Exhibit No.	_____
Issue:	Application for ETC Designation
Witness:	Glenn H. Brown
Sponsoring Party:	Spectra Communications Group, LLC d/b/a CenturyTel
Type of Exhibit:	Rebuttal Testimony
Case No:	TO-2004-0527
Date:	September 15, 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of	)
WWC License L.L.C., d/b/a Cellular One® for	)
Designation as an Eligible	)
Telecommunications Carrier and Petition for)	Case No. TO-2004-0527
Redefinition of Rural Telephone Company	)
Service Areas	)

REBUTTAL TESTIMONY OF GLENN H. BROWN

ON BEHALF OF SPECTRA COMMUNICATIONS GROUP d/b/a CENTURYTEL

September 15, 2004

Q: Please state your name and business address.

A: My name is Glenn H. Brown, and my business address is 55 Cathedral Rock Drive, Suite 32, Sedona, Arizona 86351.

Q: Please summarize your current employment and prior business experience.

A: I am President of McLean & Brown, a telecommunications consulting firm specializing in universal service issues. Prior to joining McLean & Brown in 1998, I worked for U S WEST for 28 years, during which time I held a number of senior management positions in the regulatory and public policy area. I have testified before numerous state regulatory commissions, the Federal Communications Commission (FCC) and the United States Congress on a wide variety of telecommunications costing, pricing and regulatory issues. My last six years with U S WEST were spent in Washington, DC, where I was intimately involved in the implementation of the Telecommunications Act of 1996, with particular emphasis on universal service issues.

Q: Please summarize your educational experience.

A: I have a Bachelor of Science in Industrial Engineering from Lehigh University, and an MBA from the University of Colorado. Both of my degree programs focused on computer modeling technology and applications.

Q: Please describe your experience with universal service issues.

A: I have been active in almost every major universal service proceeding before the Federal Communications Commission (FCC) since the passage of the 1996 Act. In 1998, the FCC appointed the Rural Task Force (RTF) to develop policy recommendations for rural telecommunications carriers. While not a member of the RTF, I attended almost all of its meetings, and assisted it in both analytical matters and in the preparation and

drafting of several white papers. In my current position I provide advice and assistance to small and mid-size telecommunications companies regarding universal service and other regulatory and pricing issues before federal and state regulatory bodies.

McLean & Brown is also an Associate Member of the Organization for the Advancement and Promotion of Small Telephone Companies (OPASTCO) and the National Telecommunications Cooperative Associations (NTCA), and I serve as a member of the OPASTCO Universal Service Committee. I was intimately involved in the drafting of the OPASTCO white paper *Universal Service in Rural America: A Congressional Mandate at Risk.* I am attaching a copy of this white paper as Schedule GHB-1 to my testimony, as it provides background information that may be useful to the Commission as it considers these important universal service issues.

Q: On whose behalf are you presenting testimony?

A: I am presenting testimony on behalf of Spectra Communications Group, LLC d/b/a CenturyTel (Spectra). Spectra is a rural telephone company under the terms of the Telecommunications Act of 1996 (1996 Act).

Q: What are the purposes of your testimony?

A: The purposes of my testimony are:

1. To discuss the important responsibilities of the Public Service Commission of Missouri (Commission) under the 1996 Act in regards to implementation of the federal universal service program. Under the Act, and FCC rules, the Commission may approve additional Eligible Telecommunications Carriers ("ETCs") in areas served by rural telephone companies only if the

Commission determines that such designation is in the public interest; and approve study area redefinitions only under certain specific situations,

2. To describe the elements of the public interest test developed earlier this year by the Federal Communications Commission in its *Virginia Cellular*[1] and *Highland Cellular*[2] Orders, as well as the public interest guidelines contained in the Joint Board Recommended Decision, and apply these tests to the facts as they relate to Western Wireless' application in the instant proceeding.
3. To explain why it is critical that as a condition for ETC status, any prospective applicant demonstrate its commitment to serve throughout the serving area of the ILEC territory for which ETC status is requested.
4. To discuss why it is important that carriers that accept public funds to support service in high-cost areas also accept public accountability for how these funds are spent, the quality of the service offerings for which these funds are intended, and the use of the funds to construct facilities to serve throughout the service area.
5. To reply to the statements made by Western Wireless in its application for ETC status filed on April 13, 2004, the testimony of James Blundell and Don Wood filed on August 5, 2004, and statements made in response to subsequent Data Requests.

Q: Could you please summarize the conclusions of your testimony?

[1] In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Memorandum Opinion and Order*, FCC 03-338 (rel. January 22, 2004).
[2] In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Memorandum Opinion and Order*, FCC 04-37 (rel. April 12, 2004).

A: Based upon my examination of Western Wireless' application, and supported by the facts and data that I will be presenting in the remainder of my testimony, I do not believe that the application of Western Wireless to receive federal universal service support for all of its CMRS customers in the portions of the Spectra service area for which it seeks ETC designation is in the public interest. Specifically:

1. Western Wireless has failed in its application and testimony to prove that its application for ETC status is in the public interest.
2. The designation of Western Wireless will create significant new public costs and deliver relatively few incremental public benefits. As a result, this designation does not pass the cost/benefit test outlined in the *Virginia Cellular* Order, and thus cannot reasonably be found to be in the public interest.
3. Western Wireless has provided none of the "fact-specific" data that is required by the *Virginia Cellular* Order to prove that the requested designation is in the public interest.
4. Western Wireless provides high-quality wireless signal coverage predominantly in the more densely populated and low-cost portions of the service area, and not in the sparsely populated and high-cost areas.
5. Western Wireless makes no commitment or demonstration that it will provide high-quality wireless signal coverage throughout the requested service area within a reasonable period of time as outlined in the *Virginia Cellular* Order.
6. Designation of Western Wireless as an ETC in the rural telephone service areas it requests will cause significant harm to these companies and to the

customers that they serve, particularly in light of recent concerns and developments due to the significant growth in the federal universal service fund.

7. Western Wireless seeks to avoid public accountability for its use of scarce public support funds.

COMMISSION RESPONSIBILITIES UNDER THE 1996 ACT.

Q: What are the key sections of the Telecommunications Act of 1996 and the FCC rules that deal with universal service and the public interest test for designating a second ETC?

A: Section 214(e) of the 1996 Act (47 U.S.C. § 214(e)) deals with the designation of multiple ETCs; 47 CFR 54.201 contains the FCC's corresponding regulations.

Q: Please summarize the key elements of Section 214(e) and FCC rule 54.201 regarding the designation of multiple ETCs.

A: 47 U.S.C. Section 214(e)(2) states that, to be eligible for ETC status, a carrier must offer the defined universal service elements (the FCC rules currently define nine elements) throughout the service area for which the designation is received, and advertise the availability of such services in media of general distribution. Section 214(e)(2) states that, consistent with the public interest, convenience and necessity, the Commission *may*, for rural telephone companies, and *shall*, for non-rural companies, designate more than one ETC. It further states that, "before designating an additional [ETC] for an area served by a rural telephone company, the State commission shall find that the designation is in the public interest." FCC Rule 54.201 contains very similar language.

Q: You said that Section 214(e)(2) states that before approving an additional ETC in an area served by a rural telephone company, the state commission must first find such designation to be in the public interest. Does the 1996 Act or the FCC regulations say how this determination should be made?

A: While neither the 1996 Act nor the FCC rules provide specific guidance in conducting the public interest test, earlier this year the FCC issued Orders in the Virginia Cellular and Highland Cellular ETC cases which finally provide definitive guidelines for states to use in performing this important determination. Among the principles addressed in this Order are:

- The value of increased competition, by itself, is not sufficient to satisfy the public interest test in rural areas.
- Among the factors that should be considered in making the public interest test are:
  - The benefits of increased competitive choice,
  - The impact of multiple ETC designations on the universal service fund,
  - Whether the benefits of an additional ETC outweigh any potential harms,
  - The unique advantages and disadvantages of the competitor's service offering,
  - Any commitments made regarding quality of service, and
  - The competitive ETC's ability to provide the supported services throughout the designated service area within a reasonable time frame.
- The burden of proving whether the pubic interest is served is placed upon the ETC applicant.

- Additional conditions may be placed on the ETC applicant to ensure that it satisfies its obligations under Section 214 of the Act.[3]

Q. The Federal-State Joint Board on Universal Service also issued its Recommended Decision regarding standards for ETC designation and the provision of universal service support in study areas with multiple ETCs. How do the ETC designation standards in this Recommended Decision compare with the standards in the *Virginia Cellular* Order?

A. The minimum ETC designation standards in the Recommended Decision, unanimously approved by the Joint Board, are very similar to the *Virginia Cellular* Order. Like *Virginia Cellular*, the Joint Board states that competition, by itself, is not sufficient to justify that a particular ETC designation is in the public interest.[4] Similarly, it states that "Federal guidelines concerning minimum qualifications should encourage state commissions to conduct rigorous reviews of ETC applications, including fact-intensive analysis.[5] It also provides a list of "minimum qualifications" for ETC status including:

- Adequate financial resources. (¶22)
- Commitment to provide the supported services throughout the service area. (¶22)
- Formal build-out plans for areas where facilities are not yet built. (¶24)
- Ability to remain functional in emergencies. (¶30)
- Consumer protection requirements. (¶31)
- The amount of local usage ETCs should offer as a condition of federal universal service support. (¶35)

Q: Does that fact that the Joint Board issued a "Recommended Decision" affect its applicability in this case?

