Exhibit No.:	
Issues:	*FCC Requirements for ETC Status; Areas Included in Request; Public Interest*
Witness:	*Michael K. Kurtis*
Sponsoring Party:	*Missouri RSA No. 7 Limited Partnership d/b/a Mid-Missouri Cellular*
Type of Exhibit:	*Surrebuttal Testimony*
Case No.:	*TO-2005-0325*
Date Prepared:	*July 14, 2005*

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

CASE NO. TO-2005-0325

MISSOURI RSA No. 7 LIMITED PARTNERSHIP
d/b/a MID-MISSOURI CELLULAR

Surrebuttal Testimony

Of

MICHAEL K. KURTIS

July 14, 2005

SURREBUTTAL TESTIMONY OF

MICHAEL K. KURTIS

APPLICATION OF MISSOURI RSA No. 7 LIMITED PARTNERSHIP

d/b/a MID-MISSOURI CELLULAR

CASE NO. TO-2005-0325

Q. Please state your name.

A. My name is Michael K. Kurtis.

Q. Are you the same Michael K. Kurtis that previously submitted pre-filed Direct Testimony in this case on or about March 25, 2005?

A. Yes. I am the same person who previously submitted that pre-filed testimony on that date.

Q. Has anything changed as far as your employment, your educational background and experience or your professional associations since those testimonies were filed?

A. My employment, educational background and experience and my professional associations are the same, with one exception. At the time I submitted my Direct Testimony, I was Of Counsel to the law firm of Bennet & Bennet, PLLC. At this time I am no longer Of Counsel to that firm. I am now employed as Of Counsel to the law firm of Kurtis & Associates, PLC. However, I still provide the same types of regulatory services in my present employment as I did with Bennet & Bennet. As I have previously testified, I do hold a degree in electrical engineering, as well as being an attorney; I provide regulatory services before the FCC and am very familiar with all current proceedings affecting the wireless industry; and I have designed numerous wireless networks.

Q. From a substantive standpoint, is there anything that has changed since the time your Direct Testimony was filed?

A. No.

Q. What is the purpose of your Surrebuttal Testimony?

A. The purpose of my Surrebuttal Testimony is to respond in part to the pre-filed Rebuttal Testimony by Citizens Telephone Co. of Higginsville ("Citizens"), Alma Communications Co. d/b/a Alma Telephone ("Alma") and Mid-Missouri Telephone Co. ("MMTC") by a joint witness, Spectra Communications Group, LLC, d/b/a CenturyTel ("Spectra") and CenturyTel of Missouri, LLC. ("CenturyTel") also filed by a joint witness, as well as to respond to the pre-filed Rebuttal Testimonies of the Missouri Public Service Commission Staff ("MoPSC Staff") and the Office of Public Counsel ("OPC"). I shall refer to Citizens, Alma and MMTC collectively as the Independent Intervenors and Spectra and CenturyTel collectively as the CenturyTel Intervenors. Reference to Intervenors shall refer collectively to both groups and SBC.

Q. Have you had an opportunity to review the Rebuttal Testimony of Mr. Robert C. Schoonmaker presented on behalf of Citizens, Alma and MMTC (in Case No. TO-2005-0325) regarding the MMC Application for ETC Designation?

A. Yes. I have.

Q. Have you likewise had an opportunity to review the Rebuttal Testimony of Mr. James E. Stidham, Jr. presented on behalf of SBC?

A. Yes. I have.

Q. Have you had an opportunity to review the Rebuttal Testimony of Mr. Glenn Brown presented on behalf of Spectra and Century?

A. Yes. I have.

Q. Have you had an opportunity to review the Rebuttal Testimony of Mr. Adam McKinnie presented on behalf of MoPSC Staff?

A. Yes. I have.

Q. And have you had an opportunity to review the Rebuttal Testimony of Ms. Barbara A. Meisenheimer presented on behalf of the OPC?

A. Yes. I have.

Q. Before delving into the specifics of the testimony identified above, do you have any general observations about the testimony of these witnesses?

A. Yes I do. The general theme of the testimony of the witnesses for the Intervenors is that grant of ETC status to MMC would jeopardize the long-term sustainability of the Universal Service Fund (USF). That simply is not the case. This type of testimony is directed toward the whole concept of granting ETC status to wireless carriers and not the merits of the MMC proposal. Indeed, Mr. Dawson has made it clear that Mr. Schoonmaker's testimony appears to be, in large part, directed toward sensationalizing the issues as opposed to focusing on the facts of the MMC filing. The simple truth is that the Congress of the United States has made it abundantly clear that wireless carriers ***are*** eligible for ETC status. The FCC and most other state commissions have granted and continue to grant ETC status to wireless carriers. The fund in question is the Federal USF fund and the simple fact remains that whether or not the Missouri Public Service Commission ("MoPSC") grants ETC status to MMC, wireless carriers nationwide ***will*** continue to draw support from the USF. The only issue to be decided by the MoPSC is whether any of those USF funds are used to enhance wireless service within the state of Missouri or whether access to those funds by rural

wireless carriers will be available for the benefit of the citizens of all states ***other than*** Missouri.

Q. But the USF is not a limitless pool of money. Mr. Schoonmaker, Mr. Stidham and Mr. Brown have all testified that there has been a substantial growth in the amount of money being paid to wireless ETCs and that there has been a corresponding growth in the USF contribution factor for the first 2 quarters of 2005. Doesn't that argue against continuing to designate wireless ETCs?

A. There is no question that the integrity of the USF is essential. And while I will specifically respond to the issues raised by each witness, I will again state that the MoPSC should not look to address "national" USF issues in the context of the MMC ETC application. Neither other states nor the FCC are denying their rural citizens access to needed USF support for rural wireless carriers in the interim.

Just last month, the FCC issued its first wireless ETC order since releasing its recommended guidelines.[1] In granting that wireless ETC designation, the FCC confirmed that it was in the public interest to continue granting wireless ETC designations while broader issues relating to the USF are fully explored in the context of specific proceedings designed to address those policy issues. In granting the NTELOS ETC designation, the FCC explained

> We reject Verizon's request that we delay ruling on any pending ETC petitions until the Commission addresses issues raised in the high cost proceeding pending before the Joint

[1] *Federal-State Joint Board on Universal Service, Virginia PCS Alliance, L.C. and Richmond 20 MHz LLC d/b/a NTELOS, Petition for Designation as an Eligible Telecommunications Carrier in the Commonwealth of Virginia,* Order DA 05-1663 (released June 14, 2005). ("*NTELOS Order")*

> Board. According to Verizon, the number of outstanding potential ETC designations could overwhelm the universal service fund. [Footnote omitted]. In February 2005, the Commission adopted an order setting forth requirements for a carrier seeking ETC designation from the Commission. [Footnote omitted]. Although the Commission recognized that the proceeding before the Joint Board might have an impact on determining support for ETCs, the Commission did not find that it should delay acting on ETC petitions pending conclusion of the Joint Board proceeding. [Footnote omitted] The *ETC Designation Order* set forth the framework for designating ETCs and indicated an intent to move forward with petitions for ETC designation. Moreover, in the *ETC Designation Order* proceeding, the Commission declined to adopt a specific test concerning whether the designation of an ETC would affect the size and sustainability of the high cost fund. [Footnote Omitted]. Therefore, we decline to delay ruling on pending ETC petitions.

