Exhibit No.	
Issue:	Application for ETC Designation
Witness:	Glenn H. Brown
Sponsoring Party:	Spectra Communications Group, LLC d/b/a CenturyTel and CenturyTel of Missouri, LLC
Type of Exhibit:	Rebuttal Testimony
Case No:	TO-2005-0384
Date:	September 12, 2005

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of USCOC of Greater Missouri, LLC for Designation as an Eligible Telecommunications Carrier Pursuant to the Telecommunications Act of 1996	)))))	Case No. TO-2005-0384

REBUTTAL TESTIMONY OF GLENN H. BROWN

ON BEHALF OF SPECTRA COMMUNICATIONS GROUP, LLC, d/b/a CENTURYTEL AND CENTURYTEL OF MISSOURI, LLC

September 12, 2005

****Denotes Information Deemed To Be Highly Confidential by Applicant USCOC****

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.

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) and CenturyTel of Missouri, LLC, (CenturyTel). Spectra is comprised of one study area in Missouri. CenturyTel of Missouri, LLC is a legal entity comprised of four distinct study areas: Central, Belle-Herman, Southern and Southwest. Spectra is a rural telephone company under the terms of the Telecommunications Act of 1996 (1996 Act), as are the Belle-Hermann and Southern study areas. The Central and Southwest study areas are non-rural under the terms of the 1996 Act. US Cellular has requested ETC status in all or part of each of these study areas.

Q. What are the purposes of your testimony?

A. The purposes of my testimony are:

1. To discuss the important responsibilities of the Missouri Public Service Commission (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") 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 discuss the evolution of the FCC's guidelines regarding public interest standards for the designation of multiple ETCs in rural telephone company service areas.

3. To explain the public interest and ETC designation criteria articulated by the FCC in their March 17, 2005 Order, and explain why it is important that the Commission utilize these criteria in the instant proceeding. I will also discuss the relationship of these criteria to the draft ETC designation rules that have been prepared by the Commission Staff.

4. To evaluate US Cellular's filing in this proceeding against the FCC's designation criteria and, based upon this review, offer my opinion on whether approval of US Cellular's application in this proceeding would be in the public interest.

5. To reply to the statements made by US Cellular in its application for ETC status , the testimony of Kevin Lowell, Don J. Wood and Nick Wright, and information provided in response to subsequent Data Requests.

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

A. Based upon my examination of US Cellular's 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 US Cellular to receive federal universal service support for all of its CMRS customers in portions of Spectra and CenturyTel's service areas for which it seeks ETC designation is in the public interest. Specifically:

1. US Cellular has failed in its application and testimony to prove that its application for ETC status is in the public interest.
2. The designation of US Cellular 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. US Cellular has provided none of the "fact-specific" data that is required by the FCC's March 17, 2005 Order providing public interest guidelines for ETC designation, and therefore the Commission cannot find the application to meet the standards of being in the public interest.
4. US Cellular provides **_____ _____ _____ _____ _____** US Cellular makes no commitment or demonstration that it will add new facilities to provide high-quality wireless signal coverage throughout the service area for which it has requested ETC designation, as required by federal law and the new FCC guidelines.
5. Designation of US Cellular 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.

NP

6. US Cellular 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, over the past five years the FCC has issued a series of decisions that have provided an evolving set of guidelines regarding how it believes that the public interest determination should be made. In looking back over this time period there have been three distinct phases in the evolution of the FCC's thinking. The specific orders that defined these phases, and some of the key characteristics of the public interest criteria utilized during each phase are as follows:

1. **The *Wyoming* and *Alabama* Orders;**

   - December, 2000 through January, 2004
   - Competition defines the public interest
   - Designation of multiple ETCs would advance competition in high-cost rural areas, and therefore is in the public interest
   - Although not formally stated, burden was on the wireline incumbent to prove that the ETC designation was not in the public interest

2. **The *Virginia Cellular* Order:**

   - January, 2004 through March, 2005;
   - Competition, alone, was not sufficient to satisfy the public interest test
   - A more stringent, public interest test was necessary due to rapid growth in support to competitive ETCs;
   - A fact-specific analysis was required to demonstrate that the benefits of designating multiple ETCs outweighed the costs of supporting multiple networks;
   - The competitive ETC must demonstrate its commitment and ability to provide the supported services throughout the designated service area within a reasonable time frame; and
   - It was clearly stated that the burden is on the ETC applicant to prove that its designation as an ETC in the rural telephone company is in the public interest.

3. The March 17, 2005 *ETC Designation* Order

- This Order was issued in response to a Recommended Decision by the Federal-State Joint Board on Universal Service released February 27, 2004.

- The Order provides that in satisfying its burden of proof, the ETC applicant must:

  - Provide a five-year plan demonstrating how high-cost universal service support will be used to improve its coverage, service quality or capacity in every wire center for which it seeks designation and expects to receive universal service support;

  - Demonstrate its ability to remain functional in emergency situations;

  - Demonstrate that it will satisfy consumer protection and service quality standards;

  - Offer local usage plans comparable to those offered by the ILEC in the areas for which it seeks designation; and

  - Acknowledge that it may be required to provide equal access if all other ETCs in the designated service area relinquish their designation.

Q. Could you generally describe the requirements established in the *Wyoming* and *Alabama* Orders, and the impact that these Orders had on the designation of competitive ETCs at the state and federal level?

A. One of the first competitive ETC designations issued by the FCC was in the case of Western Wireless in the state of Wyoming.[1] In approving this designation the FCC stated its expectation that:

> Wyoming consumers will benefit from the provision of competitive service and new technologies in high-cost and rural areas. An important goal of the Act is to open local telecommunications markets to competition. Designation of competitive ETCs promotes competition and benefits consumers in rural and high-cost areas by increasing customer choice, innovative services, and new technologies.

[1] *In the matter of Federal-State Joint Board on Universal Service, Western Wireless Petition for Designation as an Eligible Telecommunications Carrier in the State of Wyoming*, CC Docket No. 96-45, DA 00-2896, released December 26, 2000. (Wyoming Order)l

As I will discuss shortly, the actual experience in Wyoming has not worked out exactly as the FCC had initially expected.

Similar to the Wyoming Order, the Order in the application of RCC Holdings for ETC status in Alabama[2] found that designating RCC as an ETC "serves the public interest by promoting competition and the provision of new technologies to consumers in high-cost and rural areas."[3] The Order dismisses concerns raised by parties regarding the impact of multiple ETC designations on the size of the fund by stating "we find that these issues reach beyond the scope of this Order, which designates a particular carrier as an ETC."[4] The Alabama and Wyoming Orders became the templates for many of the early state ETC decisions. Since the public interest standards were very low, virtually all of these designation requests were approved.