[3] *Virginia Cellular* Order, paragraph 4. *Highland Cellular* Order, paragraph 4.
[4] Recommended Decision, paragraph 12

A: No. While the Joint Board's recommendation will now be considered by the full FCC (and the FCC is currently receiving public comments on the Recommended Decision), it is important to note that these minimum standards for ETC designation were supported by all three federal Joint Board members, which constitutes a majority of the full FCC. Second, the standards recommended by the Joint Board are virtually identical to the standards adopted by the full FCC in the *Virginia Cellular* Order, which stands as the currently operable statement of federal policy in the ETC designation area. Finally, in remarks before the NARUC Telecommunications Committee on March 10, 2004, Joint Board Chair and FCC Commissioner Kathleen Abernathy encouraged states to use these guidelines as they consider pending requests for ETC designation, and as they review ETC designations that have already been granted during annual review processes.[6]

Q: Does the 1996 Act provide guiding principles for universal service?

A: Yes. In section 254(b) of the 1996 Act, Congress enumerated six major universal service principles:

1. Quality services should be available at just, reasonable, and affordable rates.
2. Access to advanced services should be provided in all regions of the nation.
3. Consumers in all regions of the nation should have access to services (including advanced services) and rates that are reasonably comparable to those in urban areas.

[5] *Id*., paragraph 11.
[6] *Ensuring that ETC Designations Serve the Public Interest,* Remarks of Commissioner Kathleen Q. Abernathy, NARUC Winter Meetings, Washington, DC, March 10, 2004, at page 4.

4. All telecommunications providers should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.
5. There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.
6. Schools and libraries should have access to advanced services.

Q: Have additional principles been added since the passage of the 1996 Act?

A: Yes. During the implementation of the 1996 Act, the Joint Board recommended and the FCC approved an additional principle of "competitive neutrality." This principle states that "universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another."

Q: Does the FCC indicate whether the principle of competitive neutrality should be given any additional weight over the other six principles enunciated by Congress?

A: The FCC specifically states that all principles should be given equal weight, and that no one principle trumps another. Specifically the FCC stated:

> We agree with the Joint Board's recommendation that our universal service policies should strike a fair and reasonable balance among all of the principles identified in section 254(b) and the additional principle of competitive neutrality to preserve and advance universal service. Consistent with the recommendations of the Joint Board, we find that promotion of any one goal or principle should be tempered by a commitment to ensuring the advancement of each of the principles enumerated above.[7]

[7] *Report and Order* in CC Docket No. 96-45, issued May 8, 1997 at ¶52.

Q: Does the 1996 Act provide guidance on how the serving area for an ETC applicant should be determined?

A: Yes. Section 214(e)(5) provides the following guidance for the determination of an ETC serving a rural telephone company area:

> In the case of an area served by a rural telephone company, "service area" means such company's "study area" unless and until the [FCC] and the States, after taking into account recommendations from a Federal-State Joint Board instituted under section 410(c), establish a different definition of service area for such company.

Q: Why is the definition of the serving area important in the public interest analysis?

A: Section 214(e) states that in order for an ETC to receive support, it must provide the services for which support is received "throughout the service area for which the designation is received." In their original Recommended Decision implementing the universal service provisions of the 1996 Act, the Joint Board reasoned that requiring service throughout the service area prevented a carrier from only serving the low-cost portions of the serving area while still receiving high-cost support as though it was serving the entire area – a situation they called "cream skimming":

> Potential "cream skimming" is minimized because competitors, as a condition of eligibility, must provide services throughout the [service area]. Competitors would thus not be eligible for universal service support if they sought to serve only the lowest cost portions of a rural telephone company's [service area].[8]

Thus, before Western Wireless can become eligible for support it must demonstrate that it will be able to provide the supported services throughout the service area, or seek a redefinition of the service area. Even if, for purposes of argument, it were determined that these service areas should be redefined, Western Wireless would still be required to

serve throughout the redefined ETC service area. The *Virginia Cellular* Order further clarifies this requirement by stating that the ETC applicant must demonstrate its commitment "to serve the designated service areas within a reasonable time frame."[9], and requires annual reporting of progress towards meeting build-out commitments.[10] In the Recommended Decision, the Joint Board says that states may require "a formal build-out plan for areas where facilities are not yet built out at the time the ETC application is considered",[11] and recommends that "states should examine compliance with build-out plans" as part of the annual ETC certification process. [12]

Q: Does Western Wireless propose to serve throughout the rural service areas for which it has requested ETC designation?

A: No. On page 29 of his testimony, Mr. Blundell states:

> Using publicly available mapping software and the Company's own radio frequency ("RF") signal propagation information (i.e., signal coverage), I determined the extent to which each wire center is covered by our signal today, and where the Company plans to extend coverage in the near future. Second, I analyzed the percentage of the population within each wire center that is covered by Western Wireless' existing network today. I included only those wire centers where the Company's network will reach at least 85% of the population in the wire center.

Q: What is your reaction to Western Wireless' statement of its intentions for serving throughout the service area?

A: Western Wireless clearly does not now, nor does it in the future, have any intentions for providing high-quality service throughout the service areas of the rural telephone company areas where they seek ETC designation. I have three reactions to Mr.

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[8] *Joint Board Recommended Decision*, released November 8, 1996, FCC 96J-3 at ¶172.
[9] *Virginia Cellular* Order at paragraph 28.
[10] *Id*. at paragraph 46.
[11] Recommended Decision at paragraph 24.
[12] *Id*. at paragraph 47.

Blundell's statement, which I will explain and document in the remainder of my testimony

1. The requirement as stated in the 1996 Act, and as amplified in the *Virginia Cellular* and *Highland Cellular* Orders as well as the Joint Board Recommended Decision, is to serve *throughout the service area*, not to cover 85% of a given wire center's population. As I will demonstrate later in my testimony, many customers within a wire center are clustered in cities and towns and can be served at a relatively low-cost. Other customers are located in more remote and sparsely populated areas of the wire center and are often very costly to serve. Universal service funds are intended to support the provision of affordable high-quality service to these high-cost customers. If a prospective ETC serves predominantly the more concentrated low-cost customers and receives support based upon the higher-cost customers, then it would receive a windfall that would not be in the public interest.
2. Even using Western Wireless' generously contrived "85% of population" standard, it falls significantly short of meeting even this watered-down target. Later in my testimony I will be presenting data indicating the location of Western Wireless' towers, and what percentage of each study area's population and land mass receive high-quality signal coverage from Western Wireless' network.
3. To the extent that Western Wireless does offer service to customers in remote and rural portions of Missouri, it offers such service through the use of high-power wireless equipment, signal boosters and roof-mounted antennas. Western Wireless serves virtually all of its customers in the state of Missouri with a

cellular service product that employs mobile handsets. Indeed at paragraph 24 of its Application, Western Wireless cites this mobility as one of the key public interest benefits in its Application.[13] As I will demonstrate shortly, however, the traditional cellular product is only functional in a small percentage of many of the wire center service areas for which Western Wireless has requested ETC status, and predominantly in areas where costs are low. To meet its obligations to provide service throughout the ETC serving area, Western Wireless claims it will utilize modified customer equipment or roof-top antennas to extend its service into remote areas that are currently unserved by its mobile cellular product.[14] While this could allow a few additional customers to obtain Western Wireless' service, it will provide no additional benefit (i.e., expanded coverage area) to the vast majority of Western Wireless' customers who use conventional handsets.

THE PUBLIC INTEREST ANALYSIS

Q: You stated earlier that the recently released *Virginia Cellular* Order established new and clearer guidelines for making the public interest determination. How do the *Virginia Cellular* and *Highland Cellular* standards differ from prior FCC Orders?

A: The prior ETC standards articulated by the FCC focused primarily on the role that designating additional ETCs would have on creating competition, and provided rather

[13] See Western Wireless *Verified Application for Designation as an Eligible Telecommunications Carrier and Petition for Redefinition of the Service Areas of Certain Rural Telephone Companies* filed April 13, 2004. It should be noted that on July 14, 2003, the FCC released an *Order and Order on Reconsideration* in CC Docket 96-45 in which it decided what services should be included in the list of services supported by federal universal service. Notably, "mobility" was not on this list of supported services.
[14] See Blundell testimony at Page 14, lines 12 through 14.

loose standards for the ETC to build out to serve the entire service area.[15] The *Virginia Cellular* Order makes clear that "competition, by itself, is not sufficient to satisfy the public interest test in rural areas".[16] The FCC concludes that "the balancing of benefits and costs is a fact-specific exercise"[17], and that "the burden of proof [is] upon the ETC applicant."[18] The analysis must focus on "the benefits of *increased* competitive choice [and] the impact of *multiple* designations on the universal service fund."[19] Further, the ETC applicant has an "obligation to serve the designated service area within a reasonable time frame,"[20] and the competitive ETC must "submit records and documentation on an annual basis detailing its progress towards meeting its build-out plans in the service areas it is designated as an ETC."[21]

Q: Have any FCC Commissioners spoken about the reasons why they have adopted more rigorous standards for ETC designation?