So the issue before the MoPSC is very much whether the rural citizens of the state of Missouri will enjoy the same benefits from allowing USF support to rural wireless carriers as the rural citizens of other states, pending any long-term adjustments in the USF funding and support mechanisms. The FCC has correctly recognized that proceeding with wireless ETC designations would not have a dramatic impact on the USF in the interim.

Turning now to Mr. Schoonmaker's testimony, while Mr. Schoonmaker has not provided incorrect information, he has made a series of statements which, while individually correct, taken as a whole could lead to an incorrect inference and thus the wrong conclusion. Specifically, Mr. Schoonmaker has provided testimony as to the "alarming" growth in the amount of absolute dollars being paid to wireless ETCs and cites a "jump of almost 25%" in the USF contribution factor. (Schoonmaker Rebuttal p.65 lines 9-10). While one might therefore conclude that the wireless ETC designations have led to the growth in the need for increased USF funding, in reality there is little correlation between these two facts.

The USF is more than just the program used to fund rural telecommunications services such as those at issue here. The USF actually consists of four programs, each administered by the Universal Service Administrative Company ("USAC"). These programs are: (1) the universal service mechanism for high cost areas, providing financial support to carriers serving high cost areas; (2) the universal service mechanism for schools and libraries (also known as the E-rate program), providing for discounted services (local and long distance telephone service, Internet access, and internal connections) to eligible schools and libraries; (3) the universal service mechanism for low income consumers, assisting low income consumers with discounted installation and monthly telephone services; and (4) the universal service mechanism for rural health care, providing discounted services to rural health care providers. Each quarter, USAC reports on the projected needs to fund each of these four programs and the FCC establishes a "contribution factor" used to collect the funds needed to meet those projected costs on a collective basis. The factor is set so that, when multiplied times the revenues associated with the types of interstate services from which the

USF fees are collected, the amounts needed to fund these four programs for the next quarter are collected.

As a result, the USF is structured so that the amount distributed under the fund is directly tied to the amount collected by the fund. Where the amount being distributed grows but the contribution factor remains relatively constant, the fund may be "growing" in terms of absolute dollars but remains stable because the fund is, in effect, distributing a pool of money that is growing "in step" with the amounts being disbursed. Where expenditures increase beyond a corresponding growth in revenues, the contribution factor is increased. So under its present structure and funding mechanism, the USF continues to be self sustaining.

While Mr. Schoonmaker is correct that the contribution factor increased in early 2005 that increase is not attributable to the growth in wireless ETC designations as he implies. Perhaps the best way to explain this is to independently examine the wireless impact in the USF in the context of both the wireless contributions to the fund and the amounts that wireless ETCs are drawing from the fund.

First, from the standpoint of wireless contributions to the funds, the FCC has already made adjustments in the way that wireless carriers calculate their contributions. As I previously, explained, the contribution factor is multiplied by a carrier's interstate revenues. In the wireless context, it is not always easy to delineate interstate versus intrastate revenues. As a result, the FCC collected traffic data from wireless carriers and determined the average portion of revenues that were derived from interstate traffic. Where the wireless carrier cannot easily track its interstate versus intrastate revenues, the wireless carrier may use a "safe harbor" assumption that its traffic is in line with that national average. While that safe harbor was originally set at 15%, with the bundling of toll, the FCC updated its information

and nearly doubled that safe harbor to its current level of 28% of a carrier's revenues. As a result, the level of contribution to the USF by the combined group of wireline and wireless carriers actually declined during 2003. Specifically, the contribution factor declined from 9.5% (third quarter 2003), to 9.2% (fourth quarter 2003) to 8.7% (first quarter 2004). Second quarter 2004 USF factor remained at 8.7 percent, the same factor as for the first quarter of 2004. The third and fourth quarter 2004 contribution factor was 8.9 percent, still well below the contribution factors for the prior year. While, as Mr. Schoonmaker testified the contribution factors increased for 2005 (10.7% for first quarter and 11.1% for the second quarter), the majority of those increases related to increased projected support for the Schools and Library Program and the Rural Health Care Program.[2] Those portions of the fund are not at issue here and are not affected by wireless ETC designations. Comparing the Program Support levels from the 4th quarter 2004 to those projected for the second quarter of 2005, the Schools and Libraries Projected Program Support increased 36.33% as compared to an increase of 5.21% in the High-Cost program.

The FCC released the projected USF contribution factor for the third quarter of 2005, on June 14, 2005, wherein it proposed a reduction in the contribution factor from 11.1% for the second quarter to 10.2%. So, from a contribution standpoint, the USF fund remains relatively stable (even with the significant increased needs of the Schools and Library Program and the Rural Health Care Program). Again, to the extent the size of the fund has grown in recent quarters, those increases in the costs are associated with programs not at

[2] Copies of all FCC quarterly contribution factor public notices are available on the FCC's web page at the following link: http://www.fcc.gov/wcb/universal_service/quarter.html.

issue here, not with the designation of wireless ETCs, and it is those programs that have accounted for the vast majority of increased costs over the past few quarters.

Q. But Mr. Schoonmaker points out that the level of wireless support has grown from $11 million annually in 2001 to $736 million dollars annually in 2005. Doesn't that demonstrate a significant strain being placed on the fund by wireless carriers?

A. Not at all. From the standpoint of the amount of USF support being paid out to wireless carriers, Mr. Schoonmaker has presented numbers to suggest "alarming" growth in wireless USF support payments. In actuality, these numbers demonstrate that wireless carriers continue to receive far less than their pro rata level of support when compared to dollars wireless carriers pay into the fund.