Q. How did the *Virginia Cellular* Order change the guidelines for the ETC designation process?

A. The *Virginia Cellular* Order[5] makes clear that "competition, by itself, is not sufficient to satisfy the public interest test in rural areas".[6] The FCC concluded that "the balancing of benefits and costs is a fact-specific exercise"[7], and that "the burden of proof [is] upon the ETC applicant."[8] The analysis must focus on "the benefits of *increased* competitive choice [and] the impact of *multiple* designations on the universal service

[2] *In the Matter of Federal-State Joint Board on Universal Servicce, RCC Holdings, Inc. Petition for Designation as an Eligible Telecommunications Carrier Throughout its Licensed Service Area in the State of Alabama,* CC Docket No. 96-45, DA 02-3181, released November 27, 2002. (Alabama Order)
[3] *Id* at paragraph 1.
[4] *Id* at paragraph 3.
[5] *In the Matter of Federal-State Joint Board on Universal Service, Virginia Cellular, LLC Petition for Designation as an Eligible Telecommunications Carrier In the Commonwealth of Virginia* CC Docket No. 96-45, FCC 03-338, released January 22, 2004. (Virginia Cellular Order)
[6] *Id* at paragraph 4.
[7] *Id.* at paragraph 28.

fund."[9] Further, the ETC applicant has an "obligation to serve the designated service area within a reasonable time frame,"[10] 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."[11] Based upon these more rigorous standards, a number of states began to reject applications where an ETC applicant did not meet the burden of establishing that its designation would be in the public interest.

Q. How did the FCC's March 17, 2005 decision expand upon the public interest criteria established in the Virginia Cellular Order?

A. In this Order[12], the FCC adopted mandatory minimum requirements for a telecommunications carrier to be designated as an ETC in proceedings where the FCC has jurisdiction to make this designation. The Order states that "these requirements create a more rigorous ETC designation process [and that] their application by [the FCC] *and state commissions* will improve the long term sustainability of the universal service fund."[13] The FCC describes these standards as follows:

> Specifically, in considering whether a common carrier has satisfied its burden of proof necessary to obtain ETC designation, we require that the applicant:
>
> 1. Provide a five-year plan demonstrating how high-cost universal service support will be used to improve its coverage, service quality or capacity in every wire center for which it seeks designation and expects to receive universal service support;
> 2. Demonstrate its ability to remain functional in emergency situations;
> 3. Demonstrate that it will satisfy consumer protection and service quality standards;
> 4. Offer local usage plans comparable to those offered by the incumbent

[8] *Id.* at paragraph 26.
[9] *Id,* at paragraph 4 (emphasis added).
[10] *Id.* at paragraph 28.
[11] *Id.* at paragraph 46.
[12] *Report and Order, In the Matter of Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, FCC 05-46, released March 17, 2005. (ETC Designation Order)
[13] *Report and Order,* CC Docket No. 96-45, FCC 05-46, released March 17, 2005, at paragraph 2 (emphasis added).

local exchange carrier (LEC) in the areas for which it seeks designation; and

5. Acknowledge that it may be required to provide equal access if all other ETCs in the designated service area relinquish their designations pursuant to section 214(e)(4) of the Act.

Q. Does the ETC Designation Order address the applicability of these mandatory minimum requirements on state Commissions?

A. While the 1996 Act explicitly grants to this Commission the responsibility for making the public interest finding, at several places in the Order the FCC provides specific encouragement for state commission's to adopt these same standards in their ETC designation proceedings

> We believe that application of these additional requirements by the [FCC] *and state commissions* will allow for a more predictable ETC designation process.[14]
>
> We encourage state commissions to require all ETC applicants over which they have jurisdiction to meet the same conditions and to conduct the same public interest analysis outlined in this Report and Order.[15]

In addition to the formal language in the Order, two of the FCC Commissioners issued separate statements in which they commented on the need for states to adopt similar ETC designation standards:

> **Commissioner Kathleen Abernathy**
> I am pleased that the Commission has endorsed the Joint Board's recommendations, and I hope that state commissions and the FCC heed this guidance in upcoming designation proceedings.
>
> **Commissioner Michael Copps**
> This is long overdue, and I am pleased to support it. I especially am encouraged by the build-out plans, reporting requirements and annual certifications that we require in this decision. Collectively, these will provide this Commission and our state counterparts with a way to monitor and ensure that ETC funding truly is being used to preserve and advance universal service.

[14] ETC Designation Order at paragraph 1 (emphasis .added).
[15] *Id* at paragraph 58.

Q. Has US Cellular commented on the applicability of the FCC Order in this proceeding?

A. Yes. On page 11 of its Application, US Cellular states "US Cellular addresses the FCC's analysis in the event this Commission applies all or part of it to US Cellular's application," however US Cellular has provided none of the fact-specific data required by the ETC Designation order to demonstrate that it will "provide service throughout the ETC service area in a reasonable period of time", or that it will "improve its coverage, service quality or capacity in every wire center for which it seeks designation and expects to receive universal service support." Indeed, as I will demonstrate shortly, US Cellular falls woefully short of meeting these requirements

Q. Why did the FCC provide the specific requirements and guidance for ETC designation that it did in the March 17 Order?

A. I believe that there are several reasons that the FCC did this. The first is to address the rapid growth in the amount of funding that is going to competitive ETCs, particularly wireless ETCs. The language quoted earlier from paragraph 2 of the ETC Designation Order highlights the FCC's concern over the "sustainability of the universal service fund." The following chart illustrates the significant growth that has occurred recently in funding going to competitive ETCs.

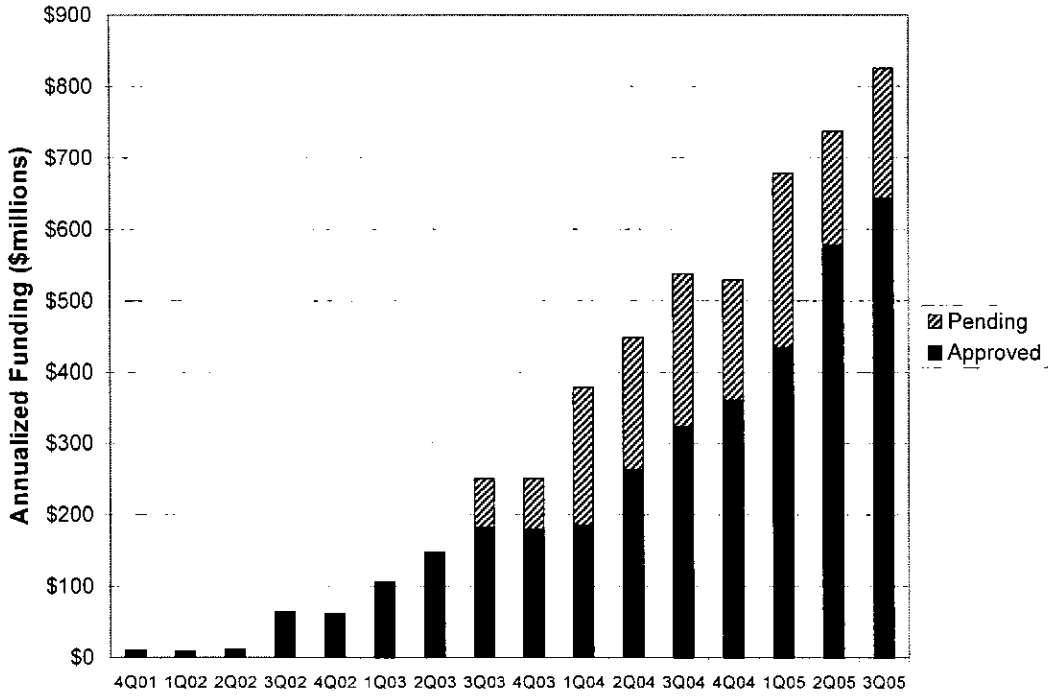

Chart I –CETC Funding

A second factor that could have influenced the adoption of more specific guidelines for the use of universal service funding is the need for greater assurance that funds are being used for their intended purpose. The purpose of universal service funding is to assure that consumers in "rural, insular and high-cost" areas have services comparable to those available in urban areas. It is only logical, then, that universal service funds provided to wireless carriers be used to improve coverage throughout the service area and build new towers to expand signal coverage into remote areas that lack sufficient coverage, or are not covered at all. In one of the earliest ETC decisions in the case of Western Wireless in Wyoming, the Order (cited previously) described the wonderful services and new technology that would come to rural Wyoming customers

