

C. Executive Summary

Executive Summary of Project for BIP and BTOP:

8. Infrastructure Projects Executive Summary

Roadstar Internet is the dominant wireless broadband service provider in Loudoun County, VA. While our network and service began in primarily rural “western Loudoun County” we also have begun to build a high capacity GigE wireless network in eastern Loudoun County.

Roadstar Internet has been steadily adding customers to its network since late 2003. Today we have almost 2500 households and 100 businesses connected to the internet on our broadband wireless network. Roadstar Internet is a profitable company [REDACTED].

NOVEC Solutions (NS) the other partner in the proposed new enterprise has been in business since 1997. As stated earlier, NS is a wholly owned subsidiary of the Northern Virginia Electric Cooperative (NOVEC), a current RUS borrower for its electrical infrastructure. NS has offered optical services (Gig-E and Sonnet services) to commercial customers using fiber optic networks since 2005, or for nearly five years. To date, NS has over three (3) major Points of Presence (POPs) located on its network. The company is profitable [REDACTED].

The underlying principal in building our wireless network involves several architectural fundamentals including the highest possible reuse of ALL available radio spectrum- both licensed and unlicensed. This means that we deploy small “micro-pops”- very close to the customers with a focused service areas that backhauled to our backbone network/ring. Today we have over 60 “pops” serving our customers. While the original pops deployed in 2003 were based on WIFI and pre WIMAX OFDM PtMP wireless systems we have evolved along the way and the most recent pops we have deployed use WIMAX AP’s backhauled with 80Ghz Eband GigE wireless links. The biggest technical challenge preventing us from adding more customers and additional pop sites is the lack of available backhaul.

NOVEC Solutions is the wholly owned subsidy of Northern Virginia Electric Coop. NOVEC provides electricity and other power generation services to [REDACTED] 5 counties in Northern VA. NOVEC Solutions provides optical and IP network connectivity services to government and large corporations [REDACTED].

NOVEC Solutions does not provide “last-mile” connectivity to individual homes but recognizes that its existing [REDACTED] network could be the foundation for enhanced broadband in western Loudoun County.

The existing optical network operated by NOVEC Solutions includes backhaul to the Equinix facility in Ashburn, VA. The existing network connects as far west as Leesburg, VA. NOVEC would like to connect existing substations in northwestern Loudoun County to its fiber network to enhance its ability to deploy Smart Grid applications across its entire service territory but the remote locations make to cost prohibitive for either Smart Grid applications or for further deployment of ubiquitous broadband.

Loudoun County, Virginia is effectively two distinct counties. The eastern half is characterized by large data centers that are integral to the nation's internet infrastructure plus a thriving commercial and industrial sector as well as large residential developments. Broadband is generally available in eastern Loudoun and many customers have alternative providers. Western Loudoun county is vastly different in that it is characterized by very low residential population density, significant agricultural and small business economics and meets the criteria for rural unserved or underserved areas.

We would like to grow our network and add additional customers. We NEED to grow our network to keep up with the explosion of usage from our existing customers. We cannot continue to grow and expand our network with fiber based backhaul that connects our key network hub locations. A fiber backbone network that connects the widely available bandwidth in eastern Loudoun with rural western Loudoun County will be essential in order for Roadstar to meet the demands in the near term.

Roadstar Internet and NOVEC Solutions propose a joint partnership to build this required fiber backbone into northwestern Loudoun County. Our proposals key points include:

1) Stimulus grant to fund the fiber backbone and construction costs. [REDACTED]

2) Roadstar Internet and NOVEC Solutions to form a new corporation. This new joint venture will be focused on providing broadband internet service using the proposed fiber backbone.

3) Roadstar Internet and NOVEC Solutions new joint venture to provide network connectivity to the following anchor institutions [REDACTED]

[REDACTED]:

- Loudoun County Government Center
- Town Of Leesburg Government
- Loudoun Community Health Center (free clinic)
- Loudoun County High School
- Harmony Intermediate School (includes Hamilton Elementary School)
- Town Of Hamilton Government Center
- Hamilton Safety Center
- Purcellville Safety Center
- Loudoun Valley High School
- Town Of Purcellville Government Center
- Town Of Round Hill Government
- Round Hill Elementary School
- Mountain View Elementary School
- Woodgrove High School
- Town of Hillsboro Government Center
- Town of Lovettsville Government Center
- NOVEC Electric substations at xx and xx

4) Roadstar Internet and NOVEC Solutions will make this network available to any service provider without discrimination. Several wireless service providers that Roadstar already serves with existing wireless backhaul will move over to this fiber network.

The network as envisioned will provide advanced broadband connectivity to a majority of the key institutional users in western Loudoun County. Many of these users could never individually afford the costly proposition of getting broadband infrastructure to them and without this grant would not be able to take advantage of the cost efficiencies and improvements in services that an advanced high capacity broadband connection makes possible. [REDACTED]

NOVEC Solutions has extensive experience designing and managing fiber build outs and has managed the initial engineering and build out planning submitted with this proposal. The fiber build out plan utilizes NOVEC Solutions existing network architecture and engineering principals and field proven hardware. NOVEC NS engineers have designed the proposed fiber routes, specified the electronic components needed to provide the service and they have prepared the installation

timelines and schedules. Should a grant be awarded NOVEC NS proven contractors and consultants would be employed for this project in order to get the fastest possible start. We also commit to reduce the engineering and design timeframes to as short as possible by using as much “cookie cutter” design as possible and working with our construction contractors to streamline processes.