Appendix Q to my surrebuttal testimony is a chart that graphically depicts the contributions to the USF categorized by the type of entity, over the past 8 years. As shown in that chart, in 1997 wireless carriers contributed 3.3% of the monies in the USF as compared to 14.3% of the fund contributions which came from ILECs for that same year. By 2005, the level of ILEC contributions had grown to 26.6%, representing a 1.86 fold increase in the level of ILEC contributions. In sharp contrast, the monies contributed to the USF by wireless carriers has grown to 34.1% of all monies contributed to the USF, representing a more than 10 fold increase in the level of wireless carrier contributions. Stated another way, for 2005, the wireless carrier USF contributions to the fund, in real dollars, is more than 28% greater than the funds contributed to USF by the ILECs.

Now looking at the level of monies that wireless carriers "draw" from the fund, based upon annualizing the USF support projections for the second quarter of 2005, USF funding for 2005 is expected to be approximately $7.224 billion. Taking Mr. Schoonmaker's number

of $736 million in support now being paid to wireless ETCs for 2005, USF payments to wireless carriers will represent 10.19% of the total funds distributed. This amount represents about 30% of the monies paid ***into*** the fund by wireless carriers. Despite the fact that wireless ETC support is clearly allowed, and despite the fact that monies paid ***out*** to wireless ETCs is less than 1/3 of the monies paid ***into*** the fund by wireless carriers, the Intervenors express alarm that wireless ETCs are being allowed to actually access a ***portion*** of the monies that wireless carriers contribute to the USF. So "collectively" the burden placed on the USF by wireless carriers does not even approach the monies paid into the USF by wireless carriers. While this information fully responds to the issue raised by Mr. Schoonmaker, Mr. Stidham and Mr. Brown, it is important for the MoPSC to remember that these policy issue are ***not*** applicable to the disposition of the MMC ETC application.

As previously testified, the level of support that MMC would expect to draw from the fund is *de minimis*; representing only a fraction of a percent of the high cost support paid out of the fund. And while Mr. Schoonmaker is not an attorney he demonstrates a remarkable understanding of the FCC's position with respect to USF issues, where he wants to. However, not being an attorney, Mr. Schoonmaker apparently feels no obligation to advise the MoPSC when the FCC holdings are clearly against his position. This is one such instance.

The FCC has held that a potential high cost support of 1.88% of the total level of high-cost support, or approximately forty-seven (47) times the burden of the proposed MMC designation, did not represent a significant increased burden on the USF. *See, In the Matter of Federal-State Joint Board on Universal Service, NPCR, Inc. d/b/a Nextel Partners Application for Designation as an Eligible Telecommunications Carrier In the states of*

Alabama, Florida, Georgia, New York, Pennsylvania, Tennessee and the Commonwealth of Virginia, Memorandum Opinion and Order, CC Docket No. 96-45, DA 04-2667 (rel. August 25, 2004) ("*Nextel Order*"), at paragraph 21. In point of fact, the *FCC Guidelines Report & Order*, acknowledges that ". . . given the size of the total high cost fund – approximately $3.8 billion a year – it is unlikely that any individual ETC designation would have a substantial impact on the overall size of the fund."[3]

High cost support levels will increase under the current funding structure by the designation of additional ETCs. However, with the continued growth in the number of wireless subscribers, so will the amount of monies paid into the fund by wireless carriers. ***If***, at some point in the future the fund truly cannot be sustained, it will be incumbent upon the Federal regulators, in conjunction with the Joint Federal and State Board on Universal Service, to implement the changes needed to retain a stabilized fund. In the meantime, Intervenors' position that the MoPSC should block the use of USF funds for the benefit of the citizens of rural Missouri, while these funds continue to benefit the rural citizens of other states where these funds are currently flowing, is clearly not in the public interest.

It is perhaps most telling to note that the *FCC Guidelines Order*, only cited by Mr. Schoonmaker when supportive of his position, does ***not*** indicate that the FCC will cease authorizing wireless ETCs. Instead, they merely codify the position which the FCC has largely taken over the past 15 months when designating ETCs. Significantly, the FCC has never denied a wireless ETC application nor are there indications in the *FCC Guidelines Order* of any future intent to do so. The only "denials" of designation to wireless carriers has

[3] Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Report and Order, FCC-05-46 (Rel. March 17, 2005) ("*FCC Guidelines Report & Order")* at ¶ 53. (footnote omitted).

been in individual wirecenters where cream skimming was an issue. That is not an issue in the MMC case. Indeed, if the MoPSC had declined to assert jurisdiction over ETC applications, the FCC would ignore the policy issues raised by Mr. Schoonmaker and decide to evaluate the MMC application on its merits. Since the MMC application is wholly consistent with all applicable FCC precedent, and since there is no cream skimming issue involved, there is no doubt that the requested designation would be granted.

Finally, the MoPSC should keep in mind that from a state perspective, the sole purpose behind issuing the *FCC Guidelines Order* was to provide state commissions with suggested guidelines to be used as they too continue to authorize additional wireless ETCs. While MMC does not take issue with the substance of those guidelines and has made a good faith effort to demonstrate that its proposal is, in fact, consistent with those "yet-to-be-interpreted" guidelines, it is significant to note that while Intervenors look to argue where MMC has fallen short of ***their*** interpretation, those FCC guidelines are not yet final even in the context of FCC proceedings. Multiple parties, from both the LEC and the wireless side of the issues have sought reconsideration of *FCC Guidelines Order* and, until final, the FCC guidelines remain subject to further revision and/or refinement. Accordingly, while MMC provided analysis under the FCC guidelines to assist the MoPSC in evaluating its ETC application, the MoPSC should not feel compelled to deny the MMC application if it finds some variance between interpretations of those FCC Guidelines. Ultimately the MoPSC will adopt its own processing standards. MMC, along with witnesses from the MoPSC Staff and the OPC believe that those standards should be adopted in the context of a formal rulemaking proceeding.

Q. Returning to Mr. Schoonmaker's Rebuttal Testimony, are there specific examples of other issues where Mr. Schoonmaker has "failed to mention" that the FCC position is at odds with the position he advances?

A. There are several examples. Mr. Schoonmaker questions whether a wireless carrier should be able to receive USF where the carrier is not providing service or where "dead spots" exist. (Schoonmaker Rebuttal p.62 lines 5-10). Applicable FCC precedent expressly deals with both of these issues and holds that it would be unreasonable to require any ETC applicant to be providing the service for which ETC support is required, as a precondition to receiving ETC designation.[4]

Mr. Schoonmaker takes similar liberties with the equal access issue. The FCC has expressly held that equal access is not a condition to ETC designation[5] and in the *FCC Guidelines Order* sought only an acknowledgement that equal access might apply in the future but only in the context of a wireline carrier relinquishing its ETC designation and the wireless carrier thereby undertaking a carrier of last resort obligation. Mr. Schoonmaker, in providing the MoPSC with the benefit of his analysis of the "present legal framework" for USF, neglected to point this out when telling the MoPSC that he does not feel it is in the "public interest" to allow USF support where the wireless carrier does not offer equal access. (Schoonmaker Rebuttal p. 23 lines 2-16). Mr. Dawson includes a detailed analysis as to why equal access has not been an issue in the context of wireless service offerings where the subscriber does not even incur toll charges, and has included discussion of the instances

[4] *See, e.g., Virginia Cellular* at ¶23.