with this ETC designation.[16] It is instructive to look back and see exactly what happened in Wyoming. USAC reports indicate that Western Wireless received $6.2 million of high-cost support in 2003, and $8.2 million in 2004 in Wyoming.[17] While Western Wireless received over $14 million, it added no new towers to expand its service footprint into rural and high-cost areas of Wyoming.[18] Where did the money go? It is possible that it went to upgrade services and facilities in the "urban" areas of Wyoming. It is also possible that it was used to sweeten the balance sheet to make the company a more attractive acquisition target. The point is, we just don't know where it went, but it is clear that it did not go to improve signal quality in remote and rural areas of Wyoming. By requiring a prospective applicant to clearly state where and how it intends to use high cost funding as a condition of its ETC application, and requiring the applicant to demonstrate that funds will be used to improve signal quality in every wire center for which it receives funding, the Commission will be in a better position to, as Commissioner Copps stated, "ensure that ETC funding truly is being used to preserve and advance universal service."[19]

Q. On page 18 of its Application, US Cellular states "Granting this petition will impose a negligible burden on the Universal Service Fund." Do you agree with this

[16] Both the US Cellular Application (at page 12) and the testimony of Mr. Wood (at page 8) cite the Wyoming order as supporting why US Cellular's designation as an ETC would be in the public interest.
[17] USAC reports HC01 for 1Q03 through4Q04.
[18] This conclusion was reached after a thorough review of records in the FCC tower registration and antenna licensing data bases.
[19] Much of the problem related to the need for specific build-out plans stems from the requirement under the current rules that the competitive ETC receives the same per-line support as the incumbent wireline carrier, regardless of their actual costs. In my opinion, the public interest would be better served if the competitive ETC received support for its own costs of serving high-cost areas, in much the same way that wireline carriers only receive support after they have made the investment to serve high-cost areas. Since a change such as this is well beyond the scope of this proceeding, it is incumbent on this Commission to assure that whatever support that US Cellular might receive if designated as an ETC is spent for its intended purposes.

assessment?

A. No, the facts tell exactly the opposite story. Chart I shows the explosive trend in the growth of support for competitive ETCs. From the second quarter of 2003 to the third quarter of 2005, high cost universal service support to CETC's has increased from $147 million to $826 million. Over the same time period, high-cost universal service support to incumbent carriers has remained essentially constant at approximately $3.2 billion.[20] Over this the same two year time period the universal service contribution factor has increased from 9.1% of interstate and international end-user revenues to 11.1%. It is growth such as this that has caused the FCC to develop more stringent standards for ETC designation.

Q. How do the mandatory minimum requirements in the FCC Order compare with the draft ETC designation rules that have been prepared by the Commission?

A. I have reviewed the draft rule 4 CSR 240-3.570 recently proposed by the Commission Staff, and find it to be generally similar to the requirements contained in the FCC Order. In several areas it appears to go even farther than the FCC requirements in requesting more detail regarding the five year build-out plan, and providing more specific consumer protection provisions. Like the FCC guidelines, it includes a requirement that the ETC applicant "shall include a commitment to offer local usage plans comparable to those offered by the incumbent local exchange carrier," however the draft rule also includes a provision that supported services must include "a minimum of 500 minutes of local usage." Overall, Spectra and CenturyTel support the proposed rule, and believe that

[20] The actual numbers for ILEC support is $3,151 million for 2Q03, and $3,233 for 2Q05. This equates to a 2.6% growth in ILEC support over this two year period, versus a 401% growth in CETC support. The source for all data is USAC reports HC01.

it offers a sound platform to evaluate the public interest impacts of ETC applications and to assure that finite universal service funds are being used to preserve and advance universal service.[21] Section (11)(A)(1) of the proposed rule states that CMRS carriers must provide a "minimum" of 500 minutes of local usage." Spectra and CenturyTel assume that this minimum local usage requirements is to be read in context with Section (5) which states that "Each request for ETC designation shall include a commitment to offer local usage plans comparable to those offered by the incumbent local exchange carrier in the areas for which the carrier seeks designation," and that the Commission has the authority to require local usage levels higher than the minimum, where appropriate.

THE PUBLIC INTEREST ANALYSIS

Q. As the FCC's ETC designation standards have evolved, have the way in which state commissions have been making ETC designation decisions changed as well?

A. Yes. The early state ETC designations tended to follow the reasoning in the *Wyoming* and *Alabama* decisions that competition was the primary public interest factor, and that ETC applications should be approved. Beginning in late 2003, and then following the release of the FCC's *Virginia Cellular* Order, a number of states, like the FCC, began 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

[21] The only part of the proposed rule with which I have concern is the provision in (11)(D)(2) regarding steps that a carrier would take to provision service. As I will describe later in my testimony, I believe that stronger service provisions are necessary to assure that rural consumers receive supported services

before the issuance of the *Virginia Cellular* Order) the Minnesota Corporation 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 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).[22]

In August of 2004, 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.[23]

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

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reasonably comparable to those available in urban areas to be consistent with the provisions of section 254(b)(3) of the 1996 Act.

[22] 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.

[23] *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.

concluded that the designation of Mid-Missouri Cellular as an ETC was not in the public interest.[24]

Q. If the Commission were to conclude that there should only be one ETC in some 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 US Cellular's 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 US Cellular's service. Indeed, US Cellular 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 US Cellular's network currently does not reach, or where existing signal coverage is poor. Many of these customers likely have US Cellular 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. Furthermore, to the extent that the ETC designation dilutes the finite pool of high-cost funds to the point where no carrier

[24] *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.*

can viably serve as carrier of last resort, then consumers will be harmed, and the public costs will be greatly increased.

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. The criteria outlined by the FCC in its March 17, 2005 Order can and should be applied as the Commission determines if US Cellular's application for ETC status is in the public interest.

COST/BENEFIT ANALYSIS

Q. Has US Cellular addressed the application of a cost/benefit analysis to its ETC designation request in this proceeding?

A. Yes. On page 10 of its application, US Cellular states "In considering whether US Cellular will bring new and cost-effective services to rural areas, the MPSC may properly weigh the public cost against the public benefits."

