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RECEIVED
APR 30 2010
PUBLIC SERVICE COMMISSION

Jeff R. Derouen, Executive Director
KY Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

April 27, 2010

2010-00190

Dear Director Derouen,

Attached for your review is an Application for a Certificate of Public Convenience and Necessity for the construction of fiber-to-the-home in Jackson and Owsley counties, Kentucky. This Application is submitted on behalf of Peoples Rural Telephone Cooperative Corporation, Inc.

On March 29, 2010 Peoples Rural Telephone Cooperative submitted an application under the American Recovery and Reinvestment Act Broadband Initiatives Program administered by the Rural Utility Service for grants and loans for the purpose of completing its Fiber to the Premises project. Under the Application process, the company is required to have all necessary certifications in place or pending prior to receipt of ARRA funds.

In the interest of avoiding unnecessary production of documents, the company is including here an original and two copies of the entire filing on hard copy as well as three CDs containing a pdf version of the entire filing. Additional copies will be provided promptly upon request.

Any questions about this application should be referred to Eileen Bodamer, Consultant to Peoples Rural Telephone Cooperative Corporation, Inc. at 770-649-1886.

Sincerely,

Allen B. Roberts, Attorney at Law

Attachment
Cc: Keith Gabbard

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION



**In the Matter of:**

| | | |
|---|---|---|
| **THE APPLICATION OF PEOPLES RURAL TELEPHONE COOPERATIVE CORPORATION, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF FIBER-TO-THE-HOME IN JACKSON AND OWSLEY COUNTIES, KENTUCKY** | ) ) ) ) ) ) | **Case No.** 2010-00190 |

## APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR CONSTRUCTION OF FIBER-TO-THE-HOME IN JACKSON AND OWSLEY COUNTIES, KENTUCKY

Peoples Rural Telephone Cooperative Corporation, Inc. ("PRTC") pursuant to KRS 278.020 and 807 KAR 5:001, Sections 8 and 9, hereby submits this application for a certificate of public convenience and necessity for the construction of Fiber to the Premises in Jackson and Owsley Counties, Kentucky.

1. The full name and address of PRTC is Peoples Rural Telephone Cooperative Corporation, Inc., P.O. Box 159, Highway 421, McKee, Kentucky 40447.

2. Peoples Rural Telephone Cooperative Corporation, Inc. ("PRTC") provides telephone service to four exchanges in Jackson and Owsley Counties in southeastern Kentucky. The exchanges are Annville, Booneville, McKee, and Sand Gap. PRTC was organized to provide telecommunications to persons residing in all parts of rural Jackson and Owsley Counties in Kentucky. PRTC serves approximately 8,000 single-party access lines, and consists of approximately 1,036 outside plant route miles and 489 drop miles.

3. A copy of PRTC's Articles of Incorporation and all amendments thereto was previously filed in case 2008-00081 and is not included at this time.

4. On March 29, 2010 PRTC submitted an application under the American Recovery and Reinvestment Act Broadband Initiatives Program ("BIP") Round 2, administered by the Rural Utility Service ("RUS") for grants and loans in the amount of $25,478,994 for the purpose of completing its Fiber to the Premises ("FTTP") project. The request is for seventy percent grant in the amount of $17,835,296 and thirty percent RUS loan, in the amount of $7,643,698. Previous funding, specifically under the RUS "P" loan, which was certificated on April 14, 2008 under Case No. 2008-00081, covered approximately 50 percent of PRTC's subscribers. Funding and approval of this project will allow PRTC to complete the upgrade to fiber to the premises in the entire territory.

5. The proposed project will pass 4,891 premises, consisting of: 4,747 households, 110 businesses and 33 critical community facilities and public safety entities.

