

Economic Affairs Interim Committee

April 14th, 2016

Rural Montana's Use of Broadband and Wireless: Struggles and Possible Solutions



Mike Kilgore, CEO/General Manager

Mid-Rivers
COMMUNICATIONS



Michael E. Candelaria, General Manager



Nemont Telephone Cooperative, Inc.

(Including Subsidiaries)

- Incorporated in 1950
 - Headquarters In Scobey
 - 201 Full Time Employees
 - We provide Voice, Broadband, Wireless and Video services over a service area of approximately 15,000 Sq. Miles in NE and South Central Montana including the Ft. Peck and Crow Indian Reservations.
 - Providing Cellular service since 1995
 - CDMA
 - UMTS
 - LTE
 - 115 3G Cell Sites
 - 64 4G Cell Sites
-
- Designated as Eligible Telecommunications Carrier (ETC) by MT PSC.
 - Nationwide voice, data and messaging roaming



Mid-Rivers Wireless

- Providing cellular services since 1997
- Cover approx. 10,000 square miles in Eastern and Central MT
- Most of this area was previously UNSERVED
- Only cellular signal available to much of this area today
- Designated as Eligible Telecommunications Carrier (ETC) by MT PSC
- Nationwide voice roaming
- Nationwide text roaming

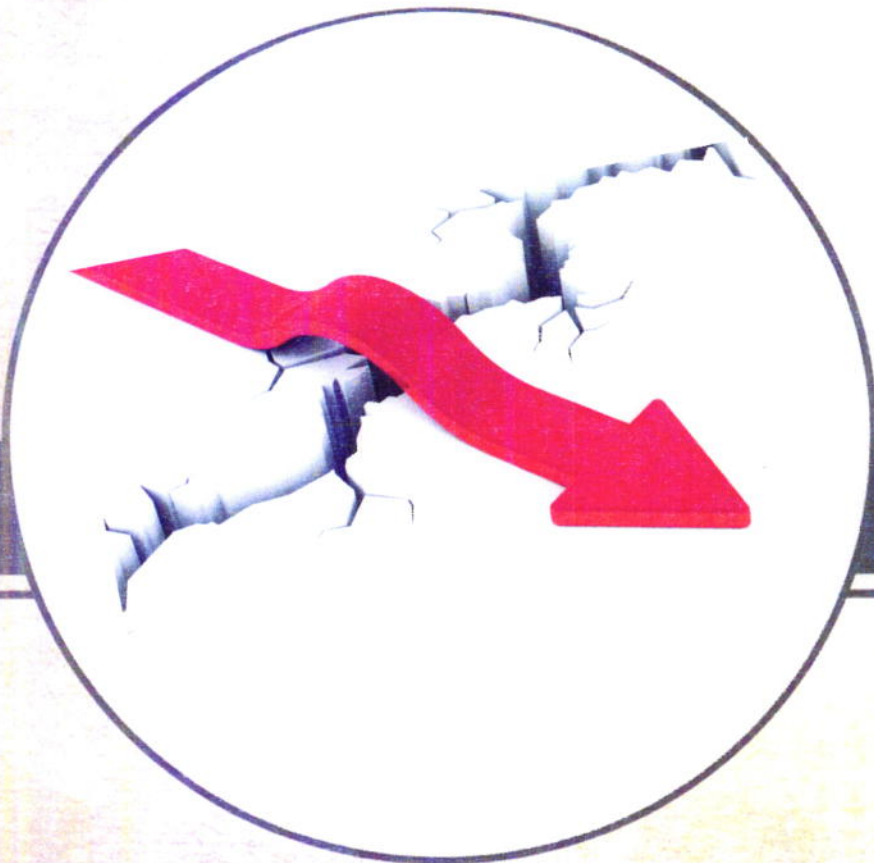
Mid-Rivers
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- Nationwide data roaming
- Provide CDMA/3G/4G LTE

Challenges

- Density Challenges
- Technology Challenges
- Regulatory Challenges



Density Challenges

- Montana is Big State ~ 145,000 Square Miles
- Montana Population Density ~ 7 People/Sq. Mile
- On a National Level the Population Density is ~ 87.4 People per square mile.
- In Eastern Montana the Population Density is less than 1 person per square mile.
- Aging and declining population in many parts of rural Montana.
- Bottom line is that there are many miles to cover, and so few people to serve.
- This translates into fewer people to pay for these costly communication networks of the 21st Century. They are expensive to build (Capex) and expensive to maintain (Opex)
- Without some form of “support”, it is un-economic to serve Rural Montana.