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 wireless 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 US Cellular is granted ETC status in all of the study areas for which it has requested ETC designation?

A. On page 14 of his testimony, Mr. Wright cites a USAC report that states that US Cellular stands to receive approximately $2 million per quarter if their request for ETC status in all of the requested study areas is granted. The equates to $8 million per year..

Q If US Cellular is designated as an ETC in this proceeding, would $8 million per year be the total cost to the USF for additional support payments?

A. No. There are at least six other wireless carriers that provide service in the serving areas where US Cellular seeks ETC designation. If the Commission grants ETC status to US Cellular based upon the limited showing that it has made in this case, it is likely that other wireless carriers will also apply for and receive approval for ETC status as well. The most recent public data available from the FCC indicates that in the state of Missouri there were 3.51 million wireline loops, and 3.11 million wireless handsets at the end of 2004.[25] This yields a wireless handset to wireline loop ratio of 89%. Publicly available data from USAC indicates that as of the third quarter of 2005, ILECs in the state of Missouri were receiving universal service support at a rate of $91.1 million per year.[26] 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 $81.1 million per year ($91.1 x 0.89 = $81.1).

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 II, 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.

[25] Wireless data from *Local Competition Report*, FCC, July, 2005, Table 13,Wireline data from USAC Report HC05, 4Q04.
[26] 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

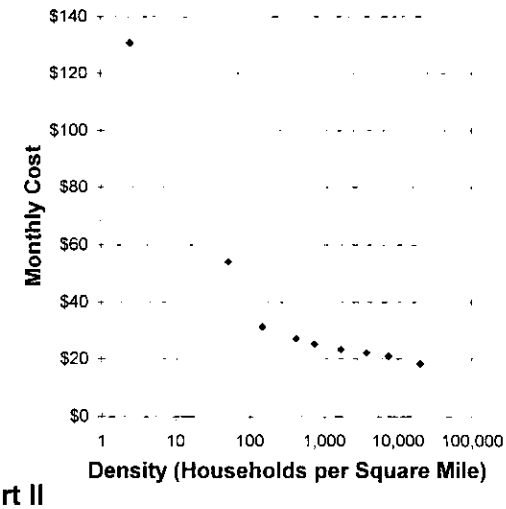

Chart II

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 US Cellular's 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 identifies 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 III 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.

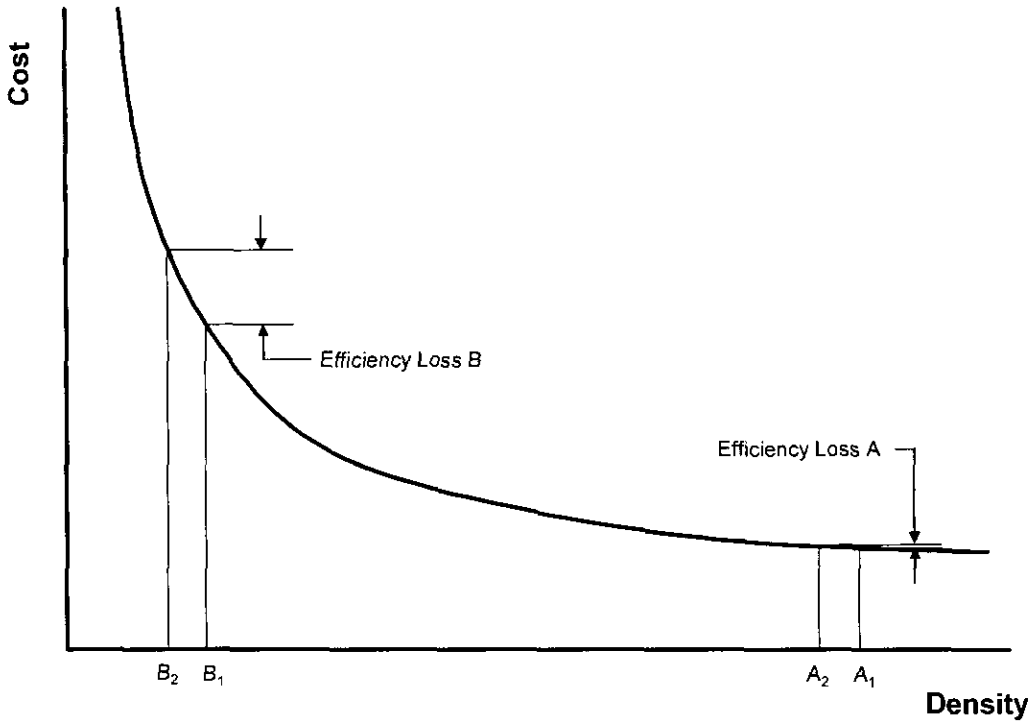

Chart III

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. 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.

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 Chairman (then 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."[27]

BENEFITS

[27] 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..

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

A. Throughout its Application and testimony, US Cellular 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 US Cellular 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, US Cellular is already competing in these areas today. The real question before this Commission is what *additional* competition and *increased* benefits will come from designating US Cellular as an ETC in the Spectra and CenturyTel study areas. Second, to read US Cellular's statements you would think that US Cellular 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 US Cellular, 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.

Q. Can you provide an illustration of US Cellular's network in the state of Missouri?

A. The location of a wireless carrier's cellular towers can be obtained from publicly available data on the FCC's Universal Licensing System (ULS) data base. While this source provides good information on the location of cellular towers, it does not include the location of Personal Communications Service (PCS) towers. As US Cellular has identified on pages 1 and 2 of its Application, US Cellular uses both cellular and PCS spectrum in its network. Schedule GHB-1 is a map of the state of Missouri that shows the US Cellular's proposed ETC service area, as well as the location of CenturyTel and Spectra's rural wire center boundaries. GHB-1 also is color-coded to indicate population density. Major highways within the state are also shown for reference. Schedule GHB-2, in addition to the information shown on Schedule GHB-1, shows the location of US Cellular's current towers, as well as the location of the 16 towers that US Cellular has committed to construct if granted ETC status in this proceeding. Since US Cellular has declared the information regarding its tower and signal coverage to be Highly Confidential, Sechdule GHB-2HC, and all of the remaining Schedules in my testimony that deal with the signal coverage of US Cellular's network are likewise Highly Confidential.

Q. How can the coverage area and signal quality of US Cellular's 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 the radius will be 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 of from 0.2 to 0.6 watts. The other type of equipment that is used, although less frequently than in the earlier days of cellular service, is the "bag phone", "car phone" or Telular-type wireless local loop units that operate at a power level of 3 watts. 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 0.2 to 0.6 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 quality of the signal coverage 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.

US CELLULAR's COVERAGE AREA

Q. Did US Cellular respond in a timely manner to CenturyTel's requests for information regarding its tower locations and other relevant data?