Roadstar Internet’s existing billing and back office support system would be used to provide support and management of all services. Roadstar’s Network Operations Center in Ashburn, VA will monitor and maintain the network 7x24 and will be responsible for tracking SLA and other required reporting and management data about the network.

Roadstar Internet and NOVEC Solutions believe this fiber network will serve as the core backbone network to provide connectivity to additional fiber loops in southwestern Loudoun County, Stafford County, Fauquier County, Prince William County and possibly Clarke County. We anticipate requesting additional grant funds in subsequent grant rounds to add these loops to this core network.

In summary this proposed fiber project will meet the goals, objectives and requirements of the Recovery Act and provides the foundation for improving broadband internet service to all of western Loudoun County, VA. The project has received wide support from the business community and the local governments that will be served with this network. We are bringing together Utilities, Government, Medical, Education and Internet Service Providers.

Description of BTOP Project Purpose (BTOP Applicants Only Next Three Questions)

9. BTOP Statutory Purpose:

Provide access to broadband service to consumers residing in “unserved” areas of the United States. Provide improved access to broadband service to consumers residing in —underserved|| areas of the United States.

Provide broadband education, awareness, training, access, equipment, and support to schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations by or through these organizations.

Improve access to, and use of, broadband service by public safety agencies. Stimulate the demand for broadband, economic growth, and job creation.

10. Description of BTOP Project Purpose:

Consistent with the goals of the BIP and BTOP program our proposed project advances broadband deployments in rural northwestern Loudoun County and at the same time directly connects key anchor institutions to a very high capacity connection. Our project will create jobs constructing the network, operating the network and of course providing broadband to unserved users will stimulate economic development in the served area.

Our proposal includes the following highlights:

1) Roadstar Internet and NOVEC Solutions to merge forming new company (Newco). The combined company will bring together the assets of NS [REDACTED] and Roadstar Internet [REDACTED]. The combined company (Newco) will be a cash flow positive, self sustaining entity that will be able to operate and maintain the fiber and wireless networks.

2) Grant proceeds to be used to fund capital construction cost to extend NOVEC's existing fiber network to northwestern Loudoun County. The initial anchor connections on the network include NOVEC electric substations, Public Safety Centers, several Loudoun County public schools including all three western Loudoun High Schools, the town governments in Leesburg, Hamilton, Purcellville, Round Hill, Hillsboro and Lovettsville. Other anchor tenants include the Loudoun Community Health Center and other providers at the Corwall Campus (and nearby buildings) of INOVA Hospital. The network will also provide backbone connectivity for existing wireless broadband providers or new entrants into the market.

3) Roadstar Internet and NOVEC Solutions (newco) proposes to exchange the grant funding for no charge network connectivity to the anchor institutions. The “no charge” service would be for a [REDACTED] year term- after [REDACTED] years we would have no further responsibility to provide “no charge” service and all government liens and right to the equipment would expire.

4) Newco to offer advanced broadband connectivity to any provider or end user. We have a proven track record of selling competitively connectivity across our respective networks to other service providers and commit to continuing this policy on the proposed network build out.

5) This fiber build out will serve as the core infrastructure for additional fiber legs or elements to be deployed to other rural and unserved area of western Loudoun

County in the future. The architecture and equipment engineering can be replicated for additional deployments throughout the existing NOVEC Solutions fiber footprint therefore getting many multiples of equipment deployed for engineering \$\$ spent.

Our proposal to provide high capacity connectivity to anchor institutions for no charge will allow all of these community service providers to immediately take advantage of the benefits of high capacity broadband connections while struggling with restrained or reduced budgets. In most cases the federal government is already paying for or subsidizing these anchor institutions current network connections – In essence the federal government is investing in infrastructure to reduce or eliminate years and years of recurring charges that would be expected under a traditional arrangement between a end user and service provider.

11. BTOP Enhanced Services for Health Care Delivery, Education, and Children:

Our project proposal includes providing broadband connectivity at no charge for 10 years to the following anchor institutions:

- Loudoun Community Health Center (free clinic) [REDACTED]
- Loudoun County High School [REDACTED]
- Harmony Intermediate School [REDACTED]
- Loudoun Valley High School [REDACTED]
- Round Hill Elementary School [REDACTED]
- Woodgrove High School [REDACTED]

Providing a high capacity broadband connection to these end users will allow them to take advantage of telemedicine and remote distance learning applications. Without this project its highly unlikely these schools would be able to get these kinds of connections in the near future.

The Loudoun Community Health Center is a non profit free clinic serving the uninsured and financially challenged residents in Loudoun County. Improving their broadband connectivity will especially enhance their ability to provide patient care because their patient management system is hosted offsite. [REDACTED]

[REDACTED]