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DATE: March 7, 2014

FROM: Bradley H. Hicks, PE  
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TO: Federal Communications Commission (FCC) Staff

SUBJECT: Expression of Interest – Rural Trials  
Docket No. 10-90

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### **Background**

Pedernales Electric Cooperative (PEC), headquartered in Johnson City, Texas, is the nation's largest, *member-owned* electric distribution utility, serving more than 257,000 residential, agricultural, commercial and industrial customers in central rural Texas. As we strive to provide our membership with safe reliable energy service at the most competitive price, we see tremendous opportunities and potential in providing our members a robust option for broadband services.

Roughly 840 distribution cooperatives across 47 states provide service to 42 million Americans and 18.5 million businesses, homes, schools, churches, farms, irrigation systems and other establishments. As an industry, cooperatives own and maintain 42 percent of the nation's distribution lines, serving 12 percent of the population, approximately 42 million Americans. Whereas publicly owned municipal utilities average 48 consumers per mile and investor-owned utilities average 34 customers per mile, rural electric cooperatives serve an average of 7.4 member consumers per mile. These rural cooperatives serve Americans who are desperately in need of broadband solutions.

Providing essential broadband service to PEC's vast rural and suburban areas would be a massive undertaking. The Pedernales service territory covers 24 counties and 8,100 square miles in Central Texas. Strategically deploying a scalable, future-proof and potential gigabit fiber-to-the premise (FTTP) architecture and offering high speed internet to member-owners would be a propelling step as we prepare for the future growth expected in our service area. Undertaking such an endeavor, alternate solutions such as fiber/wireless hybrid may be a possibility.

### **PEC Project**

PEC has future plans to advance from automated meter reading (AMR) to the deployment of an automated metering infrastructure (AMI) that would provide us the

opportunity to explore an endless list of smart grid solutions for our members. These smart grid solutions would focus on energy management, demand reduction, energy storage, renewable resources and distributed generation, with one common goal in place – to provide low costs power while promoting energy conservation.

PEC has resorted to leasing fiber optics from other entities to partially fulfill communication needs between our substations. Due to the rural locations that we serve, few reliable communication solutions are available and the costs associated with constructing these facilities have not been cost justified. The cooperative has spent in excess of \$2 million to secure communication solutions to have remote access to our substations. In addition to facilitating rapid response to regional outages, these fiber links play a critical role in providing secure transport of data which includes operating and security data necessary to protect the electric system.

Recognizing the significant benefit of this potential asset, PEC collaborated with Pulse Broadband ([www.pulsebroadbandinc.com](http://www.pulsebroadbandinc.com)) with initial discussions regarding the design a FTTP product. This design would be a full deployment and would allow many of our members to be offered broadband services for the very first time. PEC's system would be scalable, possessing the potential for a gigabit of service to every home or business in our current footprint. Initially, the following plans could be offered:

### **Residential Broadband**

- Basic: Up to 20 mbps downstream and 10 mbps upstream
- Advanced: Up to 50 mbps downstream and 20 mbps upstream
- Ultra: Up to 100 mbps downstream and 25 mbps upstream

### **Commercial Broadband**

- Basic: Up to 20 mbps downstream and 20 mbps upstream
- Advanced: Up to 50 mbps downstream and 50 mbps upstream
- Ultra: Up to 100 mbps downstream and 50 mbps upstream

### **Timetable**

PEC would like to be considered for possible funding to position the cooperative to offer broadband services to our members and to position the cooperative for energy management solutions. PEC's service territory is so large that it has been challenging to find a solution that meets the requirements and demands of our membership. A fully deployed fiber optic network is a solution that would meet our members needs and would provide us with the necessary communications to deploy consumer programs such as real-time energy management, load shaping, demand response, energy storage, voltage and frequency regulation. Additionally, PEC could utilize a broadband network to

deploy utility-based programs such as conservation voltage reduction, self-healing network, and advanced smart grid metering. PEC has some flexibility in the timing of such a program.

### **Project Need**

Nearly 76 years ago, then Congressman Lyndon B. Johnson worked to bring electricity to the Texas Hill Country – an area considered too remote and unprofitable for utilities to serve. At that time electricity was considered a necessity to maintain a good quality of life. The Cooperative is visioning to once again extend services in remote areas not served with broadband. In today’s world, broadband means access to critical services including health care and education. Broadband also would allow PEC to provide enhanced services – smart grid solutions – that ultimately allow for energy efficiency and demand reduction.

As a cooperative, PEC implements programs that can be made available to all of its members. The cooperatives region of greatest concern is a 4,100-square-mile area serving 8,100 accounts with 3,700 miles of line, which is very unlikely to be offered scalable broadband services by other providers. This request also covers a second territory that encompasses both rural and suburban landscapes. In this territory the Cooperative serves nearly 250,000 accounts with about 17,300 miles of line.

We see broadband as an essential economic engine that allows our communities to prosper. PEC’s territory includes 44 municipalities where broadband services could support these communities.

### **PEC Request**

PEC continues to refine this potential project and scope of work. The construction cost to integrate full FTTP deployment is approximately \$487.9 million. Allotting \$75.2 million to bring broadband opportunities to our western region and \$412.7 million allocated to integrate the eastern region, which is the most urban of the two regions.

As Vice President of Engineering and Energy Innovations, I recognize the significant potential and impact to the way we interact and conduct business with our membership. Whether it is Pedernales Electric Cooperative or another entity, the rural community needs a reliable, high speed internet option; an essential service that allows all people - rural and urban, local and otherwise - to succeed in these innovative times.

PEC would like to be considered for possible funding for a FTTP broadband solution based on our current needs. PEC feels that our diverse territory demands such services for the membership to prosper and enable our rural members to gain more access to new technologies present in our technology-driven world.

<b>Total Estimated Project Cost:</b>	\$487.9 million
<b>Total Customers Served:</b>	257,000
<b>Total Miles of Line:</b>	13,546
<b>Square Miles Served:</b>	8,100

For More Information:

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