A. No. CenturyTel served US Cellular with its data requests on August 1, 2005. After initially objecting on August 12 to providing information respecting its tower locations and related data based on US Cellular's claim that such information was irrelevant, US Cellular ultimately agreed to provide the information sought. Under Commission rules, this information should have been provided by August 22, 2005. Key elements of this data, however, were not provided until August 31 and the remaining information was not provided until September 2. As a result of this delay, CenturyTel has been deprived of critical time to analyze this data and prepare information that will

be useful to the Commission's consideration of the public interest aspects of US Cellular's application. While I have attempted to do the best that I can in the time available in order to timely file this Rebuttal testimony, in light of US Cellular's delay in providing this information I reserve the right to fully complete my analysis and then if necessary supplement my data analysis at a later time.

Q. Has US Cellular provided a propagation analysis indicating its view of the signal coverage provided by its network?

A. Yes. In response to Data Requests, US Cellular has provided maps indicating the coverage of its current tower locations, as well as the location and projected coverage areas of the 16 towers that it has committed to construct if granted ETC status. US Cellular has classified both of these maps as Highly Confidential. US Cellular has actually provided two sets of propagation maps. The first set of maps was sent on August 18, 2005. A copy of these maps indicating US Cellular's coverage predictions for existing towers and for the proposed new towers can be found on Schedule GHB-3 of my testimony. Unfortunately the August 18 map was incomplete, and did not show any signal coverage for the Joplin, MO MSA, which US Cellular's application clearly indicated was part of its service territory.[28] Counsel for US Cellular was promptly notified of this deficiency. On August 30, 2005 US Cellular sent a second map (which I did not receive until September 2) indicating its existing network coverage, including the Joplin MSA. For some unknown reason, however, the coverage area shown on the October 30 map for virtually all of the tower locations was slightly but noticeably smaller than the coverage shown on the August 18 map. On August 31, 2005 US Cellular also

[28] Application at page 2.

finally provided the numerical data on the tower locations and radio equipment that had originally been due on August 20.

Q. How have you used the propagation maps provided by US Cellular in the preparation of your testimony?

A. From August 20 to August 30, the only information that I had was the August 18 map provided by US Cellular. The map was provided in hard copy form and measured 36 by 44 inches. I was able to locate a vendor that had the capability of scanning this map, although their equipment was limited to providing a black and white scan. I then was able to import these maps into my mapping data base, and was able to trace the coverage area so that I could perform a numerical analysis of their coverage of land area, population and highways. Schedule GHB-3HC shows the results of the scan of the August 18 maps. Schedule GHB-4HC shows the results of my tracing of the existing coverage area, and Schedule GHB-5HC shows the results my tracing of the existing and proposed coverage area. The areas shown on GHB-4HC and GHB-5HC form the basis for some of the coverage statistics that I will be presenting later in my testimony.

This method of analysis has two specific shortfalls. First, since the scan could only be done in black and white, I was not able to preserve any of the gradations of signal quality shown on the map. The map showed four levels of signal quality including Urban, Suburban, Rural and Highway. Thus, the results are very conservative, and include signal coverage that is significantly less than that that would be experienced in an urban area. Second, as I mentioned previously, the map that was sent on August 30, shows a slightly different, and noticeably smaller coverage area than the August 18 map. I frankly did not have time to go back and reconstruct my analysis, so use of the August

18 tracing further makes my analysis of US Cellular's propagation study very conservative.

Q. Have you been able to perform an independent analysis of US Cellular signal coverage in the affected Missouri rural telephone company areas?

A. Yes, I have been able to conduct my own independent propagation analysis of the US Cellular data. I have done this using both the publicly available tower data, the Highly Confidential data provided by US Cellular, and topographic data obtained from the US Geological Survey. Schedule GHB-6HC shows the results of my propagation analysis of the US Cellular network.

Q. Could you please describe what is shown on Schedule GHB-6HC?

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 Telular wireless local loop unit.[29] 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 0.2 to 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.[30] 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

[29] This equipment is manufactured by the Tellular Corp., and documentation may be found at www.tellular.com.

[30] I will note however that in Docket No. UM 1084 in the state of Oregon (in which I participated), US Cellular submitted a propagation map on which they indicated "Urban" quality service as -76 dBm.

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 boundaries for the Spectra and CenturyTel wire centers and the proposed US Cellular ETC service area.

Q. Have you had an opportunity to compare your propagation analysis with that provided by US Cellular?

A. Yes. Schedule GHB-7HC takes the propagation map from GHB-6HC, and overlays the coverage outlines of the US Cellular map shown on Schedule GHB-5HC. **_____**

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 testimony, US Cellular stresses mobility as a key benefit of its service. In rural areas

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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 US Cellular 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 high-power customer premise equipment or a roof-mounted antenna. 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. On page 8 of his testimony, Mr. Wright describes a six-step process that US Cellular proposes to use to demonstrate that US Cellular provides service throughout requested ETC service area. Do you believe that this process is consistent with Section 254(b)(3) of the Act?

A. No. The six-step process that Mr. Wright describes allows a carrier to claim that an area is "covered", even if high-powered customer premises equipment and/or a roof-mounted antenna is required for a customer to receive signal coverage. While this provides a benefit to the individual consumer receiving this service, it is of no benefit to the vast majority of customers utilizing conventional handsets. It also is inconsistent with the intent of Section 254(b)(3), since the coverage provided is not comparable to that available in urban areas.

Q. Do you have any other concerns about US Cellular's proposed use of the six-step process to demonstrate that it provides service throughout the proposed ETC service area?

A. Yes, I have at least two other concerns. The first deals with the question of what comprises a "reasonable request" for service. While US Cellular asks the Commission to accept its commitment to "respond to reasonable requests for service," nowhere in their application or testimony do they define what a reasonable request for service would be. More importantly, nowhere do they address what an "unreasonable" request for service would be. An ILEC's service obligations are identified in their tariffs, including situations where service must be provided, and situations when aid to construction charges may be appropriate. For the public interest to be served, there must be a similarly clear understanding of the obligations that US Cellular would need to accept in order for their application for ETC status to be considered to be in the public interest.

Q. Does the ETC Designation Order address the role of the state commission in defining what constitutes a "reasonable request?"

A. Yes. Paragraph 21 of the Order addresses the issue of commitment to serve throughout the designated service area and states:

> We encourage states to adopt these requirements and, as required by the Joint Board, to do so in a manner that is flexible with applicable state laws and policies. For example, states that adopt these requirements should determine, pursuant to state law, what constitutes a "reasonable request" for service.

Q. You mentioned that you had two concerns with the six-step process endorsed by US Cellular. What is your second concern?

A. My second concern is that the process described by Mr. Wright focuses primarily on reasonable requests for service at a customer's premises, while US Cellular relies heavily on the benefits of mobility in describing why approval of its application would be in the public interest.[31] While the public health and safety benefits of wireless service are undeniable, these benefits only occur for the vast majority of Missouri consumers when they can receive a good quality signal using a conventional handset. Thus, the quality of coverage along major highways should be an important element of the public interest determination. It is unclear in Mr. Wright's testimony how a "reasonable request" for coverage along major highways would be made, and who would make such a request.

Q. Is mobility a requirement for ETC designation?

A. No, however mobility is one of several factors that the ETC Designation Order lists as "Advantages and Disadvantages of Particular Service Offerings" in performing the cost-benefit analysis that is an integral part of the public interest determination process.[32] Since US Cellular has relied heavily on the benefits of mobility in its public

[31] See, for example, Application at pages 17-18, Wright testimony at pages 15-16, Wood testimony at pages 9-10.