6. In order to upgrade the system to the required level to meet the demands indicated by increase bandwidth requirements and modest growth projections, the purposes for this grant/loan are as follows:

i. Construct FTTP facilities to the virtually all of the remaining approximately 50% of the entire system;

ii. upgrade remaining Host and Remote access equipment from the rapidly exhausting capabilities of the existing circuit based AFC/Tellabs UMC1000 and EWSD platform to a 'Next Generation Digital Loop Carrier' (*ng*DLC) packet based platform to provide high

speed digital access via FTTP for the delivery of Triple-Play Multimedia broadband services (Voice, Data, and Video);

iii. upgrade remaining customers, by the use of the *ng*DLC and the new packet based central office switching equipment, from the existing Siemens EWSD platform to take advantage of the cost effectiveness and operational efficiency of a Soft Switch environment;

iv. equip all wire centers with packet-based digital high-speed interfaces;

v. complete implementation of adding customers to the core router network providing a high-speed transport backbone for the network; and

vi. further meet requirements of the State Modernization Plan.

7. Pursuant to 807 KAR 5:001, section 9(2)(b), PRTC does not require franchise approval from any public authority to deploy the facilities described herein. PRTC has provided local exchange service for approximately 50 years to its members in Jackson and Owsley Counties and does not require additional franchises or permits to provide service.

8. There are no lines, facilities, or systems of any other telephone company in the area to be served by the fiber construction project. None of the subscribers to be served by the fiber contemplated in this CPCN receive any type of telephone services from the facilities of other telephone companies other than cellular communications providers. No duplication of facilities will result from the fiber construction.

9. A map to suitable scale showing the route of the proposed new construction is included in Exhibit A of this application. The company intends a three-

year construction schedule and estimates it will be two-thirds complete by the end of year 2. The proposed construction schedule as filed with RUS included in Exhibit B.

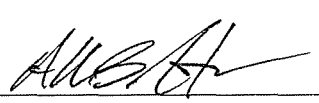
10. At this time, the company does not anticipate requiring any local rate adjustments to fund its new construction. PRTC has submitted an application under the American Recovery and Reinvestment Act for grants and loans in the amount of $25,478,994 for the purpose of completing its Fiber to the Premises project. This Application was completed and submitted on March 29, 2010.

11. The company has not estimated an ongoing cost of maintenance of the fiber upon completion. Upon information and belief, the company anticipates that its ongoing maintenance and provisioning costs will be no more than and likely less, than its costs for its current network.

12. An engineering report signed, sealed and dated by a professional engineer as filed with the company's BIP RUS application is attached as Exhibit C.

Based on the foregoing, and in accordance with KRS 278.020 and 807 KAR 5:001, sections 8 and 9, Peoples Rural Telephone Cooperative Corporation, Inc. respectfully requests that the Commission issue a Certificate of Public Convenience and Necessity to deploy Fiber to the Premises in Jackson and Owsley Counties.

Respectfully submitted,



Allen B. Roberts, Attorney at Law
PO Box 759
McKee, KY 40447
(606) 287-5223

April 27, 2010

**Application for a Certificate of Public Convenience and Necessity**
**Exhibit A**

Map of proposed construction

# CASE NO: 2010-00190

CONTAINS

LARGE OR OVERSIZED

MAP(S)

RECEIVED ON: April 30, 2010

**Application for a Certificate of Public Convenience and Necessity**
**Exhibit B**

Timeline of proposed construction

Peoples Rural Telephone Cooperative Corporation, Inc.

**Attachment 22 -**

Project Capital Investment Workbook

**Buildout Timeline - Milestones**

| | |
|---|---|
| **PROJECT TITLE** | Broadband Infrastructure Investment in Persistent Poverty counties: Jackson and Owsley counties, KY |
| **EASYGRANTS ID** | 7783 |