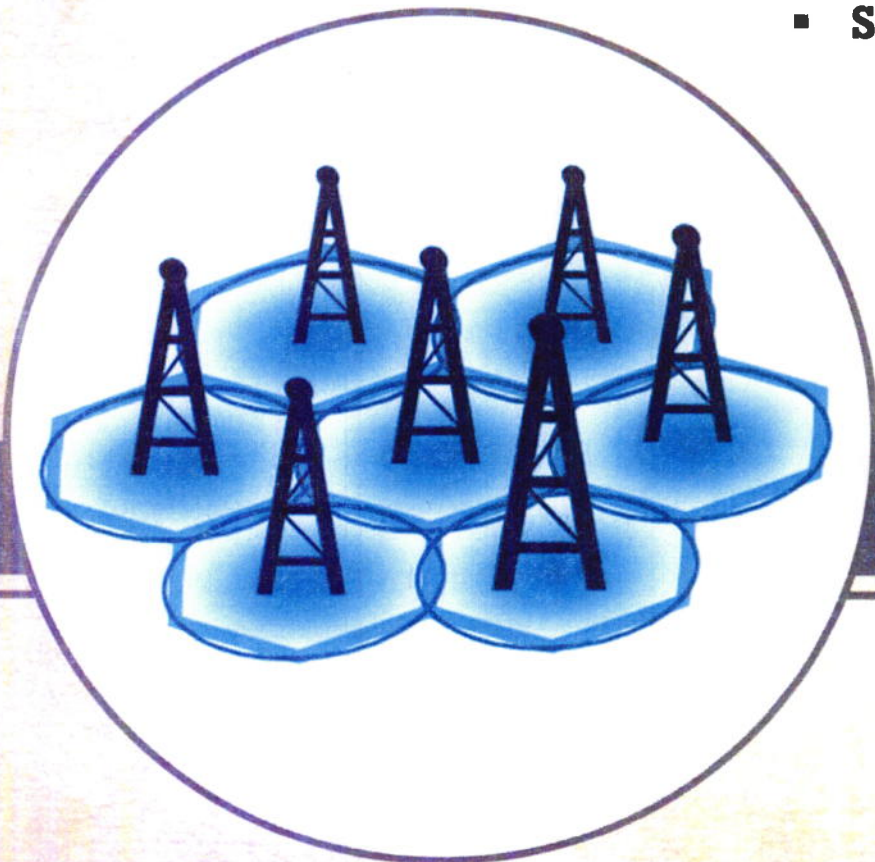


Technology Challenges

- **Rapid Pace of Technology Advancement**
 - Only half of our 3G sites have been upgraded to 4G technology.
 - NexGen 911
 - VoLTE-Not universally deployed
 - Industry is already talking about 5G.
 - Upgrades are very costly.

