Technology deploying an individual optic fiber to each subscriber requesting advanced services. The [REDACTED] can provide up to one Gigabit of bandwidth to each subscriber. This architecture will be configured to accept electronics from any RUS approved vendor such as Occam, Calix, Zhone, Motorola, etc. The delivery access platform of choice will be an advanced broadband system particularly well suited for deployment in rural and under-served areas. The chosen vendor architecture will be a Multi-Service Access platform that supports a wide array of technologies and services and will be deployed to create a deep fiber, high-bandwidth network. Every node will be equipped to provide high speed internet services to both residential and businesses. This network will support VPN services for community organizations such as schools and libraries, clinics and hospitals, public safety organizations, and government offices and public computing centers. [REDACTED]



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**h) Qualifications of the applicant that demonstrate the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband services provider**

NCTC is well qualified to manage and execute the proposed project. It's Board and members are extremely committed to this venture as it aligns with the Cooperative's overall mission to bring cost effective, state of the art telecommunications services to the communities it has served for over 50 years. NCTC has proven success in designing, implementing and managing similar projects in other communities in its service territory. Our billing, operational support systems and personnel are in place. Our customer service personnel and technicians are trained in broadband and subscription video television service offerings. The installation team knows the challenges of the terrain in the proposed funded service areas and the Operations group has the expertise to plan for the rollout. Utilizing outsourced engineers from [REDACTED] Engineering and [REDACTED] Consulting, NCTC can expand its current and future capacity levels to execute the plan. We need only to finalize the engineering plans when funding is received in order to initiate execution.

NCTC's proposed project is a sustainable initiative because of its ability to leverage existing personnel and systems. It is also sustainable because of its cash position and overall ability to generate operating cash flow that exceeds the working capital requirements of this proposed project.

**i) Overall infrastructure cost of the broadband system**

The total infrastructure cost of the proposed project is \$49,679,709. This excludes working capital costs for the project, which are funded by operating cash flow.

**j) Overall expected subscriber projections for the project**

As a result of this proposed project, NCTC's internet customers grow from [REDACTED] today to [REDACTED] by the end of year 2013. Our overall market penetration grows from [REDACTED] today to [REDACTED] by the end of 2013. Of these, we project that [REDACTED] or [REDACTED] of our internet customers will subscribe to Broadband service as defined in the NOFA. Our video service subscribership is projected to increase from [REDACTED] to [REDACTED] of our internet customers by the end of 2013.

**k) Number of jobs estimated to be created or saved as a result of this project**



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We estimate, based on the increase in coverage area and the number of households passed, there will be approximately 1,000 new jobs created or saved over time. These break out as follows: Broadband deployment, installation and entrepreneurial growth 700.