| Time Period | Quarter | List All Relevant Milestones | Support for Reasonableness/Data Points |
|---|---|---|---|
| Year 0 | | Receive approval of application | |
| Year 1 | Qtr 1 | Complete the Outside Plant staking for the Sand Gap Exchange<br>Outside Plant Plans & Specs contract prepared and Network Access contract prepared for the Sand Gap Exchange<br>Award the Outside Plans & Specs contract for the Sand Gap Exchange<br>Award the Network Access contract for the Sand Gap Exchange<br>Begin the Outside Plant staking for the Annville Exchange | Based on past time frames of similar projects |
| | Qtr 2 | Continue the Outside Plant staking for the Annville Exchange<br>Begin the Outside Plant construction for the Sand Gap Exchange<br>Begin the Network Access additions in the Sand Gap Exchange | OSP construction 30% complete for the Sand Gap exchange<br>Network installation 20% complete for the Sand Gap exchange<br>Based on past time frames of similar projects |
| | Qtr 3 | Continue the Outside Plant staking for the Annville Exchange<br>Continue the Outside Plant construction and the Network Access additions for the Sand Gap Exchange<br>Begin cutover for the Sand Gap Exchange | OSP construction 60% complete for the Sand Gap exchange<br>Network installation 60% complete for the Sand Gap exchange<br>Premise cutover 30% complete for the Sand Gap exchange<br>Based on past time frames of similar projects |
| | Qtr 4 | Closeout of the Outside Plant Plans & Specs contract for the Sand Gap Exchange<br>Continue the cutover for the Sand Gap Exchange<br>Closeout of the Network Access contract for the Sand Gap Exchange<br>Outside Plant Plans & Specs contract prepared and Network Access contract prepared for the Annville Exchange<br>Award the Outside Plant Plans & Specs contract and the Network Access Equipment contract for the Annville Exchange and begin construction and installation | OSP construction 100% complete for the Sand Gap exchange<br>Network installation 100% complete for the Sand Gap exchange<br>Premise cutover 60% complete for the Sand Gap exchange<br>OSP construction 10% complete for the Annville exchange<br>Network installation 10% complete for the Annville exchange<br>Based on past time frames of similar projects |
| Year 2 | Qtr 1 | Complete the cutover for the Sand Gap Exchange<br>Continue the Outside Plant Plans & Specs and the Network Access equipment installation for the Annville Exchange<br>Begin staking the Mckee Exchange | Premise cutover 100% complete for the Sand Gap exchange<br>OSP construction 30% complete for the Annville exchange<br>Network installation 30% complete for the Annville exchange<br>Based on past time frames of similar projects |
| | Qtr 2 | Continue the Outside Plant Plans & Specs and the Network Access equipment installation for the Annville Exchange<br>Continue Outside Plant staking for the Mckee Exchange<br>Begin cutover for the Annville Exchange | OSP construction 50% complete for the Annville exchange<br>Network installation 50% complete for the Annville exchange<br>Premise cutover 25% complete for the Annville exchange<br>Based on past time frames of similar projects |
| | Qtr 3 | Complete the Outside Plant staking for the Mckee Exchange<br>Prepare the Outside Plant Plans & Specs contract for the Mckee Exchange<br>Prepare the Network Access Equipment contract for the Mckee Exchange<br>Award the Outside Plant Plans & Specs contract and the Network Access Equipment contract for the Mckee Exchange and begin construction<br>Continue the Outside Plant Plans & Specs and the Network Access equipment installation for the Annville Exchange | OSP construction 80% complete for the Annville exchange<br>Network installation 80% complete for the Annville exchange<br>Premise cutover 50% complete for the Annville exchange<br>OSP construction 30% complete for the McKee exchange<br>Network installation 30% complete for the McKee exchange<br>Based on past time frames of similar projects |
| | Qtr 4 | Closeout the Outside Plant Plans & Specs for the Annville Exchange<br>Closeout of the Network Access contract for the Annville Exchange<br>Continue the cutover for the Annville Exchange<br>Begin staking the Boonville Exchange<br>Begin cutover for the Mckee Exchange | OSP construction 100% complete for the Annville exchange<br>Network installation 100% complete for the Annville exchange<br>Premise cutover 75% complete for the Annville exchange<br>OSP construction 60% complete for the McKee exchange<br>Network installation 60% complete for the McKee exchange<br>Premise cutover 20% complete for the McKee exchange<br>Based on past time frames of similar projects |
| Year 3 | Qtr 1 | Prepare the Outside Plant Plans & Specs contract for the Booneville Exchange<br>Prepare the Network Access Equipment contract for the Booneville Exchange<br>Award the Outside Plant Plans & Specs contract and the Network Access Equipment contract for the Booneville Exchange and begin construction and installation<br>Closeout the Outside Plant Plans & Specs for the Mckee Exchange<br>Closeout the Network Access Equipment for the Mckee Exchange<br>Continue with the cutover of the Mckee Exchange and complete cutover for Annville | Premise cutover 100% complete for the Annville exchange<br>OSP construction 100% complete for the McKee exchange<br>Network installation 100% complete for the McKee exchange<br>Premise cutover 40% complete for the McKee exchange<br>OSP construction 20% complete for the Booneville exchange<br>Network installation 20% complete for the Booneville exchange<br>Based on past time frames of similar projects |
| | Qtr 2 | Continue with the cutover of the Mckee Exchange<br>Prepare the Outside Plant Plans & Specs contract for the Booneville Exchange<br>Prepare the Network Access Equipment contract for the Mckee Exchange<br>Award the Outside Plant Plans & Specs contract and the Network Access Equipment contract for the Booneville Exchange and begin construction<br>Begin the cutover of the Booneville Exchange | Premise cutover 70% complete for the McKee exchange<br>OSP construction 60% complete for the Booneville exchange<br>Network installation 60% complete for the Booneville exchange<br>Premise cutover 20% complete for the Booneville exchange<br>Based on past time frames of similar projects |
| | Qtr 3 | Closeout the Outside Plant Plans & Specs for the Booneville Exchange<br>Closeout the Network Access Equipment for the Booneville Exchange<br>Continue the cutover of the Booneville Exchange<br>Complete the cutover of the Mckee Exchange | Premise cutover 100% complete for the McKee exchange<br>OSP construction 100% complete for the Booneville exchange<br>Network installation 100% complete for the Booneville exchange<br>Premise cutover 60% complete for the Booneville exchange<br>Based on past time frames of similar projects |
| | Qtr 4 | Complete the cutover for the Booneville Exchange | Premise cutover 100% complete for the Booneville exchange<br>Based on past time frames of similar projects |