- **Spectrum**

- It is difficult and expensive to obtain Licensed Spectrum in un-served Rural Montana. Most spectrum is held by National Carriers who use it to meet Population based build out requirements and where there is a valid business case. This leaves sparsely populated areas behind.
- “Fill-In” cellular licensee; Mid-Rivers low band spectrum

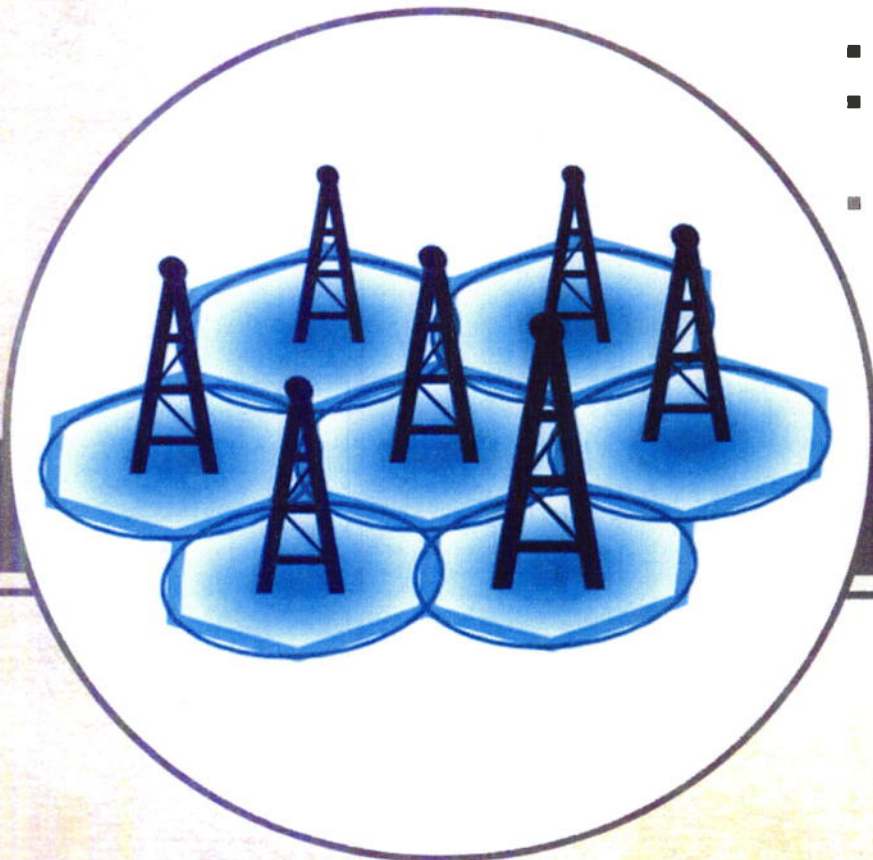


- Auctions are geared towards larger carriers as Spectrum is divided up in very large “Partial Economic Areas” with Pop Based Buildout requirements vs Geography Based requirements.

Technology Challenges

- **Roaming**

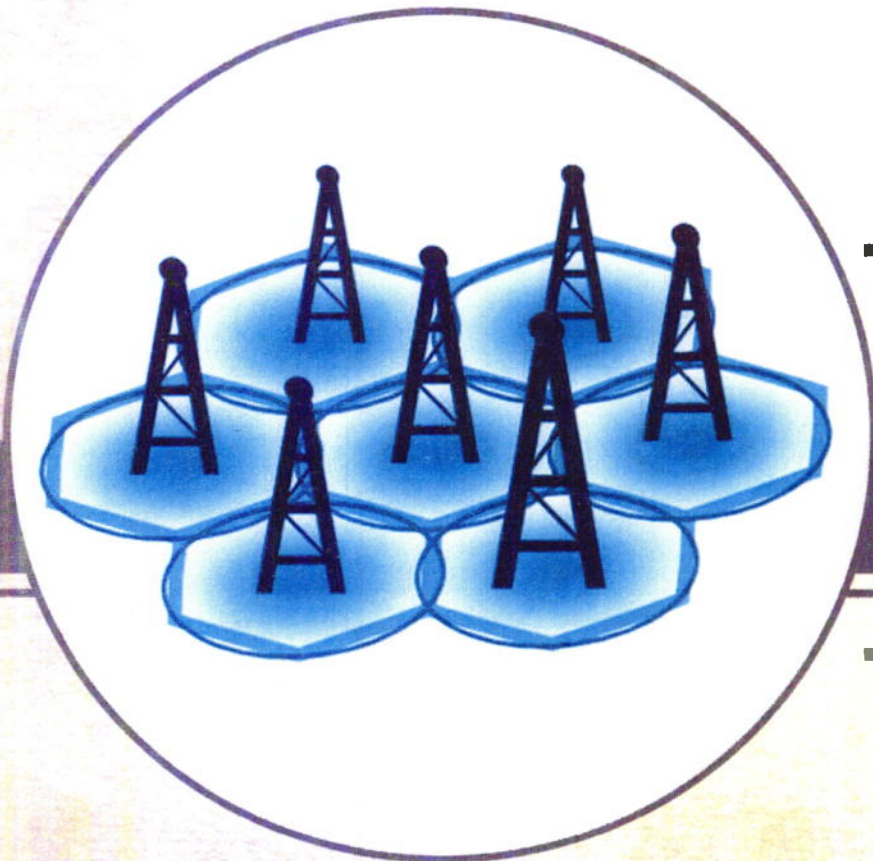
- Rural wireless networks not only support our small number of home subscribers, but 200M+ subscribers of the National Carriers when they travel through our rural State.
- Negotiating reasonable agreements for voice, text and data.
- Continued downward pressure on roaming rates.
- Not all large carriers are roaming on our networks for voice, text, data.
- Roaming revenue, end user revenue and USF support are all critical components of the revenue stream. Without all three of these sources there is absolutely no business case for rural cellular deployment.



