

In the Matter of)
)
Implementing the National Broadband)
Plan by Studying the Communications)
Requirements of Electric Utilities To)
Inform Federal Smart Grid Policy)

COMMENTS OF THE LOWER COLORADO RIVER AUTHORITY (LCRA)

a. Identification/description of your company.

LCRA offers low-cost, reliable telecommunications services to employees and a limited number of communities throughout Central Texas. With more than 40 radio sites strategically scattered within LCRA's service territory, radio coverage reaches from McCulloch, San Saba and Lampasas counties to Dewitt and Matagorda counties along the Gulf Coast. More than 4,500 radio users, including many public safety entities, rely on LCRA for their daily communication needs. LCRA also has the ability to offer collocation tower space and to lease dark fiber.

b. Overview of communications networks

i. Why private networks?

1. LCRA has private communication networks due to reliability requirements to deal with flooding and emergency electrical restoration. In many parts of LCRA's rural service territory, LCRA telecommunication systems are the only service available.

ii. What technologies are used?

1. 900 MHz trunked radio
2. 700 MHz trunked radio
3. Fiber optic cable
4. Digital microwave
5. Analog microwave
6. Spread spectrum.

c. Overview smart grid deployment plans

i. Types of applications and number of devices

1. n/a – LCRA is a G&T (Generation and Transmission only).

ii. Timeframe for deployment

1. n/a – LCRA is a G&T (Generation and Transmission only).

d. Overview of communications requirements

i. Current

1. See attached spreadsheet (page one).

ii. Future

1. See attached spreadsheet (page two).

e. Assessment of existing networks to meet current and future communications needs

i. What are the communications gaps?

1. Coverage in extremely remote areas.

ii. What do you need to fill those gaps?

1. Satellite service.

f. Commercial services

i. Do they currently meet utility needs?

1. Mission critical applications

- a. No.

2. Non-mission critical applications

- a. Some transport is available but only used as a last resort as it is not cost-effective.

ii. How can they be improved?

1. Improved reliability.
2. Better coverage.
3. Reduced cost.

II. Smart grid and communications requirements today

a. Detailed description of smart grid applications (e.g. AMI, DA, and DR).

i. Describe the types of applications, the extent of their

deployment and whether they are mission critical.

1. n/a – LCRA is a G&T (Generation and Transmission only).

b. Functional requirements needed to support those smart grid applications.

i. **What are your specific requirements with regard to cost, Coverage, Capacity (Bandwidth), Latency, Reliability, Back-up power (AC Independence), and Security for each of these applications?**

1. n/a – LCRA is a G&T (Generation and Transmission only).

III. Smart grid and communications requirements of tomorrow

a. Detailed description of future smart grid applications

i. **Describe the types of applications, the extent of their deployment, and whether they are mission critical.**

2. n/a – LCRA is a G&T (Generation and Transmission only).

b. Functional requirements needed to support those smart grid applications.

i. **What are your specific requirements with regard to cost, Coverage, Capacity (Bandwidth), Latency, Reliability, Back-up power (AC Independence), and Security for each of these applications?**

3. n/a – LCRA is a G&T (Generation and Transmission only).

IV. Technology Options and Other Considerations

a. What technology options are available to meet your needs?

i. **Wireless**

1. **Licensed**

- a. 900 MHZ radio
- b. 700 MHz radio
- c. Digital microwave
- d. Analog microwave.

2. **Unlicensed**

- e. Spread spectrum.

ii. **Wireline**

1. **Fiber**

- f. LCRA owns and operates a fiber optic backbone.

2. **PLC or other private wireline**

- g. LCRA employs power line carrier on its electric transmission system.

b. What other considerations come into play in terms of choosing a technology option for your utility?

i. **Terrain, Foliage, Customer Density, Size of Service Territory, Overhead/Underground Grid Topology, etc.**

- 1. Cost
- 2. Reliability

V. Recommendations

a. Based on your functional requirements and applications, what technology options would you prefer to use for your utility?

i. Current

1. As listed above.

ii. Future

1. More of the same and possibly wide-area data.

VI. Commercial systems

a. Do they meet your needs?

1. In some cases we use leased lines.

b. What improvements would meet your needs?

1. Improved reliability.
2. Reduced cost.
3. Better coverage.

VII. Conclusion

LCRA's private telecommunication networks were developed over many years due to reliability requirements to deal with flooding and emergency electrical restoration. In many parts of LCRA's rural service territory in Central Texas, LCRA telecommunication systems are the only service available. LCRA shares its systems with many public safety entities that also require a high degree of reliability.

LCRA will employ leased facilities where they meet our requirements.

Respectfully submitted,

Lower Colorado River Authority (LCRA)

Steve Zoromsky
Sr. Regulatory Analyst
(512) 473-3532
Steve.zoromsky@lcra.org

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