**Application for a Certificate of Public Convenience and Necessity**
***Exhibit C***

Engineering report

Peoples Rural Telephone Cooperative Corporation, Inc.

# Attachment 15 -
# Professional Engineer Certification

**Easygrants ID: 7783**
**Project Title: Broadband Infrastructure Investment in Persistent Poverty Counties: Jackson and Owsley Counties, KY**

***Instructions:*** *For projects requesting more than $1 million in funding, the Network Diagram, System Design, and Project Timeline must be certified by a Professional Engineer registered in at least one state or territory wherein the service will be provided.*

**Does the Applicant's proposed project fall exclusively within a state or territory without an official Professional Engineer registration system?**

☒ Yes
☐ No

We the undersigned, certify that the proposed broadband system will work as described in the System Design and Network Diagram sections, and can deliver the proposed services outlined in the Service Offerings section and all premises in the proposed funded service area(s) will be offered broadband service. Moreover, the system, as designed, can meet the proposed build-out timeline, milestones, and construction schedule based on the resources designated in the Project Capital Investment Workbook, and will be substantially complete in two years, and complete within three years.

March 17, 2010
(Date)

Carol Leigh Brackett
(Certifying Engineer's Signature)

Carol Leigh Brackett
Name (Printed)

Professional Engineer
Title

Registration Number: 22953

State of Registration: KY

3-18-10
(Date)

Keith Gabbard
(Authorized Representative's Signature)

Keith Gabbard
Name (Printed)

General Manager
Title

# Attachment 11 -
# System Design

**Easygrants ID: 7783**
**Project Title: Broadband Infrastructure Investment in Persistent Poverty Counties: Jackson and Owsley Counties, KY**

Peoples Rural Telephone Cooperative Corp, Inc. (PRTC) is headquartered in McKee, Kentucky. PRTC serves all of Jackson and Owsley Counties in southeast Kentucky. PRTC provides digital, single-party telephone service to its subscribers in four (4) numbered exchanges – Annville (364), Booneville (593), McKee (287), and Sand Gap (965). The terrain is generally hilly, typical of Appalachia. The valleys and hilltops provide a good base for residents to raise the main cash crop, tobacco. No interstate highways or major airports exist within the service area. Interstate 75 passes only a few miles west, affording north-south transportation and the Daniel Boone Parkway passes just to the south of the PRTC service area. The residents primarily depend upon wage earning jobs from business and manufacturing plants which are in the area and located in the nearby larger cities. Those people have become accustomed to the most recent technological advances offered by the telecommunications industry and have come to expect the same services becoming available at their places of residence. The purpose of this system design is to provide for the expansion of the Annville, Booneville, McKee and Sand Gap exchanges.