[5] *See, e.g., Virginia Cellular* at ¶21.

where MMC has committed to offer equal access. Suffice it to state that MMC has more than met all equal access obligations set forth in the *FCC Guidelines Order*, and equal access should not be an issue in this proceeding.

Q. Are there any other examples where Mr. Schoonmaker has elected to not provide the MoPSC with an accurate view of current FCC holdings?

A. Yes. In discussing MMC's adoption of the CTIA Consumer Code, Mr. Schoonmaker explains that this "voluntary code" is insufficient because there is no enforcement mechanism. Mr. Schoonmaker does not address the fact that in virtually ***every*** ETC order issued by the FCC since the *Virginia Cellular* case, the FCC has found adoption of the CTIA Code sufficient to ensure consumer protection. Indeed, the FCC again confirms this position in the *FCC Guidelines Order*. Yet Mr. Schoonmaker asserts that this code is not enough since you only have MMC's "word" that it will comply with that code.

Aside from the fact that Mr. Schoonmaker is far too anxious to impugn MMC (while not even attempting to advance any reason for the MoPSC to assume that the MMC witnesses are not testifying truthfully), Mr. Schoonmaker is, again, absolutely wrong from a legal standpoint. Stated quite simply, in granting the MMC ETC designation, the MoPSC will rely upon representations and commitments made by MMC. The MoPSC will retain both the oversight of the actual use of USF funds by MMC as well as the power to revoke the ETC designation; a power it has with respect to any ETC designation in Missouri (even that of an ILEC).

Cutting through the verbiage, it appears as though Mr. Schoonmaker is attempting to use the MMC proceeding as a platform to argue why certain current MoPSC ILEC regulatory practices should be relaxed if they are not applied evenly to MMC. He makes this argument

in the name of "competitive neutrality." Aside from the fact that the MMC application is not the forum for debate and resolution of such issues, the MoPSC can most certainly retain oversight of certain ILEC consumer protections required in a monopolistic environment, without applying identical "protections" to the competitive wireless provider. If Mr. Schoonmaker were correct that "competitive neutrality" meant absolute equal regulation, then MMC would suggest that the MoPSC might want to adopt some of the consumer protections that MMC presently offers (without regulatory requirement) as far more consumer "friendly" than required of the ILEC by current regulation. For example, in Mr. Dawson's Direct Testimony, he advises that MMC provides free loaners for customer-owned handsets that fail, provides service for customer-owned equipment that fails, offers more than a dozen locations where the customer can obtain a free loaner, offers evening and weekend access at convenient shopping mall locations, provides customer service activation in a matter of minutes (as opposed to the regulated requirement of several days), and so on. I am not aware of any ILEC in the MMC proposed ETC service area offering anywhere near this level of customer service despite being "regulated" and "required" to meet certain minimum obligations.

Q. I now direct your attention to the fact that Mr. Schoonmaker "implies" that the MMC "stockholders" may be the primary beneficiaries of ETC designation. Is this correct?

A. No. In fact, Mr. Schoonmaker's *innuendo*, intended to give a false appearance of impropriety on MMC's part, could not be further from the truth and is actually at odds with the basic USF structure under which the ILECs draw USF support. Mr. Schoonmaker has made the point that the ILEC level of USF support is based upon the ILEC's "cost" of

providing service. While Mr. Schoonmaker made that point in the context of attempting to show some sort of inappropriate "windfall" for a wireless carrier receiving USF support, it is helpful to take a moment and consider what goes into the ILEC "costs" for federal USF purposes. Included in those "costs" is an all but guaranteed rate of return for the ILEC "shareholders." Presumably, this is the type of return Mr. Schoonmaker would refer to as the ILEC "stockholders" being the primary beneficiaries of ETC designation. Yet, as sensationalistic as this type of statement might sound, there is actually a sound, well-reasoned basis for allowing the ILECs to include a reasonable rate of return in their cost analysis. Stated quite simply, the offering of telecommunications service is an expensive, capital-intensive business. Including a reasonable rate of return in the ILEC "cost" is essential to providing the incentive for the stockholders and investors to place capital into the ILEC as opposed to a bank certificate of deposit or another investment vehicle. If the ILEC stockholders could not make a reasonable return on their investment, they would invest their monies elsewhere. Stated another way, without stockholders making a reasonable return on their investment in telecommunications in rural areas, there would be no telecommunications in rural areas. And extending these services to rural areas is what Universal Service has been all about. In the MMC context, MMC is seeking USF support because, from a business standpoint, the investment needed to construct and operate the cell sites required to extend service to the rural-most portions of its market cannot be justified absent USF support.

What is most ironic with Mr. Schoonmaker's statement, however, is that by wireless carriers ***not*** being able to base their level of USF support on their own costs (which, using the ILEC model would include a return on investment) the wireless ETC is actually far ***less*** likely to "profit" from USF than the ILEC currently does. Federal law and FCC regulations

strictly limit how USF funds can be used. In addition, assuming MMC is designated as an ETC, the MoPSC will be required to annually certify to the FCC that MMC is using the USF funds as permitted by law. MMC has submitted a 5 year network enhancement plan, including projected costs, that, when including allowable operating expenses would far exceed the level of after tax USF support that MMC is expected to receive. So, in reality, while the ILEC USF support ***does*** include a direct financial benefit for the ILEC shareholders, MMC has demonstrated the intent to use its entire USF support to enhance its network.

In his surrebuttal testimony, Mr. Dawson has included an analysis that shows the "per subscriber" level of USF support that MMC would receive, on a ETC service area wide basis. Clearly, MMC would much rather be able to obtain support on the basis of its "cost" of providing service, especially if that "cost", as with the ILEC, included a rate of return on investment. Unfortunately, current federal law and regulation limits MMC's USF support to the level based upon each underlying ILEC's "per subscriber" level of support. The MMC proposed ETC service area includes far more ILEC wire centers with a very low per subscriber level of support than higher cost wire centers. However, it is in the higher cost, more rural areas where the USF support is needed most to enable the expansion of the MMC network to serve more of those areas. Accordingly, fully analyzing Mr. Schoonmaker's single derogatory comment against MMC actually makes a very strong case as to why MMC needs the USF support from the rural-most portions of its proposed ETC service area.