[32] Paragraph 44 of the ETC Designation Order deals with the cost benefit analysis and states "We conclude that we will continue to consider and balance the factors listed below [including mobility] as part of our overall analysis regarding whether the designation of an ETC will serve the public interest. In determining

interest justification, the quality of coverage along major highways, and US Cellular's commitment to respond to reasonable requests for such coverage must play an important part in the public interest analysis.

Q. Have other parties also suggested that coverage along roads be a component of the public interest evaluation process for wireless carriers.

A. Yes. On August 17, 2005, the Federal-State Joint Board on Universal Service issued a Public Notice in which it requested comment on four specific proposals by Joint Board Members and Staff for modifications to the current universal service process.[33] One of these proposals, titled "Universal Service Endpoint Reform Plan" (USERP), was submitted by Joint Board Staff Members Peter Bluhm (VT), Jeff Pursley (NE) and Joel Shiffman (ME).[34] The USERP specifically proposes that a metric for the approval of wireless ETC application be "to improve wireless signal coverage, particularly along roads."[35]

Q. Is the USERP, and the issue of coverage along roads a formal position of either the Joint Board or the FCC?

A. No, although it does reflect the thinking of Joint Board Staff Members who are actively engaged in the planning and development of universal service reforms. More importantly, however, an examination of coverage along major highways provides a tangible measure for the Commission to use in assessing the public interest benefits that will result from a potential ETC designation, as well as a test of the commitment of the

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whether an ETC has satisfied these criteria, the Commission places the burden of proof upon the ETC applicant.

33

34

35

ETC applicant to provide service "throughout the service area, as an ETC is required to do.

ANALYSIS OF SIGNAL COVERAGE

Q. What major conclusions do you draw from this propagation analysis?

A.. **_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____**

Q. Could you describe the coverage statistics that you have developed through your examination of the Highly Confidential data?

A. I first examined the overall ETC service are using the US Cellular coverage profile shown on Schedules GHB-4HC and GHB-5HC. I first examined the percentage of households within the ETC service area that would are covered by the current tower network, and that would be covered with the addition of the 16 proposed towers. **_____

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1 ____

2 _____

3 ____** In terms of land area, **_____

4 _____

5 _____

6 _____

7 _____** It should also be noted that the coverage profiles reflected on Schedules
8 GHB-4HC and GHB-5HC include all signal coverage quality metrics (Urban, Suburban,
9 Rural and Highway). Thus the percentage of households and area that receive urban
10 quality signal coverage would be somewhat lower.

11 **Q. Were you able to measure the percentage of households and area with urban**
12 **quality signal coverage using your propagation analysis?**

13 A. No. Due to the limited time with the data, I was unable to perform a propagation
14 analysis for the St. Louis area, which contains **___** PCS towers. Thus, I an unable to
15 provide signal quality statistics for the entire ETC service area. I was able to perform a
16 signal quality analysis for the out-state areas.

17 **Q. Were you able to perform an analysis of the percentage highway miles in the**
18 **ETC service area that US Cellular's propagation maps show are "covered" by the**
19 **current and proposed network?**

20 A. Yes. My analysis of highway coverage indicates that **_____** of major
21 highways in the ETC service area are covered by the profile shown on GHB-4, and that
22 percentage would increase to **_____** with the addition of the new towers as
23 shown on GHB-5HC.

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Q. What definition of "highways" did you use in this analysis?

A. For this analysis I used "Primary" and "Secondary" highways as defined by Census Feature Class Code as follows:

> **A1 Class: Primary Highways With Limited Access** – Interstate highways and some toll highways are in this category and are distinguished by interchanges.
>
> **A2 Class: Primary Road Without Limited Access:** - This category includes nationally and regionally important highways that do not have limited access as required by category A1. I consists mainly of US highways, but may include some state highways and county highways that connect cities and larger towns.
>
> **A3 Class: Secondary and Connecting Road:** - This category includes mostly state highways, but may include some county highways that connect smaller towns, subdivisions and neighborhoods.

The highways used in this analysis are the ones shown on the maps in Schedules GHB-1 through GHB-7HC.

Q. Could you describe your analysis of the Spectra and CenturyTel rural study areas.

A. US Cellular has requested ETC designation in all of the CenturyTel-Belle-Herman and CenturyTel-Southern study areas, and in parts of the Spectra study area. The results of my analysis of signal coverage against the US Cellular coverage profiles shown on Schedules GHB-4HC and GHB-5HC are detailed on Schedule GHB-8HC, and the results of my analysis of signal coverage against my own propagation analysis are shown on Schedule GHB-9HC. Following are some of my observations from this analysis:

- Using the US Cellular coverage profiles, of 88 total rural ETC wire centers **_____**

_____

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- With the addition of the 16 new towers, **_____ _____ _____**
- **_____ _____ _____**
- While the US Cellular's coverage profile indicates that **___** of the Spectra study area is "covered," the data from Schedule GHB-6HC indicate that **_____** of the households receive urban-quality service. The similar statistics for the CenturyTel Belle-Herman and CenturyTel Southern study areas are **_____**, respectively.

Q. Were you able to perform a wire center analysis of the non-rural CenturyTel Central and CenturyTel Southwest study areas where US Cellular has requested ETC designation in whole or in part?

A. No, although the requested areas would be included in the ETC service area statistics that I described above.

Q. Have you been able to perform an analysis of highway coverage below the ETC service area at this time?

A. No.

THE FCC'S MARCH 17, 2005 ETC DESIGNATION CRITERIA

Q. Earlier you described the public interest test that the FCC has outlined in its March 17, 2005 Order. Could you please analyze US Cellular's submissions in this proceeding against these evaluation criteria?

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A. The FCC's Order provided five specific criteria that must be met for a prospective applicant to be designated as an ETC. Following is an evaluation of US Cellular's filing in this proceeding against these five criteria.

1. Provide a five-year plan demonstrating how high-cost universal service support will be used to improve its coverage, service quality or capacity in every wire center for which it seeks designation and expects to receive universal service support.

The FCC describes its expectations for this five year plan as follows:

> This showing must include:
> 1. How signal quality, coverage, or capacity will improve due to the receipt of high-cost support throughout the area for which the ETC seeks designation;
> 2. The projected start date and completion date for each improvement and the estimated amount of investment for each project that is funded by high-cost support.
> 3. The specific geographic areas where the improvements will be made; and
> 4. The estimated population that will be served as a result of the improvements.[36]

While US Cellular does describe 16 cell sites that it proposes to build if it is granted ETC status, it falls woefully short of providing the data called for in the FCC guidelines, including a proposed 5-year build-out plan. The FCC included this requirement to assure that the ETC applicant is committed to serving throughout the service area, and to have concrete milestones to evaluate progress toward meeting the build-out plan during the annual review process. The FCC also required data regarding the estimated population that would be served as a result of each improvement. This is critical data is necessary to conduct the cost/benefit analysis of whether the projected expenditure will provide increased public benefits commensurate with the increased public costs. US Cellular provides none of this population data

2. Demonstrate its ability to remain functional in emergency situations.

[36] ETC Designation Order at paragraph 23.