A: Yes. In a speech given around the time that the *Virginia Cellular* decision was issued, FCC Commissioner and Joint Board Chair Kathleen Abernathy stated:

> [The FCC] made clear that any carrier that wants to be an ETC must offer quality services at affordable rates throughout the designated service area. The ETC also must be ready, willing, and able to serve as a carrier of last resort and otherwise be prepared to fulfill the goals set forth in section 254 of the Act. To this end, the FCC required Virginia Cellular to submit build-out plans to document its proposed use of federal universal service funding for infrastructure investment. The Commission also considered the carrier's commitment to provide high-quality service. Moreover, for the first time we considered the increasing demands on the universal service fund. … To this end, states may choose to

[15] Two of the widely cited prior FCC decisions were the Alabama ETC decisions in the cases of RCC Cellular and Cellular South (DA 02-3181 and DA 02-3317) and the South Dakota Declaratory Order (FCC 00-248). It should be noted that the Alabama decisions were issued by the Wireline Competition Bureau, and applications for review of these decisions are pending before the full Commission.
[16] *Virginia Cellular* Order, paragraph 4.
[17] *Id*. at paragraph 28.
[18] *Id*. at paragraph 26.
[19] *Id,* at paragraph 4 (emphasis added).
[20] *Id*. at paragraph 28.
[21] *Id*. at paragraph 46.

> require formal build-out commitments, backed by regular progress reports. This requirement is critical, because universal service support is designed to fund investments in networks; it should not be used to pad the bottom line.[22]

In addition, all five FCC Commissioners issued written statements accompanying the *Virginia Cellular* Order which further clarified their reasons for adopting the new standards. It is worth noting that three of the five Commissioners specifically list the ability to perform "carrier of last resort" responsibilities as an important element of ETC designation. The Joint Board unanimously approved a recommended set of federal guidelines for ETC designation, including a list of "minimum qualifications" and recommendations for a "specific, fact-intensive inquiry"

Q: On page 5 of his testimony, Mr. Blundell states that many states have already designated Western Wireless as an ETC. Have there been any changes recently in the way that states are reviewing ETC applications?

A: Yes. Similar to the FCC, a number of states, including Missouri, are looking beyond the mere technical compliance with the requirements of Section 214(e) to determine how the ETC applicant intends to use high-cost support, and how the grant of ETC status will sufficiently improve the services that the public receives to offset the public costs that it will create. For example, on December 1, 2003 (well before the issuance of the *Virginia Cellular* Order) the Minnesota Public Service Commission issued an order denying the application of Nextel for ETC status. In that order, the Minnesota Commission states:

> The Company presented no plan for expanding its service capabilities and simply stated that receipt of the universal service funding would change (in unspecified ways) the economic model that might (no guarantee or analysis to show

[22] *Ensuring the Sustainability of Universal Service,* Remarks by FCC Commissioner Kathleen Q. Abernathy (As prepared for delivery) OPASTCO Winter Meeting, January 21, 2004

> reasonable likelihood) make expansion (of unspecified extent) into some (unspecified) areas possible. The extent to which the economic model would change was not specified. No guarantee of expansion or analysis was provided to demonstrate the likelihood of expansion. No areas were identified for expansion. …In these circumstances and based on this record, therefore, the Commission finds that Nextel has failed to demonstrate that it is willing and able to serve "throughout the service area for which the designation is received…" as required of an ETC by 47 U.S.C. § 214(e)(1).[23]

More recently, Western Wireless was denied ETC status in the state of Nevada in the rural telephone company study areas that it had requested. In its Order the Nevada Commission stated:

> [T]he primary question before the Commission is whether Western Wireless' designation as and ETC is in the public interest, regarding the rural telephone companies, and consistent with the public interest. The Commission finds that Western Wireless has not met its burden for showing that its request for designation as an ETC is in the public interest. The Commission must evaluate the facts presented in each application for designation as an ETC, weighing the costs and benefits of granting ETC status in the requested area. The FCC has indicated that the public interest analysis for designation as an ETC should be rigorous and stringent. (Virginia Cellular at ¶4; Highland Cellular at ¶21.) Western Wireless' evidence did not persuade the Commission that designating the Company as an ETC would be in the public interest.[24]

Similarly, in an Order issued August 5, 2004, this Commission applied the fact-specific tests contained in the Virginia Cellular and Highland Cellular cases and concluded that the designation of Mid-Missouri Cellular as an ETC was not in the public interest.[25]

Q: Have there been other recent developments that change the dynamics and public interest aspects of the ETC designation process?

[23] In the matter of NPCR, Inc. d/b/a Nextel Partners for Designation as an Eligible Telecommunications Carrier Under 47 U.S.C. § 214(e)(2), Docket No. PT-6200/M-03-647, Issued December 1, 2003.
[24] *Application of WWC License L.L.C., d/b/a CellularOne, for redefinition of its service area as a designated Eligible Telecommunications Carrier, Docket No. 04-3030, August 4, 2004.* at pages 12 - 13.
[25] *In the Matter of the Application of Missouri RSA NO. 7 Limited Partnership, d/b/a Mid-Missouri Cellular, for Designation as a Telecommunications Company Carrier Eligible for Federal Universal Service Support Pursuant to Section 254 of the Telecommunications Act of 1996. Case No. TO-2003-0531.*

A: Yes. Under current FCC rules, an ETC receives "per line" support for each "line" that it serves in a study area. If a study area has both a wireline and a wireless ETC, and a customer has both wireline and wireless service, both carriers receive support. The wireline carrier receives support for each physical line that it provides to the customer's premise, and the wireless carrier receives the same "per line" support for each cellular handset that it provides to the customer. Due to recent rapid and unsustainable growth in the size of the federal universal service fund, the Joint Board has recommended by a vote of 5 to 3, that this policy be changed, and that support be provided to only one "primary line" at each customer's residence or business location.

Q: How would a "primary line" rule impact the ETC designation process?

A: It would change the designation process in two fundamental ways. First, it would significantly raise the stakes of designating multiple ETCs in sparsely populated rural areas. It could present the possibility of serious negative consequences to consumers if ETC designations were made without great care, and particular attention to the benefits and costs of each ETC designation. No longer would both carriers receive support for all of their lines. What one carrier gained by securing a customer's "primary line" designation, the other carrier would lose. A wireline carrier that had made investment to provide high-quality service throughout its service area would see the cash flow needed to support and maintain that investment diminished, perhaps impacting its ability to continue serving customers, and certainly impacting its willingness to make new investment with the prospect of uncertain returns. It would also place a premium on assuring that the new ETC had sufficient network and service availability to assume

carrier of last resort obligations should the incumbent no longer be able or willing to do so.

Q: What is the second impact that a primary line restriction would have on the ETC process?

A: It would force regulators to carefully evaluate what areas were capable of supporting multiple subsidized competitors. As I will demonstrate shortly, the cost of building and maintaining telecommunications networks, both wireline and wireless, are very sensitive to customer density. In sparsely populated areas, the cost of serving customers increases geometrically as customer density decreases below a certain level. In other words, the combined cost of two carriers serving the same sparsely populated area could be significantly higher than that of a single carrier. If current universal service funding levels are capped, and that capped funding base is divided among two or more network providers, then it could be possible that no provider would have adequate financial resources to continue to invest to provide affordable service to remote rural consumers.

Q: Has the phenomenon of increasing costs when multiple ETCs serve sparsely populated rural areas been recognized as a problem?

A: Yes. In May of 2001, the FCC released its MAG Order that eliminated the Carrier Common Line charge for rate-of-return carriers and replaced it with an explicit and portable Interstate Common Line Support (ICLS) mechanism. In his separate statement issued with this Order, FCC Commissioner Kevin Martin said:

> "I also note that I have some concerns with the Commission's policy – adopted long before this Order – of using universal service support as a means of creating "competition" in high cost areas. I am hesitant to subsidize multiple competitors to serve areas in which costs are prohibitively expensive for even one carrier.

This policy may make it difficult for any one carrier to achieve the economies of scale necessary to serve all of the customers in a rural area, leading to inefficient and/or stranded investment and a ballooning universal service fund."[26]

Q: If the Commission were to conclude that there should only be one ETC in some rural study areas, would this mean that consumers in those areas would not have competitive choices for telecom providers?

A: Absolutely not. As I will illustrate shortly using Western Wireless' current network, wireless carriers have built their networks in cities and towns and along major highways. These are areas where customer density is high, and costs are low. Customers in these areas are already subscribing to Western Wireless' service. Indeed, Western Wireless is asking for high-cost support for these low-cost customers as soon as it gets ETC designation. The only customers really in question are those in the remote, high-cost portions of the study area where Western Wireless' network currently does not reach, or where existing signal coverage is poor. Many of these customers likely have Western Wireless service also, for use when they are on the road, or when they are in town shopping, working or going to school. It is only when a new ETC invests high-cost funds to build facilities into the more remote and higher-cost areas, however, that consumers will begin to see benefits through larger areas to enjoy their mobile service capabilities, and the ability to use their wireless services at home. Thus, unless a prospective ETC applicant is willing to commit to formal plans to construct facilities throughout the proposed service area, the benefits of their ETC designation will be greatly diminished. Western Wireless has made no such commitment in this proceeding.