When considering the level of USF support that MMC would draw, it might be helpful to compare the proposed service area and the number of subscribers of MMC with those of the ILECs in MMC's proposed ETC service area. Unfortunately, MMC only has

publicly available data to perform that analysis in the context of those ILECs whose study areas lie wholly within the proposed ETC service area. If granted ETC designation, MMC would receive approximately $1.7 million in support[6] for serving approximately ** ** subscribers in approximately 64 ILEC wirecenters. Collectively, the Independent Intervenors whose study areas are wholly within the MMC proposed ETC service area alone receive almost $5.6 million to serve 14 wirecenters with a collective total of approximately 9,091 subscribers. If we could add the ILEC support received by the CenturyTel Intervenors and Sprint in the proposed MMC ETC service area, the ILEC USF support would be even higher.[7] Stated another way, MMC would look to receive approximately **$ ** per subscriber per month in USF support as compared to an average monthly support of $51.33 per subscriber for the Independent Intervenors.

Q. Mr. Schoonmaker also explains that MMC has the "burden of proof" with respect to this application. Do you agree with that position?

A. I would agree with the statement that it is MMC's burden to present its case and demonstrate why the grant of ETC designation to MMC would be in the public interest. However, Mr. Schoonmaker apparently does not fully understand this legal concept. Once MMC has presented its case, the burden shifts to one of rebuttal by the opposing party. The opposing party cannot, as Mr. Schoonmaker does throughout his testimony, make unsupported assertions and then claim that the burden is on MMC to disprove those assertions.

[6] The annualized projected level of support for 3Q05 for MMC would be $1,675,704 according to the most recent USAC FCC filings.

[7] Since these ILECs do not report costs on per wire-center basis, MMC cannot accurately state the level of support received in the area solely within MMC's proposed ETC service area.

Q. In analyzing the potential impact of designating MMC as an ETC, Mr. Schoonmaker asserts that doing so could have a chilling effect on further ILEC investment and result in increased rates to rural Missouri ILEC subscribers. Do you agree with that position?

A. No, I do not, and I note that Mr. Schoonmaker offers no support for this assertion. What is somewhat troubling though is that while purporting to submit this testimony on behalf of Alma, Mr. Schoonmaker neglects to advise the MoPSC that his assertion is categorically untrue in the case of Alma.

Subsequent to MMC filing its ETC application, a copy of which was served on Alma at the time of filing, Alma came to the MoPSC seeking approval of nearly $5.6 million dollars to deploy what appears to be a new network, in its entirety.[8] The new Alma deployment would provide state of the art "fiber to the home" throughout its network. According to Commissioner Murray's dissent in the order granting the Alma request, despite this proposed investment of approximately $16,000 per subscriber, Alma apparently does not intend to raise its subscriber rates whatsoever.[9]

Q. How will Alma pay off this loan if it does not intend to raise its rates?

A. According to Commissioner Murray's dissent, Alma will receive ***increased*** USF disbursements of more than $600,000 per year. Commissioner Murray points out that these additional "…disbursements from the USF will be more than adequate to cover the annual debt service payments, leaving Alma with a tidy profit of $300,000 to $350,000 annually, over and above other profits the company already realizes."

[8] Case No. TU-2005-0358, filed April 8, 2005.

[9] *In the Matter of Alma Telephone Company*, Case No. TU-2005-0358, Released June 14, 2005.

Q. From the standpoint of drain on the USF and long-term sustainability of the USF, how does the Alma matter, which the MoPSC approved, compare with the designation of MMC as an ETC?

A. Alma's additional drain on the USF fund in support of providing its 375 subscribers with a "gold-plated" broadband and video network alone is more than a third of the entire "drain" that designating MMC as an ETC would place on the USF. Recognizing the burden that this action would place on the USF when compared to the public benefit, Commissioner Murray again summed this up in her dissent:

> The USF should not be leveraged to provide rural, high-cost carriers with broadband and video capabilities that exceed the "reasonably comparable" standard, and that are unnecessary for provisioning basic telecommunications services. [footnote omitted]. . . It is unacceptable to me to continue sanctioning this abuse of the USF.

I believe that these facts place Mr. Schoonmaker's sworn testimony in a glaring light. The Independent Intervenors' concern over the drain on or the long-term sustainability of the USF does not apply in the context of their own questionable use of USF; only when other entities would be capable of accessing those funds to provide truly supported services. Moreover, Alma has clearly not had any disinclination to make additional investments (indeed replace its entire network) because of the "fear" of MMC's ETC designation.

Q. Mr. Schoonmaker has also raised questions regarding MMC's network reliabilities. Specifically, Mr. Schoonmaker seeks detail on MMC's ability to reroute traffic and to handle traffic spikes. Can you respond to that?

A. MMC has previously addressed the back-up power issue. However, I wanted to make sure that there was a clear understanding that in an emergency situation and in the context of peak traffic load management, the MMC network offers some distinct advantages over the traditional landline networks.

Each cell site provides radio coverage to a fixed geographic service area. However, these service areas have a high degree of overlapping coverage. Cell overlap, while typically designed into a system to facilitate handing-off calls as a vehicle travels from one site to another, allows MMC to manage peak demand loads as well as providing a level of redundancy not found in the context of the traditional landline local loop.

Q. Let's focus on the peak traffic load management aspect. Can you elaborate on that?

A. Where a given area is able to receive sufficient coverage from multiple transmitting sites, subscriber demand in that area can be met by any one of the sites. So a call can be placed through any site that can offer sufficient signal to serve the subscriber handset. In many parts of the MMC network there is coverage from multiple cell sites.

Q. So am I correct that where there is only coverage from a single cell site, MMC does not have the ability to shift traffic to account for heavy demand in a particular cell site?

A. That would be an incorrect inference. First, there is no place in the MMC network where a cell site does not have at least some degree of overlap in its coverage area with at least one other cell site. So even in the case where an unusual demand appears at a location where there is only one cell capable of providing coverage, the MMC network has the ability to shed the traffic being carried by the heavily-used cell site in the areas where there is cell

overlap so that the cell site experiencing unusual demand can devote all of its capacity to the area where there is no overlap. The MMC network is configured to perform this "load shedding" function automatically. Whenever a cell site reaches a pre-set loading of approximately 80% of capacity, the network immediately begins looking to shed traffic from that cell. The network examines all calls in progress on that cell and polls adjacent cells to see what signal levels they are experiencing in conjunction with calls. When the network finds a call that can be handled by an adjacent cell site, the call is "handed-off" to that adjacent cell to free up additional capacity in the original cell for the areas where only that cell can serve.