The FCC states that "an applicant must demonstrate it has a reasonable amount of back-up power to ensure functionality without an external power source, is able to reroute traffic around damaged facilities, and it capable of managing traffic spikes resulting from emergency situations."[37] Mr. Lowell describes steps that US Cellular has taken to ensure network reliability on pages 5-7 of his testimony. In paragraph 25 of the ETC Designation Order, the FCC states:

> Because most emergency situations are local in nature, we anticipate that state commissions that choose to adopt an emergency functionality requirement may also identify other geography-specific factors that are relevant for consideration.

The Commission will need to determine if the network reliability measures taken by US Cellular are sufficient to provide emergency functionality to Missouri consumers for a company receiving public high-cost support.

3. Demonstrate that it will satisfy consumer protection and service quality standards.

The FCC has stated that "a carrier seeking ETC designation [must] demonstrate its commitment to meeting consumer protection and service quality standards," and that "a commitment to comply with the CTIA Consumer Code for Wireless Service will satisfy this requirement."[38] US Cellular has indicated that it supports the CTIA Code. This Commission has also outlined specific consumer protection provisions in its proposed rules, and US Cellular has made no demonstration that it will comply with these provisions

4. Offer local usage plans comparable to those offered by the ILEC in the areas for which it seeks designation.

[37] *Id* at paragraph 25
[38] *Id* at paragraph 28.

The ETC Designation Order adopts the Joint Board's recommendation that a local usage requirement be established as a condition for receiving ETC designation. In establishing this requirement they state:

> Specifically, we require an ETC applicant to demonstrate that it offers a local usage plan comparable to the one offered by the incumbent LEC in the service areas for which the applicant seeks ETC designation.[39]
>
> We encourage state commissions to consider whether an ETC offers a local usage plan comparable to those offered by the incumbent in examining whether the ETC applicant provides adequate local usage to receive designation as an ETC.[40]

The provision of local usage is another shortcoming of US Cellular's application. Spectra and CenturyTel offer basic local service plans that provide an unlimited amount of local calling over a defined local calling area. In order to meet the "comparability" standard in Spectra and CenturyTel's service areas, any offering for which US Cellular seeks to receive high-cost universal service support must likewise offer unlimited local calling. On page 7 of his testimony, Mr. Wright offers only the vaguest of generalities to justify that each of US Cellular's rate plans "are comparable to or better than those offered by ILECs."

5. Acknowledge that it may be required to provide equal access if all other ETCs in the designated service area relinquish their designation.

In addressing the provision of equal access to long distance carriers the FCC states

> Although we do not impose a general equal access requirement on ETC applicants at this time, ETC applicants should acknowledge that we may require them to provide equal access to long distance carriers in their designated service area in the event that no other ETC is providing equal access within the service area.[41]

[39] *Id* at paragraph 32.
[40] *Id* at paragraph 34.
[41] ETC Designation Order at paragraph 35.

US Cellular has committed to offer equal access should the incumbent relinquish ETC designation.

Q. Will designating US Cellular as an ETC in the requested areas increase the competitive choices that Missouri customers experience?

A. No. Designating US Cellular 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. US Cellular already provides wireless service in the areas where it has requested ETC status. US Cellular 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. US Cellular has not indicated that any prices will be reduced if ETC status is granted. There are already at least six other wireless carriers providing competitive wireless service in the requested areas without universal service support today. Therefore, US Cellular has not quantified any specific benefits, and it is doubtful that significant additional competitive choices will result from designation of US Cellular as a competitive ETC.

Q. On page 18 of its Application, US Cellular states that "granting this petition will impose a negligible burden on the federal Universal Service fund." Do you agree with this conclusion?

No. The impact of designating US Cellular as an ETC in the state of Missouri on the USF will be significant. I have already indicated that the direct impact of US Cellular's designation will be approximately $8 million and that if all other wireless carriers in the state of Missouri request and receive ETC status, the total annual impact will be over $81 million. It has been estimated that if all wireless carriers nationwide were to be granted

ETC status, then the universal service fund would grow by between $2 billion and $3 billion per year.[42] 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"[43] public interest standards for ETC designations.

HARMS TO CONSUMERS

Q. If US Cellular 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

[42] See *Universal Service – Rural Infrastructure at Risk*, March, 2005 published by McLean & Brown at page 28. This paper may be obtained at www.mcleanbrown.com.
[43] *Virginia Cellular* Order at paragraph 4.

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 Chairman 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. 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. The FCC formalized this requirement in the ETC Designation Order. 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 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.. US Cellular has failed to prove that its application for ETC status in the Spectra and CenturyTel study areas is in the public interest. The designation of US Cellular 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. Furthermore, US Cellular's Application falls woefully short of the ETC designation criteria contained in the FCC's March 17, 2005 *ETC Designation Order* and the Commission Staff's proposed rules to prove that the requested designation is in the

public interest.

**_____

_____

_____** For the foregoing reasons, US Cellular's application cannot be found to be in the public interest. Thus, the Commission should deny this application.

Q. Does this conclude your testimony at this time?

A. Yes, however as noted previously, in light of US Cellular's delay in providing needed data, I reserve the right to supplement my analysis as appropriate at a later time.

NP

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of USCOC of Greater Missouri, LLC for Designation as an Eligible Telecommunications Carrier Pursuant to the Telecommunications Act of 1996	)))))	Case No. TO-2005-0384

AFFIDAVIT OF GLENN BROWN

State of Arizona)
) ss.
County of Yavapai)

Glenn Brown, being of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 50 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge, information and belief.

Glenn Brown

Subscribed and sworn to before me this 12 day of September, 2005.

Notary Public

(seal)

CHERYL L. ADAMS
Notary Public - Arizona
Yavapai County
My Commission Expires
August 30, 2007