[26] 2nd R&O and FNPRM in CC Docket No. 00-256, 15th R&O in CC Docket No. 96-45, and R&O in CC Docket Nos. 98-77 and 98-166, Released November 8, 2001, *Separate Statement of Commissioner Kevin J. Martin*. Commissioner Martin reaffirms this statement in his separate statement concerning the Joint Board Recommended Decision..

Furthermore, to the extent that the ETC designation dilutes the finite pool of high-cost funds to the point where no carrier can viably serve as carrier of last resort, then consumers will be harmed, and the public costs will be greatly increased.

Q: Have other FCC Commissioners warned of the need for a more realistic balancing of benefits and costs in considering ETC applications?

A: Yes. In a speech before the National Telecommunications Cooperative Association, FCC Commissioner Jonathan Adelstein stated:

> I'm encouraging state commissioners to carefully consider the public interest when making their eligibility determinations, as is required by the Act. Specifically, states must make sure that the new market entrants receiving universal service meet all the obligations required by the Act. These include providing service throughout the service area and advertising its availability. They also need to consider whether the new service proposed is an enhancement or an upgrade to already existing or currently available service. Another consideration is the effect it will have on the cost of providing service. As the fund grows, so does the level of contribution. We must ensure that the benefits that come from increasing the number of carriers we fund outweigh the burden of increasing contributions for consumers.[27]

In a speech in October of 2002 commenting on the lessons learned from early experience with competition in telecommunications markets, FCC Chairman Michael Powell stated:

> [I]n introducing competition, we should no more trust the promised benefits and representations of competitive entrants as we do the promises to do no harm from incumbents. We must insist on market fundamentals that provide proper incentives for long term, sustainable competition. Just as we are aggressive in policing anticompetitive behavior, we should be equally aggressive in developing incentives that push entrants to enter in a manner that offers long-term, sustainable choice and meaningful welfare for consumers.

Q: Have consumer representatives commented on whether the public interest is advanced by supporting multiple competitors in high-cost rural markets?

[27] Remarks of Commissioner Jonathan Adelstein before the National Telephone Cooperative Association February 3, 2003.

A: Yes. In comments filed during the Joint Board inquiry that led to the recently released Recommended Decision, the National Association of State Utility Consumer Advocates (NASUCA) stated the following:

> It appears that, in finding that CETCs should be designated in ILECs' territories, the [FCC] and some states have found the mere encouragement of competition sufficient under the law to meet the public interest test. If that were sufficient, Congress would not have needed to establish the public interest test; the [FCC] and states would simply have been directed to authorize multiple ETCs in all ILECs' territories, rural or not.[28]
>
> If the goal underlying support for CETCs is to provide incentives to invest in facilities that provide telecommunications in high-cost areas, the rules should require that tangible benefits result from that support.[29]
>
> NASUCA urges the Joint Board to take stronger steps to encourage the states to fully consider the impact of competitive entry into high cost areas served by rural carriers, areas that currently receive high cost support. The impact of competitive entry into high cost areas supported by universal service funding can be significant. We urge the Joint Board to ensure that the states .do the math when they consider the public interest in allowing competitive entry in high cost areas. As a CETC takes market share from a rural incumbent, the incumbent's per-line costs rise. The incumbent receives more USF funding and the CETC's funding rises also. Rural competition in such an environment provides none of the benefits one would expect to receive from competition -- lower costs and better service. Rural competition in that environment produces negative consequences for consumers in terms of increased universal service funding and, thereby, higher costs to consumers nationwide.[30]

Q: Has the Joint Board commented on whether subsidized competition in all rural study areas is always in the public interest, and factors that must be considered in making this determination?

A: Yes. In paragraph 38 of the Recommended Decision the Joint Board states:

> [Section 214(e)(2)] confers discretion on the states to designate more than one ETC in areas served by rural carriers. In these areas, the Act provides that a state

[28] Comments of the National Association of State Utility Consumer Advocates, CC Docket No. 96-45, FCC 03J-1, filed May 5, 2003, at page 9.
[29] *Id.* at page 12.
[30] Reply comments of the National Association of State Utility Consumer Advocates, CC Docket No. 96-45, FCC03J-1, filed June 3, 2003, at page 28.

commission "may" grant the designation. Also, as noted above, the last sentence of section 214(e)(2) requires that before a state designates an additional ETC in an area served by a rural carrier, the state must find the designation to be in the public interest. These two additional requirements demonstrate Congress's recognition that supporting competition might not always serve the public interest in areas served by rural carriers, and Congress' intent that state commissions exercise discretion in deciding whether the designation of an additional ETC serves the public interest. As discussed above, the low customer densities and high per-customer cost characteristics of many rural carrier study areas also support a more rigorous standard of eligibility.

Q: Could you summarize your recommendations on the factors the Commission should consider as it conducts its public interest analysis?

A: The Commission must ensure that scarce public funds are spent wisely and for the purposes for which they were intended. It has an obligation to ensure provider accountability. Thus, the Commission should approve additional ETCs in rural areas only when the increased public benefits that will come from supporting multiple carriers can be shown to clearly exceed the costs that are created by supporting multiple networks. If carriers who receive scarce public support merely continue business as usual, the public interest will indeed be harmed.

COST/BENEFIT ANALYSIS

Q: What are some of the benefits that might be created by the designation of a second ETC?

A: Benefits that might be created could include investments in new towers and facilities to bring mobile communications services to currently unserved areas, wider service areas over which consumers could use their mobile phones, new choices or service upgrades for consumers, lower prices, higher quality and potential competitive responses from other service providers.

Q: What are some of the costs that would be created?

A: The most easily identified cost would be the cost of providing support to the new ETC. Where multiple competing carriers serve the same market, there will be significantly increased cost, as these carriers, to ensure they remain on a competitive footing, will have no choice other than to request ETC status as well.

In very sparsely populated areas there could also be increased public costs due to the loss in network efficiency caused by multiple providers serving in a less efficient manner than a single provider could serve. These higher costs could lead to significant harms to consumers if finite universal service support resources are spread so thinly that no carrier (wireline or wireless) can justify the investment to viably function as a carrier of last resort. Later in my testimony I will demonstrate how providing support to multiple carriers – wireless or wireline – will increase the cost of providing universal service in the most remote and sparsely populated areas

Q. How much will high-cost support increase if Western Wireless is granted ETC status in the Spectra study area?

A. On page 26 of his testimony, Mr. Blundell estimates that Western Wireless would "receive approximately $146,000 per quarter in federal universal service support if designated as an ETC in the Designated Areas." This would equate to slightly under $600,000 per year.

Q IF WESTERN WIRELESS is designated as and ETC in this proceeding, would $600,000 per year be the total cost to the USF for additional support payments?

A. No. There are six other wireless carriers that provide service in the Spectra serving area.[31] If the Commission grants ETC status to Western Wireless based upon the limited showing that it has made in this case, it is likely that that other wireless carriers will also apply for and receive approval of ETC status as well. The most recent public data available from the FCC indicates that in the state of Missouri there were 3.52 million wireline loops, and 2.29 million wireless handsets at the end of 2002.[32] This yields a wireless handset to wireline loop ratio of 65%. Publicly available data from USAC indicates that as of the third quarter of 2004, rural ILECs in the state of Missouri were receiving universal service support at a rate of $92.8 million per year.[33] Thus, if all wireless carriers in the state of Missouri were to receive ETC status, the overall draw on the federal USF from Missouri wireless carriers could go up by as much as $60.3 million per year ($92.8 x 0.65 = $60.3).

Q. You also mentioned that in sparsely populated rural areas supporting multiple carriers can also increase the cost of serving all customers. Could you explain why this is so?

A Proxy cost modeling work done at the FCC in the late 1990s established a strong correlation between customer density and the cost of providing basic telephone service. The following Chart I relying on data from the Benchmark Cost Proxy Model 3.0 for all ILECs in the state of Missouri shows the relationship of subscriber density, measured in households per square mile, to the monthly cost of providing basic telephone service.

[31] The web site www. wirelessadvisor.com lists AT&T Wireless, Cingular, Nextel, Royal Wireless, T-Mobile and Verizon as also providing wireless service in the Spectra study area.
[32] Data from *Trends in Telephone Service*, FCC, May, 2004, wireline Table 7.2. wireless Table 11.2. Since wireless lines have grown substantially since 2002, and wireline lines have not grown, and in fact in many areas are declining, these estimates are very conservative.
[33] USAC Report HC01, third quarter 2004.

Households per Square Mile	All Missouri ILECs
0 to 5	$ 130.72
5 to 100	$ 54.05
100 to 200	$ 31.42
200 to 650	$ 27.26
650 to 850	$ 25.38
850 to 2550	$ 23.36
2550 to 5000	$ 22.16
5000 to 10,000	$ 20.95
> 10,000	$ 18.47

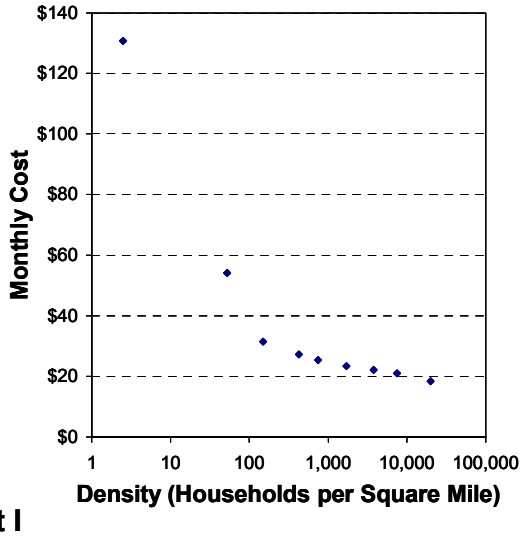

Chart I

Notice that at household densities of 100 households per square mile and greater, the per-line cost of basic telephone service is quite low. At densities of less than 100 households per square mile, costs increase dramatically and exponentially, with areas with density of 5 households per square mile or less costing well in excess of $100 per line per month.