Q. How does this cell overlap improve reliability with respect to the "local loop?"

A. Instead of a single pair of wires providing service to an end user, MMC provides service by utilizing radio waves from one or more cell sites connecting to the subscriber handset for the duration of the call. With the CDMA technology, a call in progress in an area of overlap between cell sites is typically handled by more than one cell site even when the mobile unit is stationary. This is commonly referred to as "soft" handoff. The call is simultaneously "taking place" through multiple cell sites. In this situation, the loss of signal from any one cell does not "drop" the call. Similarly, in the rare event of a cell site outage, the subscriber can still receive service from any other cell capable of providing service to the location where the subscriber is located. As Mr. Dawson has already testified, all MMC cell sites are fully redundant and have backup power supplies to minimize the likelihood of an outage.

In contrast, if an ILEC subscriber's loop is down there is no ability for that subscriber to receive service. Since the loop is at a fixed location, the subscriber remains out of touch

until service over that loop is restored. In the wireless context, while there may only be a single cell site that provides sufficient signal to afford "in-building" coverage for a particular subscriber, often, in the event of an outage, there is sufficient signal to enable the customer to obtain coverage right outside his door. Of course, if that subscriber changes locations, he or she is immediately back "in service" as soon as the handset reaches the coverage area of any other cell site.

Q. Mr. Schoonmaker also implies a need establish service metrics regarding dead spots and dropped calls. Can you comment on that?

A. I previously testified about dead spots and dropped calls. From that discussion, I would hope that the MoPSC would come to realize that dead spots, while a part of wireless coverage, are actually far less than occur in the "wired" network if you think of the landline network as effectively having a "dead spot" wherever a fixed phone is not physically located. Since wireless dead spots are reduced as additional cell sites are added, the awarding of ETC designation would act to reduce the number of dead spots as network enhancement plans are implemented. The MoPSC must be very careful to remember that dictating quality of service for an ILEC is one thing since the ILEC can recover additional USF support based upon any resulting increased costs. Hence requiring a capital improvement from an ILEC to improve service quality results in an increased cost basis upon which the ILEC USF support is based.

In sharp contrast, the level of USF support for a wireless carrier in no way ties to the wireless provider's cost of providing service. Therefore if the MoPSC were to adopt metrics for "dead spots" the wireless ETC would have no means of financing the cost of those capital improvements. This is why the FCC has urged the submission of five-year network enhancement plans. By submitting such a plan, and making periodic reports as to the

progress toward implementing that plan, the MoPSC would be able to monitor where the USF funds are being spent and how those funds are improving coverage and addressing issues relating to "dead spots" or dropped calls. However, since there is no funding mechanism to enable a wireless ETC to make capital expenditures outside of its fixed level of USF, the MoPSC should refrain from creating a metric that would, in application, be tantamount to establishing an unfunded mandate.

Q. For the sake of this question, ignore the cost of putting up a cell tower in every location needed to meet a given metric for dead spots, and ignore the resulting unfunded mandate. Isn't some form of metric needed to ensure adequate service by a wireless carrier designated as an ETC?

A. First, you cannot ignore the costs when establishing a metric. The setting of any metric would need to be based on a balancing of the competing interests of service quality versus reasonable cost of providing the service (and the related interests of reasonable rates for the service and/or USF funding levels necessary to support the construction of facilities to meet the metric). Getting beyond the need to balance the interests, I do not believe that a metric would be needed in the situation where there is both a landline ETC and a wireless ETC in a given service area because in the rare cases where a wireless carrier using the steps discussed above could not provide service up to the level of the customer's expectations in a given "dead spot," the customer would have the choice to switch to the landline service provider. Only in situations where the landline ETC sought to abandon its ETC designation would the question of a metric become necessary. If the MoPSC wants to initiate a rulemaking to establish metrics for dead spots for wireless ETCs in advance of such an occurrence, I am certain that MMC would participate in workshops, present necessary and

appropriate data and ultimately take reasonable steps to meet any rule establishing such a metric. The investment necessary to remedy the more-rural dead spots cannot be economically justified, and therefore MMC's commitment to make these investments is contingent on designation as an ETC and the timing of its receipt of USF funds.

Q. What about a metric for dropped calls?

A. Dropped calls need to be divided into two distinct categories to properly consider this issue. Calls that drop resulting when the subscriber drives out of the service area or encounters a "dead spot" present the same issue discussed above with respect to a possible metric for dead spots. However, as I previously eluded to, calls can drop in an area of adequate coverage if there is insufficient capacity to meet service demand. I believe that this situation could be addressed in the context of a metric and could fit well within the current MoPSC regulatory structure.

Unlike a wired loop, the wireless loop is a shared facility. Although only a single user has access to a given radio "channel" for a given conversation, once that call is over that same channel becomes available for another user. This is directly analogous to traffic engineering for telco trunks. Trunking traffic study obligations could be extended in an appropriate rulemaking proceeding to cover cell sites of wireless carriers that have been designated as ETCs. MMC currently performs this type of traffic analysis on all of its cell sites as well as performing daily monitoring of all network traffic.

To the extent that wireless cell sites function in a manner analogous to "trunked" circuits in a landline environment, adoption of traffic metrics based upon standard traffic engineering may be appropriate with the precise levels being developed through a rulemaking where interested parties could participate in workshops and file comments and

data to enable the MoPSC to properly adopt metrics. Without the opportunity to engage in such a process, I cannot say at this time what such an appropriate metric would be.

Q. Mr. Schoonmaker also seeks to raise questions with respect to the specificity of the MMC 5 year network enhancement plan. Can you comment on that?

A. Once again, the MoPSC needs to keep in mind that the level of USF received by the rural ETC other than the ILEC, is not tied to that ETC's costs. Accordingly, the wireless ETC will receive a certain amount of dollars which would be spent in accordance with its network enhancement plan. As set forth in its filing, over the course of the full 5 year plan, network improvements will reach virtually all underlying wire centers. However, requiring that MMC earmark dollars every year to the specific wire center from which the USF support was obtained would substantially delay the deployment of the plan. Mr. Dawson has projected the costs associated with each proposed network enhancement. MMC intends to use all USF support received from its ETC service area to make the deployments as detailed in its plan in the priority set forth therein.