Technology Challenges

- **Interoperability**

- In the US, we now have 3 competing technologies that serve over 300M wireless subscriptions.
 - 3G-GSM/UMTS-ATT/T Mobile/Canadian Operators
 - 3G-CDMA-Verizon/Sprint
 - 4G-LTE
 - Lack of interoperability standards between LTE networks
- In most parts of Rural Montana there is typically only one 3G technology available, whereas our larger cities are typically served by the two dominant carriers.



- **Devices**

- No market power as a small provider
- Handset pricing & availability

Regulatory Challenges

- **Federal USF is Eroding**
 - Identical Support for Wireless ETC's being phased out (since 2012)
 - Currently frozen at 60% of original support
 - Federal Government is slow to honor commitments made via Mobility Phase I support.
 - Unknown status of Mobility Fund Phase II
 - Without support, there is absolutely no business case to build and operate rural wireless networks.

USF
Transformation Order



FCC

Possible Solutions

- **Federal Level**

- Mobility Fund Phase I-Finish what was started
- Mobility Fund Phase II-Complete the reform and return certainty and predictability to high cost rural areas.
- Make valuable spectrum available to those who will put it to good use.
- Timely access to Federal/Tribal land and facilities at no cost.

- **State Level**

- Tax Abatement/Waiver
- Grant Programs
- Creation of State USF
- Timely access to State Land/Facilities at no cost
- State 911 Service Provider Account



Possible Solutions

- **State of Montana 911 Fund**

- We were asked by Energy & Telecom Committee (Reps. Keith Regier, Tom Steenberg & others) before the 2015 legislative session: why can't you use Wireless 911 Provider funds to build towers in unserved areas, to provide essential 911 access?
- Small providers as a group went to the 911 Office (Dept. of Administration) and asked the same question.
- 911 Office: No one has tried it.
- We tested the waters because it was agreed that there was sufficient language in the statute to allow for recovery of funds to build in unserved areas.



- We submitted the invoices for recovery and were asked to submit a legal opinion as to why we thought our expenses should be recoverable.
- We did both and were DENIED.

Thank You

The logo for Nemont features the word "Nemont" in a blue, italicized sans-serif font. It is enclosed within a blue oval shape that has a slight 3D effect, with a darker blue shadow on the right side.

Nemont

The logo for Mid-Rivers Communications consists of the text "Mid-Rivers" in a bold, italicized black font, with a thin red horizontal line underneath it. Below this, the word "COMMUNICATIONS" is written in a plain, black, all-caps sans-serif font.

Mid-Rivers
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