Q. What does this have to do with Western Wireless' cost of providing service?

A. While the technologies of wireline and wireless networks are very different, they both experience high levels of fixed cost, or costs that do not necessarily vary with the number of customers served, which make the cost of providing service very sensitive to subscriber density. A good example of this type of fixed cost in a wireline network is a trench for the placement of distribution cable. Assume for discussion purposes that a trench costs $2 per foot to dig, place and fill. In a densely populated area where a trench might support 500 lines, the cost of this trench would be $0.004 per line per foot. In a sparsely populated area where the trench only supports 10 lines, the cost per line would be $0.20. In a very sparsely populated area with only 2 lines the per-line cost would be

$1, and for the customer at the very end of the line, the cost of the length of trench becomes $2 per line per foot. While not a perfect analogy, this shows why the cost to density curve shown above shows costs increasing geometrically as population density decreases.

In a wireless network, a major fixed cost is the tower and associated radio equipment. A tower and associated equipment cover a given "footprint", or area where acceptable wireless coverage can be received from that tower. The per-customer cost of providing service from that tower is very sensitive to the number of customers within that footprint. In a densely populated or heavily traveled area where thousands of customers may be within that footprint, the cost per-customer is low. In sparsely populated areas, the cost per customer becomes increasingly high, and would follow the same exponential relationship of increasing cost to decreasing density. As a result of this, wireless providers have tended to build their networks and provide conventional cellular service in towns and along major highways where subscriber density is high and relative per-customer costs are low.

Q. How can costs go up for all customers when multiple carriers serve sparsely populated areas?

A. As I described previously, both wireline and wireless networks are comprised of many fixed cost investments, and therefore the cost of providing service is highly dependent on the density of customers in a particular area. The following Chart II illustrates how when multiple providers serve the same sparsely populated area, the cost for both providers increases. As I mentioned earlier, this relationship is equally valid if two wireless providers are serving the same sparsely populated area.

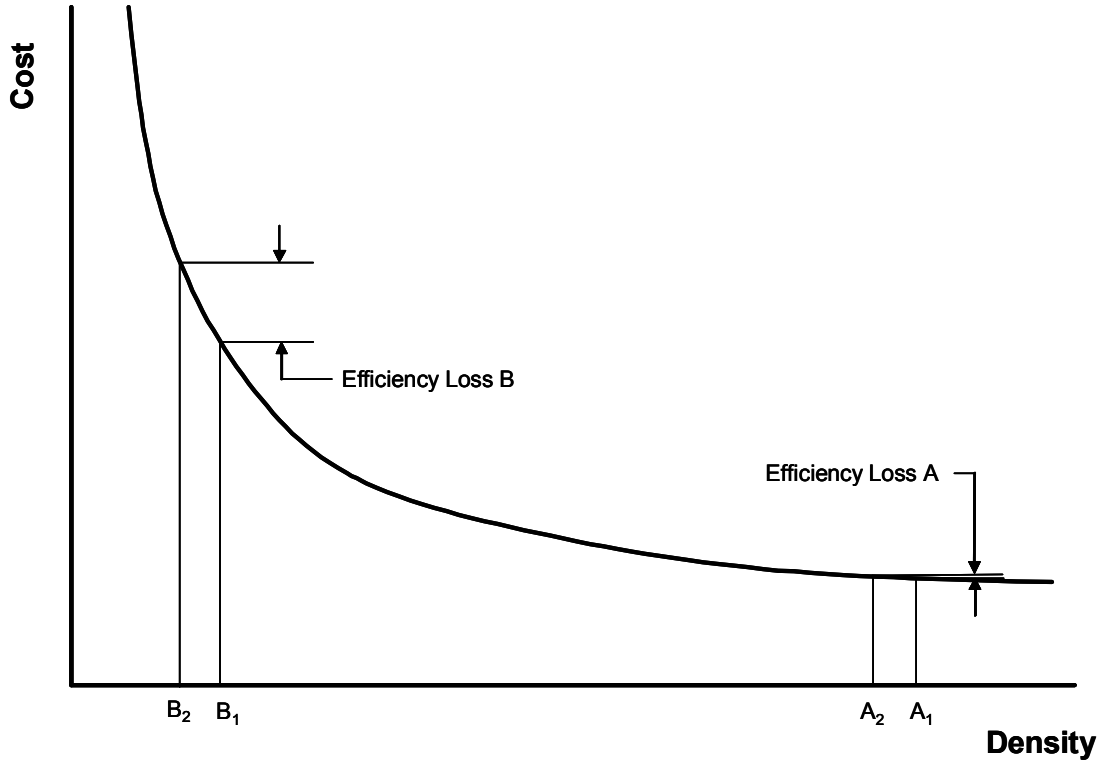

Chart II

When a second carrier enters a service area and captures customers from the incumbent, the physical area of the service territory is unchanged, but the number of customers served is less. This will have the impact of reducing the average density in terms of households per square mile and increasing the cost per customer for both carriers. The impact that this reduction in density will have on the average cost of serving customers is highly dependent on the density of the serving area. This graph shows the cost impact for two hypothetical scenarios. Company A, shown on the right side of the chart, serves a densely populated area with relatively low costs. If the entry of an additional carrier results in a reduction in subscriber density from A_1 to A_2, the resulting efficiency loss is negligible. On the other hand, Company B, shown on the left side of the chart, serves a relatively sparsely populated area. Notice that an equivalent reduction in density from B_1 to B_2 results in a significant and much larger loss of efficiency due to the nature of the

density/cost relationship. Given the exponential increase in cost with decreasing density, the lower the initial density level, the higher will be the efficiency loss with the introduction of a second carrier. As Commissioner Martin has noted, there are substantial policy disadvantages to using public funds to subsidize competition when inefficiencies of this magnitude are an additional result. Thus, as population density decreases below 100 households per square mile, the level of public benefit necessary to justify the corresponding increase in public costs becomes larger than would be the case in a more densely populated area. In the most extremely sparse areas, very significant additional public benefit would be necessary to justify the substantial increase in public costs that would be created by providing public support to multiple carriers.

BENEFITS

Q. What benefits has Western Wireless identified that would result from its designation as an ETC for the receipt of high-cost universal service?

A. On pages 12 through 13 of its Application, Western Wireless offers its assessment of the benefits that this designation will bring. Among these benefits are:

- Increased competition
- Increased consumer choice and service quality.
- Larger local calling area
- The benefits of mobility.
- Competitive response from affected ILECs.

Q. What is your reaction to the purported benefits that Western Wireless describes?

A. First of all, these purported benefits consist totally of generalized statements regarding the generic benefits of competition, and as I have stated previously, Western

Wireless is already competing in these areas today. The real question before this Commission is what *additional* competition and *increased* benefits will come from designating Western Wireless as an ETC in the Spectra study area. Noticeably missing from Western Wireless' description of benefits, in its Application and in the testimony of its witnesses, are any of the facts and data that the FCC and Joint Board believe are necessary to conduct a "fact-intensive" analysis of the public interest benefits of granting Western Wireless ETC status in the requested study areas. Second, to read Western Wireless' statements you would think that Western Wireless currently does not compete in these markets, and only if they are granted ETC designation will there be competition in rural areas in the state of Missouri. Nothing could be further from the truth. Wireless carriers, including Western Wireless, have built facilities throughout rural America, including rural areas in Missouri. Wireless carriers have built their networks in cities and towns and along major highways where customer concentration is high and costs are low. Finally, the purpose of high-cost support is to allow for the construction of facilities into sparsely populated and high-cost areas of the service territory. Western Wireless has made no commitment to expand its facilities to serve throughout the requested service areas as required by the *Virginia Cellular* Order. To the extent that Western Wireless is not using its high-cost support to construct towers in the more remote and higher-cost areas of the state, consumers will not experience public benefits anywhere near the significant public costs that will be created. Thus, Western Wireless had failed to prove that its designation as an ETC would be in the public interest.

Q. Can you provide an illustration of Western Wireless' network in the state of Missouri?

A. Schedule GHB - 2 is a map of the state of Missouri indicating the location of Western Wireless' towers as best can be determined using publicly available data. The map also shows population density statistics, which I will use to illustrate the cost of serving various areas.

Q. How did you obtain the data shown on this map?

A. The locations of the Western Wireless towers were obtained from the FCC's publicly available Universal Licensing System (ULS) and Antenna Structure Registration (ASR) data bases. The legend in the upper left hand corner of the map indicates the color coding used to indicate the population density. This density data was obtained from the 2000 Census, and indicates housing density at the Census Block level. Also shown on GHB-2 are the major highways and cities in this area for geographic reference.

Q. Have you been able to compare these tower locations from this publicly available data base with the highly confidential information regarding tower locations that Western Wireless provided in response to Intervenors' data requests?