MMC does not envision waiting to construct each site in its network enhancement plan until enough USF funds have been received from the service area of that particular proposed cell site to cover the costs of that specific cell site. To require MMC to do so would require that USF funds remain fallow until each fragmented segment could be individually financed. While it is appropriate for the MoPSC to review overall monies spent over the course of the 5 year plan on a per wire center basis, it must consider MMC's ETC designation as applying to its entire ETC service area.

Q. Mr. Schoonmaker appears to take issue with the statement that the MMC plan would be subject to change. Has the FCC considered that factor?

A. Yes they have. For example, in finding that Virginia Cellular had committed to extend service to previously unserved area, the FCC cites to the Virginia Cellular November 12 application supplement that set forth its proposed construction plan. In that supplement, Virginia Cellular made it absolutely clear that it reserved the right to make changes in that plan in order to meet changing circumstances such as those identified by MMC. Most other carriers have made similar reservations with respect to their proposed network enhancement plans and the FCC has uniformly found them acceptable. The reason for this is not to try and avoid meeting a commitment but recognizing that wireless service evolves over time. The unexpected construction of a new shopping mall on the north side of a town may mandate the need to shift a previously-proposed cell site that had originally been planned a few miles to the south of town. Delays in approvals needed to construct one proposed cell site might warrant finding an alternate location for the cell site or proceeding to construct a lower priority cell site ahead of the originally proposed higher-priority site.

The public interest is in no way diminished by the carrier retaining the flexibility needed to modify and evolve the plan as time goes on. In sharp contrast, the public interest is grossly disserved by requiring a carrier to proceed to construct a cell site 4 years later when intervening events have lessened the benefit of proceeding with that particular construction. Significantly, MMC has not proposed that it be allowed to vitiate its network enhancement plan. MMC agrees with the proposed annual filings showing how the USF monies have been spent and how its network has been enhanced in its ETC service area. This will provide the Commission with information about any changes that occurred in the plan and assurance that the USF money is being properly spent. Even if MMC modifies the specifics of its network enhancement plan, MMC remains obligated to spend USF support for the intended purpose.

The public interest would best be served by allowing carriers the flexibility to evolve those plans as time passes to meet then-current need and address unforeseen intervening events.

In addition, MMC made it clear that its ability to proceed with the plan as set forth, and the timing of the deployment, presumes that USF support continues and in an amount comparable to that which MMC would presently anticipate drawing. Reductions in the amount of support available would necessitate reductions in the amounts expended by MMC and could result in a material reduction in what MMC was able to deploy in that 5 year period.

Q. Were there any other items in Mr. Schoonmaker's testimony that warrant response?

A. Mr. Schoonmaker makes one comment in closing that warrants careful consideration by the MoPSC. Mr. Schoonmaker states that the fact that wireless USF is being made available to carriers in other states "should have little impact on whether the MoPSC grants such status." (Schoonmaker Rebuttal p. 69 lines 22-23). Nothing could be further form the truth. The USF in question is a pool of Federal money for the purpose of enhancing telecommunications in rural areas. The citizens of Missouri pay significant amounts of money into the fund and where a portion of those funds can be used to enhance the level of service available in rural Missouri, the MoPSC should remain cognizant of the fact that these monies are being used in other states to meet the rural needs of their citizens. MMC is not advocating that the MoPSC should simply grant every ETC request, but where, as here, the wireless carrier has demonstrated a strong existing commitment to serve rural parts of its market (as opposed to only the interstate highways and major population centers currently being served by some of the large nationwide and regional carriers) and where the ETC

applicant, like MMC, has shown a plan to deploy further enhancements to its network in rural areas, wholly within the state of Missouri, the MoPSC needs to be very cognizant of the impact on the citizens of rural Missouri if such an application were denied. MMC agrees with Commissioner Murray in her dissent in the latest Alma proceeding that abuse by other states does not justify abuse in Missouri. However, there is nothing in the record to indicate that designation of MMC as an ETC would be in any way contrary to the public interest or abusive of the Congressional intent to allow wireless carriers access to USF for proper purposes. The MoPSC should remain cognizant of the fact that USF support is being made available to qualified wireless carriers in other states and where, as here, the MoPSC can be confident that all monies paid to MMC will be used solely for the benefit of rural Missouri citizens, it is wholly inappropriate to suggest that the MMC application should be denied for the greater good of the USF, as a whole; especially when such an argument is being advanced by the witness for Alma.

Q. I would now direct your attention to Mr. Stidham's rebuttal testimony, what are the key points raised?

A. Aside from the general "wireline versus wireless" arguments discussed in the context of Mr. Schoonmaker's testimony, Mr. Stidham raises the issue of "cream-skimming" in the context of SBC wirecenters and asserts that designation of MMC as an ETC would reduce the amount of IAS funds available to wireline carriers.

Q. How do you respond to the cream-skimming issue raised with respect to the SBC wirecenters?

A. The cream-skimming issue is not applicable to a non-rural carrier analysis in general, and to the MMC proposal in particular. A review of the most recent USAC FCC filings

shows that MMC will be drawing no high cost support whatsoever with respect to any of the non-rural wirecenters proposed in its ETC service area. Since there is no high cost support being received in the "non-rural" wirecenters, there can be no cream-skimming issue.

Q. In Direct Testimony it was stated that designation of MMC as an ETC would not result in a reduction of USF support for the ILEC except in the circumstance where an ILEC subscriber was to abandon its wireline phone in favor of a wireless unit. Mr. Stidham testifies that because the IAS fund has reached its cap, the effect of designating MMC as an ETC, eligible to draw on the IAS fund, would by necessity reduce the amount of support available to SBC. How do you explain this discrepancy?

A. Mr. Stidham is simply incorrect in his testimony that the IAS fund is capped at $650 million dollars. Review of the latest USAC FCC filings shows that annualized IAS support will be $758,475,624 for 2005, well in excess of the $650,000,000 number referenced by Mr. Stidham as a "cap." (See HC12 to USAC's third quarter 2005 filings).

Q. But Mr. Stidham cites FCC precedent establishing the $650 million cap. How do you respond to that?

A. Mr. Stidham has misinterpreted the FCC CALLS Order which he cites to. Fortunately, this is not a case where the MoPSC will have to decide which witness has the proper interpretation of that precedent. The FCC addressed the specific issue raised by Mr. Stidham more than 6 months ago. Attached hereto as Appendix R is a copy of the FCC letter to USAC explaining that the $650,000,000 number set forth in the CALLS Order was a target and not a cap and further explaining that the CALLS Order expressly envisioned that number would be exceeded. I am not sure why Mr. Stidham was not aware of this

determination as the letter is actually posted on USAC's website at the following link: http://www.universalservice.org/hc/whatsnew/022005.asp#020705.