## a) Description of Each Service Offered:

PRTC offers its subscribers, one party service along with custom calling features (such as call waiting, call forwarding, caller ID, etc.), Internet/DSL, long distance, paging, directory assistance and voice mail etc., which are compatible with industry standards. All new and existing switching equipment will continue to provide call waiting, call forwarding, abbreviated dialing, and three-way calling among other custom calling features that are compatible with industry standards, in addition to providing CLASS calling features to each PRTC customer served.

Toll traffic is routed to the long distance carriers including AT&T via the East Kentucky Network over a bi-directional SONET network. One path is from the host office in McKee to Winchester via Richmond, the other path is also from McKee to Winchester via Booneville, Grapevine, Hindman, Harold Prestonsburg, Staffordsville, West Liberty, and Frenchburg. Extended Area Service (EAS) is provided to all subscribers to their county seat.

PRTC also brings to its customers over 128 channels of digital television, digital music, pay-per-view movies along with local network channels. They offer a basic plan which consists of 12 channels, a basic expanded plan which offers more than 55 channels and a digital plan which offers over 129 channels. They also provide 31 music streams.

PRTC currently offers its subscribers Internet/DSL service with five (5) tiers of service. Tier 1 is the traditional dialup service. Tier 2 has a downstream speed of 512 kbps and upstream speed of 256 kbps. Tier 3 has a downstream speed of 768 kbps and upstream speed of 256 kbps. Tier 4 has a downstream speed of 1.5 Mbps and upstream speed of 512 kbps. Tier 5 has a downstream speed of 3 Mbps and an upstream speed of 512 kbps. It is proposed with this system design to

increase the speeds with five (5) new tiers of service. Tier 6 will have a downstream speed of 1.5 Mbps and an upstream speed of 512 kbps. Tier 7 will have a downstream speed of 3 Mbps and an upstream speed of 512 kbps. Tier 8 will have a downstream speed of 6 Mbps and an upstream speed of 768 kbps. Tier 9 will have a downstream speed of 12 Mbps and an upstream speed of 1 Mbps. Tier 10 will have a downstream speed of 18 Mbps and an upstream speed of 2 Mbps.

PRTC currently provides several dedicated circuits for several law enforcement agencies as well as critical and emergency medical facilities and Disaster and Emergency Service (DES) Agencies. PRTC provides the Federal Bureau of Investigation with a 56 kbps circuit to a radio tower in the Sand Gap exchange and a 56 kbps circuit to the Jackson County Jail in the McKee exchange. The Kentucky State Police utilizes services available from local law enforcement as well as circuits established for State and local DES agencies. PRTC also provides services for many critical community facilities such as Emergency 24-hour dispatch centers and power grid monitoring for regional wholesale (East Kentucky Power) and local power utilities (Jackson Energy).

The White House Clinic in McKee is a Federal Qualified Healthcare Center and is part of a regional network of facilities providing for the medical needs of many in McKee and the surrounding areas. The White House Clinic has three special dedicated data circuits with electronic medical records among the many uses of these facilities. Additionally, several smaller medical facilities are located within the communities served including three emergency ambulance services.

With only a few exceptions, all anchor institutions have broadband service and this service is provided at no charge to the public libraries in Jackson and Owsley Counties, the Owsley Judge Executive, and the local Welcome Center in Sand Gap.

**b) Technology Type and Infrastructure Architecture:**

PRTC currently has a Siemens EWSD which is a circuit based traditional TDM switch. The switch is located in the central office at McKee, which is the host office and it operates as the network controller for the PRTC system. PRTC is in the process of replacing this existing Siemens EWSD switch with a Metaswitch Networks soft switch standards based packet switch. The exchanges of Annville, Sand Gap and Booneville are equipped with EWSD remotes. The remaining wire centers consist of a combination of Siemens/Stromberg Carlson Modified RLS 1000's, Siemens/Stromberg Carlson Modified RLS 450's, Advanced Fibre Communications UMC 1000, Siemens Accession, and Occam.