A. Yes. In response to data requests from Spectra and other parties, Western Wireless provided confidential maps (Exhibits 1-7A and 1-21) showing the location of its towers that serve this area. The actual tower data shown on these Exhibits corresponds almost exactly with the tower locations that I developed from my analysis of publicly available data, and thus this and other maps that I will be using in my testimony provide a reasonable approximation of Western Wireless' network.

Q. Can you show the Spectra wire center boundary for which Western Wireless has requested ETC status?

A. Schedule GHB-3 shows the exchange boundaries for the nine Spectra wire centers. This Schedule was constructed using the actual wire center boundaries that are on file with the Commission as well as from actual company engineering records.

Q. How can the serving area and service quality of Western Wireless' network be determined?

A. The best way to determine network coverage is through what is called a "propagation analysis". In this type of analysis, numerous factors such as the transmission characteristics of the cellular tower and the end user's handset or receiver, the nature of the radio spectrum used, as well as the topographical contour of the area in question all have an impact on the area over which consumers can receive varying levels of performance from the wireless network.

Q. How do topographical features influence network performance?

A. Radio waves can't "see through" hills or mountains. Most of us have had the experience of talking on a mobile phone and losing the connection as we went down into a valley or went behind a hill, building or some other obstruction. Propagation studies take terrain data from the U.S. Geological Survey to predict areas where coverage will be good, marginal or non-existent.

Q. How do the characteristics of the cellular tower influence network performance?

A. Factors such as the height of the tower and the electromagnetic power of the radio transmitter and antenna have a significant impact on the area that a tower can cover. Generally, the higher the tower and the more powerful the transmitter, the larger will be the radius that can be theoretically covered.

Q. Are there other factors that influence the level of service that a customer might experience?

A. Yes. Another important component is the receiving and transmitting equipment that the customer uses. Unlike a broadcast application such as commercial radio, a telecommunications network requires a two-way communication between the tower and the mobile equipment. Not only must the customer's receiver be able to detect and receive the signal from the tower, but it must send a signal back to the tower that the tower is capable of detecting and receiving. Thus the characteristics of the customer's equipment play a critical role in determining the coverage that a customer will experience. The same laws of physics that apply to the tower dictate that the transmitting power and antenna height of the customer's equipment will play a significant role in determining the coverage that will be experienced.

Q. What types of equipment do customers generally use?

A. By far, the most commonly used equipment is the cellular handset that most of us carry strapped to our belts or in our purses. These handsets generally operate at a power level around 0.6 watts (newer CDMA handsets operate at a power level of 0.2 watts). The other type of equipment that is used, although less frequently than in the earlier days of cellular service, is the "bag phone" or "car phone" that operates at a power level of 3 watts. The wireless local loop service that Western Wireless utilizes also generally operates at the 3 watt level. The higher power level of this equipment makes it heavier and bulkier, and not as mobile or convenient as the conventional cellular handset. The higher power level of such equipment does give it a significantly larger operating radius than the 0.6 watt or 0.2 watt handset. In more remote locations, service can also be

achieved or improved by working on the "height" variable in the coverage equation. Many of us have had personal experiences with going to a higher floor, or climbing a hill to improve cellular reception. In wireless local loop applications it is often possible to mount an external antenna to the roof of the building to gain additional height and therefore coverage.

Q. Why should the Commission care about the coverage areas that consumers experience, and the different coverage characteristics of different types of equipment?

A. The actual wireless coverage that consumers experience should be a key factor in the cost/benefit analysis that lies at the heart of the public interest evaluation process. The original high-cost fund had its genesis in the public goal of making wireline telephone service available and affordable in remote and high-cost areas where, absent support, it would not otherwise be offered. Similarly, an equally valid public goal could be to make wireless service more widely available and affordable in remote areas where it would not otherwise be available, absent support. The key factor thus becomes what benefit will consumers experience in terms of expanded ability to use their mobile service over wider areas in return for the increased universal service fund assessments that this will cost? If a wireless carrier merely offers to provide higher powered customer premise equipment and external antennas to a few customers in remote locations so that they can qualify for funding, that might not be worth the cost of providing "high-cost" support for all of that carrier's existing low-cost customer base. It is for this reason that it is critical that the Commission understand the benefits that consumers will receive before it decides to spend their money.

WESTERN WIRELESS' COVERAGE AREA

Q: How has Western Wireless described its signal coverage in the rural telephone company service areas for which it is seeking ETC designation?

A: Although I do not believe this to be the correct standard, on page 29 of his testimony, Mr. Blundell states that the company's network must be capable of reaching at least 85 percent of the population in a given wire center.

Q: Have you been able to perform an independent analysis of Western Wireless' signal coverage in the affected Missouri rural telephone company areas?

A: Schedule GHB-4 is a map that was constructed using publicly available data from the FCC's ULS data base. From this data base I am able to obtain information regarding:

- Tower location (latitude and longitude)
- Antenna Height
- Effective Radiated Power

I have also used topographic data obtained from the US Geological Survey.

Q: Could you please describe what is shown on Schedule GHB-4?

A: The area shown in gray represents the outer limits of signal coverage using high power, 3 watt customer premises equipment. I have computed this level at -100 dBm, which is listed as the minimal operating signal strength in the Technical Manual for the wireless local loop unit utilized by Western Wireless.[34] The area shown in gold represents a reasonable approximation of the area where a customer would experience a more "urban quality" of service, with a reasonable probability of good "5-bars"signal quality using a 0.6 watt handheld unit, and a relatively low incidence of dropped calls. I

computed this level at -75 dBm, although there is no fixed standard for what constitutes "urban quality" service. If a higher signal quality were desired, the coverage area would get smaller, if a lower quality were acceptable, the coverage area would get larger. The quality of service that a customer would experience is also affected by a number of environmental factors such as where the phone is located (pocket, purse, car, building, etc.), as well as natural obstacles such as foliage and terrain, man-made obstacles such as buildings, and channel loading on the wireless system. In the grey areas the signal quality would not be as good, and there would be a higher probability of dropped calls or poor reception. I have also shown on the map the boundaries of the exchanges of each of the Spectra for which Western Wireless has requested ETC status in this proceeding to illustrate signal coverage in these areas.

Q. Why should a wireless carrier's signal quality be an important element of the public interest analysis?

A. 47 U.S.C. Section 254(b)(3) describes the purpose of universal service funding as follows:

> ACCESS IN RURAL AND HIGH COST AREAS. – Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high-cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.

As the Commission seeks to define the public interest, the quality of the signal coverage provided by a prospective ETC applicant should play an important part in assessing the public benefits that consumers would experience. Throughout its Application and

[34] This equipment is manufactured by the Tellular Corp., and documentation may be found at

testimony, Western Wireless stresses mobility as a key benefit of its service. In rural areas with weak signal strength where consumers receive service through high-powered equipment and roof-mounted antennas, mobility is not the same as in the more urban areas. Likewise, urban consumers traveling through such areas would not have the convenience of using their wireless handsets, nor would they experience the health and safety benefits that Western Wireless claims are important public interest benefits. The 1996 Act clearly states that the purpose of universal service is to provide consumers in high-cost rural areas with services that are "reasonably comparable" to those services provided in urban areas". I believe that it is reasonable for the Commission to conclude that this means something more than giving the rural consumer the opportunity to purchase a "signal booster" or "high-powered antenna"[35]. Where a wireless ETC accepts federal universal service funds, the quality of the signal coverage provided to rural consumers should be an essential part of the Commission's public interest analysis. The prospective ETC must stand ready to assume Carrier of Last Resort responsibilities if necessary. If a wireless carrier is to accept federal universal service funding for serving high-cost, rural areas, then it should be required to invest that money in a network that provides signal quality reasonably comparable to that experienced in urban areas. If it is not willing to make that level of commitment, then it should not be receiving universal service support.

Q: What conclusions do you draw from this propagation analysis?

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www.tellular.com.

[35] Blundell testimony at page 13, line 27 –page 14, line 1..In response to Spectra data request number 7, Western Wireless clearly states that the customer must purchase such high power equipment and/or antennas.

A. The results of my analysis of this propagation information are summarized on Schedule GHB-5. This Schedule shows the percentage of both population and land area that experience signal coverage at the -75dbm and -100 dbm service levels. Notice that in only three of the nine wire centers (El Dorado and Lowry City) do over half of the consumers experience urban quality signal coverage, and in three of the wire centers (Collins, Rockville and Schell City) less than 10% of consumers enjoy signal quality comparable to urban areas. Seventy percent of the population in the Spectra serving area lives in three of the wire centers – El Dorado, Lowry City and Osceola. Not surprisingly, these are the only three Spectra wire centers that contain a Western Wireless tower. El Dorado is by far the largest of the wire centers in terms of population, however while almost 60% of the population in the El Dorado wire center has urban quality service, the population density in these areas is 30.8 households per square mile, vs. 4.8 households per square mile in the portions of the El Dorado wire center where service is at the lower -100dbm level. For the Spectra study area in total, the population density in areas with better than -75 dbm is 16.4 households per squire mile, vs. 5.9 households per square mile in the areas with inferior service quality. This data confirms my earlier statements that Western Wireless is serving primarily the higher-density, lower-cost customers, yet seeking support based on the cost of the lower-density, higher-cost customers to which it provides a much lower quality of signal coverage.