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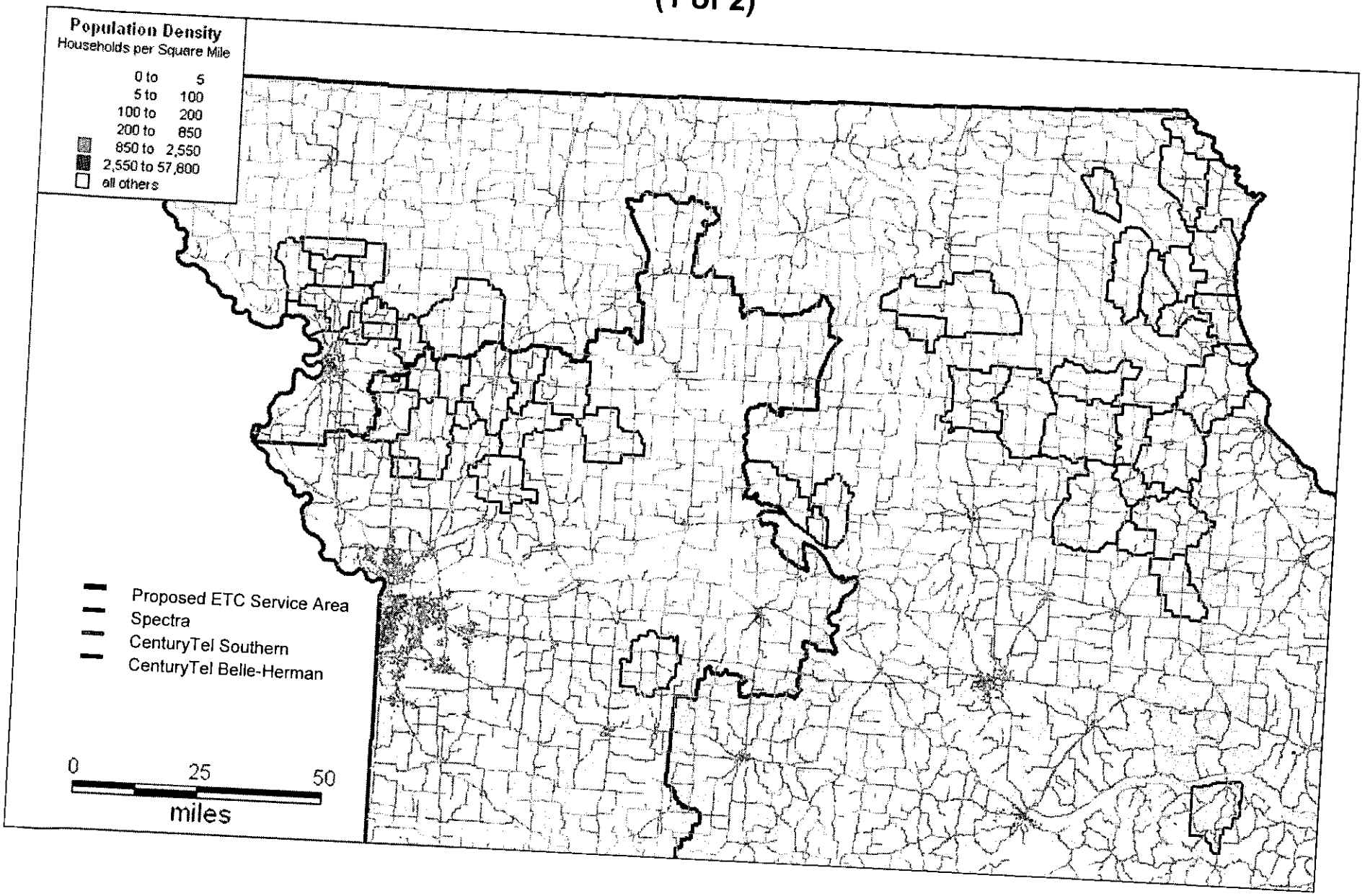
BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF MISSOURI

Case No. TO-2005-0384

Schedules 1-9 for the Testimony of
Glenn H. Brown
September 12, 2004
NP - Public Version

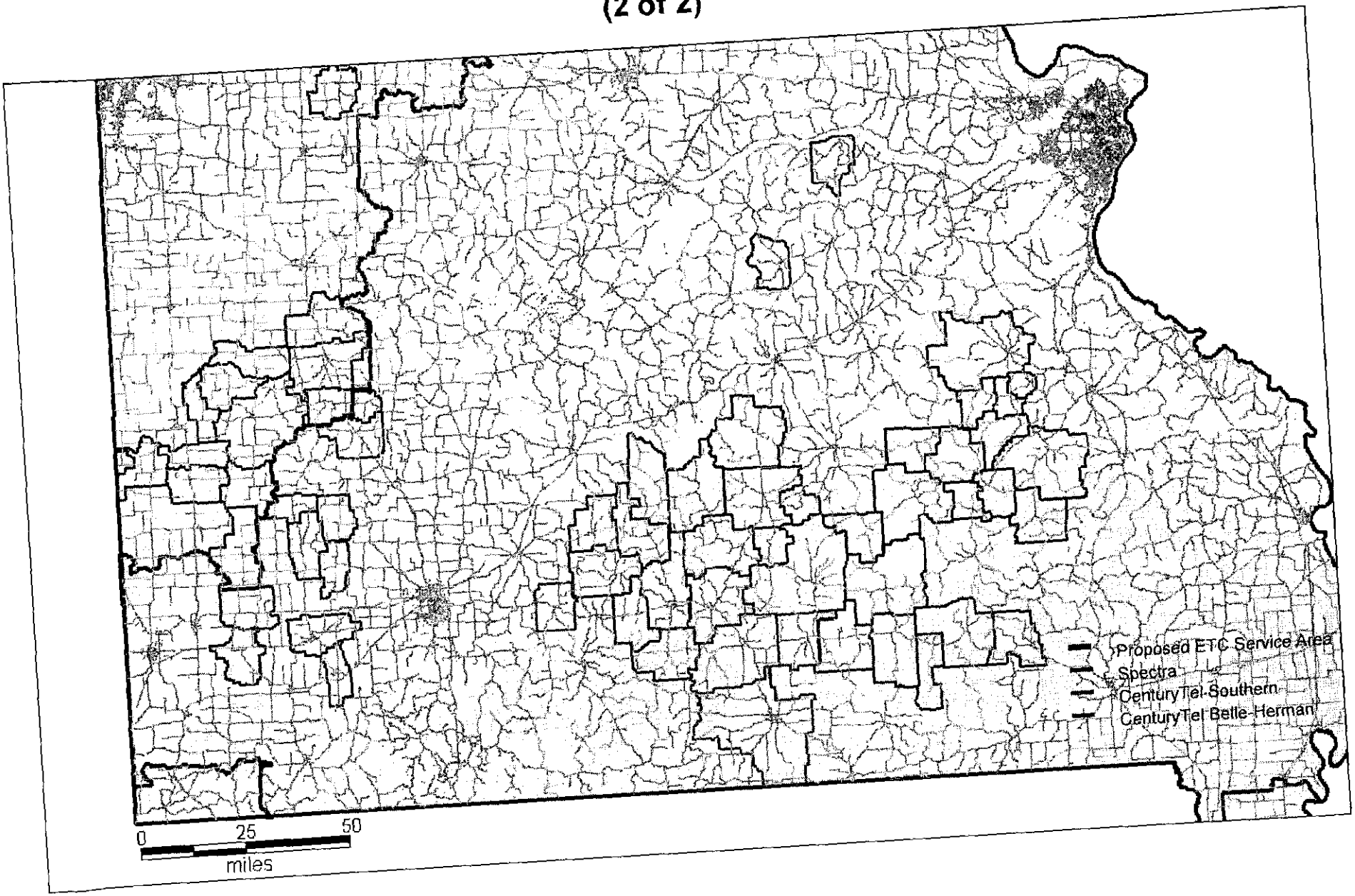
Schedule GHB-1

(1 of 2)



Schedule GHB-1

(2 of 2)



Schedules GHB-2 through GHB-9 consisting of a total of 16 pages contain, or were derived from, information which has deemed to be HIGHLY CONFIDENTIAL by Applicant USCOC