PRTC operates and maintains a video headend at its central office in McKee, Kentucky. The bulk of the content is provided through the National Cable Television Association (NCTA) via eight satellite dishes. Each of the satellite dishes has multiple feeds, dozens of satellite receivers, encoders, modulators, a combining network from various manufacturers to receive video content directly. Once combined, the video feed is transmitted via the Scientific Atlanta Prisma II platform to eleven CATV optoelectronic nodes and two FTTH distribution shelves.

Upon implementation of the FTTH facilities that is proposed with this system design, PRTC will be able to provide video services comparable to that of a 1 GHz system that expands beyond the constraints of the 450 MHz and 350 MHz systems that are currently in use.

The internet traffic is routed over the East Kentucky Network via two DS3 circuits to our Internet Service Provider (ISP) Mikrotec in Lexington, Kentucky through a Cisco router and OSSAN server. The East Kentucky Network has recently implemented a 10 Gigabyte Ethernet ring alongside the OC-192 ring utilizing DWDM optics. Internet/DSL services to the end user will include via high speed transmission (up to 18 Mbps downstream and 2 Mbps upstream); support for telemedicine; internet access for video; voice and data services; support for schools/colleges and long distance learning opportunities; and access to on line governmental services and information.

**c) Geography and Topography:**

PRTC's proposed project is designed adding twenty (20) aggregation points. The 20 aggregation points are broken down into four different projects, which coincide with the outside plant projects. The entire certificated area has extensive copper cable being used for the last mile and in many of these areas it is nearing the maximum utilization point. During this design period PRTC proposes to install an additional 573 miles of fiber optic cable within the two (2) PFSA's that are part of this system design (546 miles of new fiber cable in the Jackson PFSA and 27 miles in the Cow Creek PFSA). With the proposal of this extensive fiber optic overlay, construction of paired copper local loop plant has been reduced to the minimum both in mileage and in pair size.

The Jackson PFSA has 3,551 subscribers (3,307 residential, 194 business), 1,779 broadband subscribers (175 have dialup and 1,199 have the lowest broadband speed) and 544 video subscribers. There are 50 critical community facilities with voice service. The Cow Creek PFSA has 108 subscribers (106 residential, 2 business), 53 broadband subscribers (12 have dialup and 29 have the lowest broadband speed), and 56 video subscribers. There are no critical community facilities with voice service

**d) Design Requirements:**

A fiber optic cable overbuild is proposed to create a hybrid outside plant, utilizing the existing copper cable and the proposed fiber optic cable for the last mile. The benefits of fiber optic cable over the traditional copper cable to the subscriber user is to provide a higher bandwidth capacity for the advanced data services along with a longer reach, longer life, resistance to outside interferences, lower maintenance costs, with better reliability. The fiber cable has been sized to provide diverse routing to the BLC units and to allow for the implementation of a Bi-directional Line Switched Ring (BLSR) along with the Core Router Network. PRTC utilizes Gigabit Passive Optical Network (GPON) technology for service delivery, the outside plant is direct fiber to each customer.

The plan is to incorporate a fiber optic cable from the central office or the BLC unit to the premise of all subscribers in the underserved areas. Any subscriber that requests broadband will

receive a fiber optic service line to their home or business including an optic network termination (ONT) that will be placed on the building to transfer the signal. The long term objective of the fiber optic overbuild is to gradually transition all subscribers in the underserved areas with a fiber to the home (FTTH) while, at the same time, retaining the copper plant as long as feasible.

The PRTC fiber optic cable design is laid out using a 1 (one) GigE ring running between the four numbered exchanges to backhaul the broadband data from the major aggregation points to the main data collection and switching center, located in the existing McKee host office. The major aggregation points are the existing central offices located within the four (4) current telephone exchanges in the PRTC network. The BLC rings have been designed for a maximum of 2,000 ports per Gigabit Ethernet (GigE) ring. The BLC design will incorporate several GigE rings in their planned network. The GigE rings are designed to terminate all data traffic at the McKee Host office.