PUBLIC INTEREST ANALYSIS

Q. Earlier you described the public interest test that the FCC has specified in the Virginia Cellular and Highland Cellular Orders. Could you please analyze Western Wireless' submissions in this proceeding against these evaluation criteria?

A. The Virginia Cellular and Highland Cellular Orders clearly establish that competition, alone, is not sufficient grounds upon which to make the public interest determination. The Orders establishes the following factors for consideration:

1. The benefits of increased competitive choice,
2. The impact of multiple ETC designations on the USF
3. Whether the benefits of an additional ETC outweigh the harms
4. The unique advantages and disadvantages of the competitor's service offering, and
5. The competitive ETC's ability to provide the supported services throughout the service territory in a reasonable time frame.

I will discuss how the evidence presented by Western Wireless compares to each of these points.

1. Benefits of Increased Competitive Choice

Designating Western Wireless as an ETC will not increase the competitive choices that Missouri consumers currently have, and they have provided no facts or data to prove otherwise. Western Wireless already provides wireless service in the areas where it has requested ETC status, and they have committed to no build-out plans that would increase their service area or the quality of signal coverage that consumers would experience. Western Wireless has neither identified nor quantified any consumers who cannot currently get basic universal service that will be able to do so as a result of its ETC designation. Western Wireless has not indicated that any new products will be made available to consumers, or that prices will be reduced if ETC status is granted. Indeed, in response to Staff Data Request number 12, Western Wireless refuses to commit to any

price reductions in response to grant of ETC status. There are already at least six other wireless carriers providing competitive wireless service without universal service support. Therefore, Western Wireless has not quantified any specific benefits, and it is doubtful that significant additional competitive choices will result from designation of Wireless as a competitive ETC.

2. The Impact of Multiple ETC designations on the USF

The impact of designating Western Wireless as an ETC in the state of Missouri on the USF will be significant. I have already indicated that the direct impact of Western Wireless' designation will be approximately $600,000, and that if all other wireless carriers in the state of Missouri request and receive ETC status, the total annual impact will be over $60 million. Mr. Blundell attempts to dismiss this impact by saying on page 26, "Western Wireless' designation in this case will have only a *de minimis* impact on the federal universal service fund." The OPASTCO white paper that I have attached as Schedule 1 to my testimony quantifies that if all wireless carriers nationwide were to receive ETC status, the impact would be over $2 billion per year.[36] No one ETC designation, by itself, is going to break the bank, however it is the collective decisions of Commissions across the nation, including the Missouri Public Service Commission, that will determine the USF assessments that all consumers, including Missouri consumers, must pay. It is for this reason that the FCC and the Joint Board have called for comprehensive and "more stringent"[37] public interest standards for ETC designations.

3. Whether the Benefits of Additional ETCs Outweigh the Harms

[36] See Schedule 1 at page 21. It should be noted that this estimate was made in 2002, and that wireless penetration has increased significantly since then.
[37] *Virginia Cellular* Order at paragraph 4.

As described above, the quantifiable benefits appear to be quite small, and the financial impact appears to be large. In addition to the financial harms from an improper ETC designation, consumers stand the real risk of diminished ability of carriers to function as Carrier of Last Resort if finite universal service resources are spread too thin. The evidence presented in this case clearly suggests that benefits fall far short of the real and potential harms.

4. The Unique Advantages And Disadvantages Of The Competitor's Service Offering

As discussed previously, Western Wireless already serves throughout most of the proposed ETC service area, and six other wireless competitors provide similar services. Furthermore, Western Wireless has not submitted a build-out plan that will result in any material increase in its service coverage within the Spectra study area. While mobility is clearly an advantage of wireless service, the Joint Board has previously stated that mobility is not a supported service.[38] While Western Wireless may offer a larger local calling area than most Missouri wireline carriers, this is a result of legacy regulation of the wireline industry, and not due to any inherent advantage of wireless technology or service providers.

5. The Competitive ETC's Ability To Provide The Supported Services Throughout The Service Territory In A Reasonable Time Frame.

Western Wireless has not made a commitment to construct the facilities necessary to serve "throughout" the service area, and has presented no build-out plans indicating over what time frame it may construct such facilities. In response to Craw-Kan/KLM data

[38] See FCC *Order and Order on Reconsideration* in CC Docket 96-45, issued July 14, 2003.

request 22, Western Wireless has stated that if it is granted ETC status it will "evaluate the construction" two additional towers within Missouri RSA 9. It also provided highly confidential Exhibits 1-7A and 1-21 in which it shows the location of the two tower sites that it will evaluate the construction of. Examining these Exhibits, only one of these towers is even close enough to the Spectra study area to be relevant, and much of the area that it will cover already has urban quality service today. Since Western Wireless has not indicated its willingness to enter into an enforceable commitment to construct these tower sites, there is no guarantee that they will even be constructed. Since Western Wireless has made no indication of when these towers might be built, there is no knowing whether they will be constructed in a reasonable time frame, if at all. Thus, it is obvious that that Western Wireless will not "provide the supported services throughout the designated service area in a reasonable time frame."[39]

Q. On Page 9 of his testimony, Mr. Blundell states "Western Wireless intends to offer unlimited local usage in at least one service offering in Missouri. In addition, Exhbit 1-4 provided in response to Staff data request number 4 shows two basic plans with unlimited local calling. Would these plans provide a benefit to consumers?

A. I believe that this is highly doubtful. It is important to note that both of the unlimited plans shown on Exhibit 1-4 contain the notation "$TBD", which I take to mean that the particulars of the service offering are yet to be determined. My experience with Western Wireless in other jurisdictions indicates that the Commission should look with some suspicion on this yet-to-be-defined offer of an unlimited local service offering. In

[39] Virginia Cellular and Highland Cellular Orders, both at paragraph 4.

an Order granting Western Wireless ETC status in the State of South Dakota issued October 18, 2001, the South Dakota Public Utilities Commission stated:

> In addition, [Western Wireless] has pledged to offer unlimited local usage as part of one of its universal service offerings.[40]

Later in this Order, the South Dakota Commission states:

> At the time of the hearing, [Western Wireless] had not yet finalized a universal service offering. Thus, [Western Wireless] shall notify the Commission when it begins to offer its universal service package and in what study areas.[41]

On December 30, 2003, Mr. Blundell filed testimony before the South Dakota Commission in a new proceeding seeking ETC designation in additional South Dakota study areas. In this testimony Mr. Blundell states:

> At this time, Western Wireless has not finalized its pricing for the universal service offering…[42]

Thus, over two years later, Western Wireless had still not finalized its promised universal service offering with unlimited local usage. Once again, in this proceeding Western Wireless has still "not finalized" its elusive unlimited local usage offering. The Commission should thus give no weight to Western Wireless' statements regarding such an offering in this proceeding

A: **REDEFINITION OF THE STUDY AREAS**

Q. On page 36 of his testimony, Mr. Blundell attempts to justify the redefinition of rural study areas by stating:

[40] *In the Matter of the Filing by GCC License Corporation for Designation as an Eligible Telecommunications Carrier*, Order TC98-146, at paragraph 10.
[41] *Id* at paragraph 24.
[42] Testimony of James Blundell in Docket No. TC03-191 *In the Matter of the Filing by WWC Holding Co. d/b/a CellulaOne for Designation as an Eligible Telecommunications Carrier in Other Areas,* Before the Public Utilities Commission of the State of South Dakota, filed December 31, 2003.

Unless the Commission establishes a different service area definition for the companies in this proceeding, those wide-ranging study areas will pose an impenetrable barrier to entry for not only Western Wireless, but also any other competitive carrier, especially wireless carriers.

Do you agree with Mr. Blundell's characterizations?

A. No. First, since Western Wireless already competes in the nine Spectra wire centers, it is hard to see how failure to redefine the study area would constitute a "barrier to entry". Second, as I have previously discussed, there are already over six wireless carriers competing for customers in the Spectra service area. If fail to see any "barrier to entry".

Q. What rules and guidelines apply to the redefinition of a rural telephone company service area?

A. The federal rules are guided by Section 214(e)(5) of the 1996 Act which states "In the case of an area served by a rural telephone company, 'service area' means such company's 'study area' unless and until the [FCC] and the States, after taking into account recommendations of a Federal-State Joint Board instituted under section 410(c), establish a different definition of service area for such company." In the First Recommended Decision, the Joint Board enumerated its concerns regarding a rural telephone company ETC serving area being smaller than the study area. As previously quoted in my testimony, the most serious of these concerns relates to "cream skimming".

Q. How has the FCC defined and measured "rural cream skimming", in the recent *Virginia Cellular* and *Highland Cellular* Orders?

A. The FCC has defined rural cream skimming as follows:

> Rural creamskimming occurs when competitors seek to serve only the low-cost, high revenue customers in a rural telephone company's study area.[43]

In both of these orders, the Commission tests for cream skimming by comparing the population density in the portions of the study area where the prospective ETC does serve, against the population density in the areas where it does not. The FCC reasons that "Although there are other factors that define high-cost areas, a lower population density indicates a higher cost area."[44] Thus, if the population density in the unserved area is lower than in the served area, this would be an indicator of cream skimming.

Q. Have you conducted tests for rural cream skimming in the nine Spectra wire centers where Western Wireless has requested ETC status?

A. Yes. Mr. Blundell provides data in his testimony that shows that the average population density in the nine wire centers that Western Wireless "serves" in the Spectra study area is roughly comparable with the average population density. My independent analysis confirmed about the same thing – that the *average* wire center densities were comparable. However to take that as the final word on creamskimming requires the assumption that Western Wireless provides service comparable to urban areas throughout the entire wire center. As I have shown with my propagation analysis, this is clearly not the case. The areas where Western Wireless does provide comparable service are significantly more dense than the areas where they do not. Unless they commit to a build-out plan that will provide comparable service throughout the service territory they will be serving predominantly the lower-cost customers yet receiving support based upon the higher-cost areas – precisely the definition that the FCC has established for

[43] *Virginia Cellular* Order at paragraph 32, *Highland Cellular* Order at paragraph 26.
[44] *Virginia Cellular* Order at paragraph 34, *Highland Cellular* Order at paragraph 28.

creamskimming. The propagation analysis provides this Commission with a more fine-grained tool than the FCC had available when they issued their *Virginia Cellular* Order, and allows for a more informed analysis of when designating additional ETCs is indeed in the public interest.

Q. Both Mr. Wood (at page 16) and Mr. Blundell (at page 35) claim that because Spectra has filed a disaggregation plan that creamskimming is not an issue. Do you agree with his conclusions?

A. No I do not for three reasons. First, as described above, unless the ETC applicant commits to provide comparable service throughout the proposed ETC service area (including throughout each wire center in the service area) then a clear-cut creamskimming situation exists. Second, the disaggregation plan that Spectra files separates the 107 Spectra wire centers in the state of Missouri into to groups – 13 "low cost" wire centers, and 94 "high-cost" wire centers. All nine of the wire centers for which Western Wireless requests ETC status are in the high-cost Zone 2. Within this zone, there is a wide range of cost among the 97 wire centers. It would thus be possible for a carrier to serve predominantly low-cost wire centers within this zone, receive support based upon the average zone cost, and create a creamskimming situation. Of course, for such an analysis to be valid, the carrier would have to provide comparable service throughout each of the wire centers, which Western Wireless does not do.

Q. What is your third reason why the filing of a disaggregation plan does not necessarily eliminate the possibility of creamskimming?

A. The FCC itself has recognized that the inherent differences between the cost drivers of wireline and wireless networks work to have a disaggregation plan necessarily

eliminate any opportunities for creamskimming. In the Highland Cellular order the FCC stated:

> Because Verizon South's study area includes wire centers with highly variable population densities, and therefore highly variable cost characteristics, disaggregation may be a less viable alternative for reducing creamskimming opportunities. This problem may be compounded where cost characteristics of the incumbent and competitor differ substantially. We therefore reject arguments that incumbents, in every instance, protect against creamskimming by disaggregating high-cost support to the higher-cost portions of the incumbent's study area.[45]

HARMS TO CONSUMERS

Q. If Western Wireless is to be granted ETC status, what potential harms could occur to Missouri consumers?

A. Harms to consumers from an improper ETC designation can come in several forms. First, and most easily identified, is the cost imposed upon consumers, particularly if they do not receive equal or greater benefits in return. As I mentioned previously, if in return for ETC designation the applicant expands its network to areas that were previously unserved, and expands the area over which consumers can utilize mobile communications, then perhaps this could be a reasonable use of public funds. If, on the other hand, the applicant merely offers to serve outlying customers with high-powered customer premise equipment and roof-top antennas as a means of meeting minimum funding qualifications, and if the large body of its existing customers experience no tangible improvement in their service, then such funding would not be in the public interest, and the cost of the increased funding assessments would represent a harm to

[45] *Highland Cellular* Order at paragraph 32.

consumers. Another harm could occur if multiple ETCs are designated in areas that could not economically support multiple carriers.

Q. How would designating multiple carriers in areas in sparsely populated rural areas cause harm to consumers?

A. Earlier in my testimony I presented several charts and graphs that showed the relationship of cost to subscriber density. In very sparsely populated rural areas, the largely fixed nature of network costs (both wireline and wireless) causes costs to increase geometrically as population density decreases. This is the phenomenon identified by FCC Commissioner Martin that supporting multiple carriers in an area that is prohibitively expensive for one provider could cause "stranded investment and a ballooning universal service fund"..

Q. Are there other harms that could come to rural Missouri consumers as policy makers grapple with growing demands on finite universal service funding resources?

A. Yes. As mentioned previously, a majority of the Federal-State Joint Board on Universal Service has recently recommended that the FCC end its practice of providing support to all "lines" provided by all ETCs, and instead provide funding to only one "primary line" to each customer location. The Joint Board has made clear that the primary reason for this recommendation is that the current fund is growing to an unsustainable size due to the number of ETC designation made by state and federal regulators. No matter what the fate of the primary line proposal, the reality is that there is a finite amount of public funding to support for rural telecommunications infrastructure. In making the decision regarding the designation of additional ETCs in

high-cost rural areas, the Commission must carefully weigh the impact of the dilution of support that this will create, against the need to provide sufficient support so that at least one carrier can viably remain as a carrier of last resort.

Q: Does the prospect of multiple competitive ETCs impact the ability of these carriers to function as carriers of last resort?

A: Yes. It certainly raises the question of whether multiple carriers could each economically build a network that provided service throughout the study area and be prepared to function as carriers of last resort, particularly in sparsely populated, high-cost portions of Missouri. As I described earlier, wireless networks exhibit the same characteristics of increasing cost with decreasing density as wireline networks. Thus, if multiple ETCs are placed in a high-cost area with a fixed amount of support, it becomes increasingly difficult for any of them to effectively serve throughout the entire study area and function as a carrier of last resort. This would carry the prospect of significant harm to consumers in the most rural parts of Missouri.

Q: How should the Commission assure that consumers in the most rural parts of Missouri are not harmed?

A: In addition to carefully assessing the potential harms that could occur to customers of the wireline incumbent currently functioning as carrier of last resort, the Commission must also assure itself that the new ETC actually will build sufficient facilities in a reasonable period of time to serve throughout the entire study area. The Joint Board made very clear that ETC applicants must be able to serve throughout the study area, and if they did not do so at the time of application, that they provide formal build-out plans subject to annual review. Their reason for this recommendation is that

otherwise there would be no guarantee that they would be able to function as carrier of last resort if the incumbent was unable to continue to do so. Indeed, if carriers can obtain ETC status and "high-cost" funding without some form of enforceable commitment to actually expand their network into high-cost areas then the Commission may have created unintended consequences and negative incentives.

Q: Why do you say that the lack of an enforceable commitment to invest universal service fund proceeds to expand service throughout the ETC service area would create negative incentives?

A. If a carrier can gain access to high-cost funds for serving its current predominantly low-cost customer base without making any enforceable commitment to serve the entire area, then there is a significant risk that the remote facilities will never be built, and the most rural customers will remain unserved by the wireless ETC. The reason is simple, once the carrier has the funding in hand, it faces a very different set of business incentives regarding investments in remote areas. Construction of these facilities will generate substantial cost, yet yield relatively little incremental revenue. In essence, the carrier is back where it started, with no incentive to make investments that make no business sense. Unless the Commission either requires the prospective ETC applicant to serve throughout the area prior to granting ETC status, or requires specific build-out plans and firm and enforceable commitments for such investment as a pre-condition to granting ETC status, then it is highly likely that the carrier will not build facilities to serve the remote customers, and that scarce high-cost funds will provide a windfall to carries serving predominantly low-cost markets. The losers in this scenario would be rural consumers who could face the prospect of having no carrier willing or

able to make the necessary investments necessary to function as carrier of last resort. It would also be difficult, if not impossible, for carries to invest to bring rural consumers access to advanced services, including broadband services.

CONCLUSIONS

Q: Please summarize your testimony.

A:. Western Wireless has failed in its application and testimony to prove that its application for ETC status in the Spectra study area is in the public interest. The designation of Western Wireless will create significant new public costs and deliver relatively few incremental public benefits. As a result, this designation does not pass the cost/benefit test outlined in the *Virginia Cellular* Order, and thus cannot reasonably be found to be in the public interest. Western Wireless has provided none of the "fact-specific" data that is required by the *Virginia Cellular* Order to prove that the requested designation is in the public interest. Western Wireless provides high-quality wireless signal coverage predominantly in the more densely populated and low-cost portions of the service area, and not in the sparsely populated and high-cost areas. Western Wireless makes no commitment or demonstration that it will provide high-quality wireless signal coverage throughout the requested service area within a reasonable period of time as outlined in the *Virginia Cellular* Order. Designation of Western Wireless as an ETC in the rural telephone service areas it requests will cause significant harm to these companies and to the customers that they serve, particularly in light of recent concerns and developments due to the significant growth in the federal universal service fund. Western Wireless seeks to avoid public accountability for its use of scarce public support funds. For all of the foregoing reasons, Western

Wireless' application cannot be found to be in the public interest. Thus, the Commission should deny this application.

Q: Does this conclude your testimony?

A: This concludes my testimony at this time. I would note, however, that as of this filing date there are still several outstanding data requests to which Western Wireless has not responded. Based upon Western Wireless' response to these data requests I reserve the right to supplement my testimony accordingly.