Q. I direct your attention to the testimony of Mr. Brown. What are the key points made Mr. Brown?

A. Aside from the arguments already addressed in response to Mr. Schoonmaker's testimony, Mr. Brown focuses on three major items: the assertion that MMC has not provided information regarding the population to be served by MMC's 5 year network enhancement plan; the inability to track where wireless carriers are spending their USF support and an engineering coverage analysis relating to MMC's lack of an "urban signal level" throughout much of its ETC service area.

Q. How do you respond to Mr. Brown's testimony that MMC has not provided any information with respect to the estimated population that would be served as a result of MMC' proposed network enhancement plan?

A. I direct Mr. Brown's attention to Appendix P of my Direct Testimony wherein I identified the wire centers where coverage would be enhanced by both the Phase 2 and Phase 3 CDMA deployments which comprise MMC's 5 year network enhancement plan. Included was the population that would be affected by deployment of Phase 2 as a whole (since it would be deployed in a single deployment) and, on a proposed site by site basis, for Phase 3 of the network enhancement plan.

Q. Mr. Brown cites the Western Wireless example of a wireless carrier that received millions of dollars in USF support but the question remains "where the money went." Is this an issue in the MMC case?

A. No, it is not. Unlike carriers like Western Wireless, MMC has only a single FCC-licensed service area contained solely within the rural areas of Missouri. MMC has no networks other than the one serving its proposed ETC service area on which to spend the USF support. There is no "corporate pot" where the monies can be deposited and spread across multiple network operations. While the issue raised by Mr. Brown might be a legitimate concern in the context of a carrier that has urban and rural service areas and/or service areas in multiple states, that simply is not an issue with MMC.

Q. With respect to "engineering" issues addresses in Mr. Brown's testimony in the context of MMC's radio coverage. Mr. Brown testifies that a signal level of -100 dBm is the minimum operating signal strength required for 3 watt customer premises equipment and a -75 dBm representing "urban quality" or "5-bars" for a 0.2 to 0.6 watt handheld unit. Is that correct?

A. The statement includes a number of basically accurate statements that are applied in a manner to arrive at an inaccurate conclusion. First, the reference to the 0.6 watt handheld unit is meaningless for a number of reasons, probably not the least of which is there are no CDMA handheld units that operate anywhere near 0.6 watts. In fact there have not been 0.6 watt handheld analog units manufactured in years. Moreover, the power at which the handheld unit "transmits" has nothing to do with the "number of bars" as referred to by Mr. Brown. (Brown Rebuttal p. 30, line 3). The "bars" are an indication of *received* signal level and have nothing to do with the output power of the handheld unit.

The reference to the -100 dBm received signal level is a reasonable indication of the "floor" or minimum signal level at which a handheld ***or*** fixed customer premises unit would operate in a rural environment (assuming a properly designed network which accounts for the

lower power of the handheld operation when "talking back" to the cell site). However, if you think of that signal as the "floor" below which the subscriber unit does not have quality service, sound engineering practice would not depict coverage base upon a -100 dBm. Radio wave propagation is a function of a number of environmental factors which affect the received signal strength at any given location. In point of fact, standing perfectly still at a fixed location, one would see the received signal strength vary over time as a function of both environmental conditions (humidity, the amount of vegetation on a trees, etc.) and simply as a function of time itself (a concept known as Raleigh Fading). For that reason, in preparing a "coverage map" engineers routinely depict a higher received signal level of -95 dBm. This provides a 5 dB "fade margin" so that changes in environmental conditions and/or time of 5 dB would still result in the received signal level being above the "floor" below which the handset would not operate with an acceptable level of quality.

Second I point out that the "propagation analysis" has to assume criteria for the receiver. The higher-power of the handset has nothing to do with where a received signal level would exceed -100 dBm. Judging from the coverage depicted on Mr. Brown's maps, it appears as though he simply used the same receiver assumptions (height, antenna gain, etc.) for both the -75 and -100 dBm plots. Assuming that to be the case, the plot of a -100 on Mr. Brown's map would depict the areas where service could be provided to a handset and not a fixed premises subscriber set.

Next Mr. Brown talks about a -75 dBm as the signal level needed for "urban quality." This is a meaningless benchmark and a misleading statement. As a general matter, so long as the handheld unit receives a signal that is above its "floor" the unit receives suitable "quality" whether it is in a city or in a farm field. Accordingly, urban vs. rural design criteria have

little to do with having higher power level at the handheld unit. Rather, it is a function of trying to ensure that the received signal level remains above the necessary signal "floor" at the handset. From the handset's perspective, "excess" received signal level above the floor does not improve the "quality of service."

However, Mr. Brown's statement is accurate to the point that in an urban environment, the handheld unit is more likely to encounter "obstacles" to radio wave propagation that attenuate or reduce the amount of RF energy that reaches the handheld unit. For example, when the unit is taken inside of a building, the signal that penetrates the building is less than the amount of signal "on the street." The denser the building material, the less signal can reach the handset inside of the building. So, for a given distance from a transmitting site, the handheld unit inside of a concrete and steel building would receive far less signal than a handset located the same distance from a transmitting site that is inside of a wood frame building. Similarly, the handheld unit on the street would receive a higher signal level than a handheld unit in a car at the same location. So, in an urban environment, engineers typically do design networks for a higher signal level "on the street" to ensure that the required signal "floor" is present in locations where the handset might be taken.

Q. But a difference of "25" (from -75 dBm to -100 dBm) does not appear be very great. Why is that sufficient to make a difference in an urban setting?

A. The key here is to understand that the signal level expressed in dBm is a logarithmic reference to a specified signal strength. A change of "3" dB represents a doubling of the power. So an increase of 25 dB represents more than a doubling of power 8 times. Stated another way, for the first 3 dB increase in received signal level, the power doubles. The second 3 dB increase doubles the power again representing a 4-fold increase over the original

signal. The third 3 dB doubles it again to a power level that is now 8 times stronger than the original power, and so on. Applying this "doubling" 8 times (which would be a change of 24 dB) would result in a power level that is ***256*** times stronger than the original power. A 25 dB increase represents an increase in power that is approximately ***316*** times as great as the original power level.

But received signal level is only part of the picture. If there is interference in the area, the handheld might not be able to operate with a suitable level of quality even if the signal it is receiving is above the -100 dBm floor. This second concept is referred to as the signal to noise ratio. In an urban environment (like a downtown area) there are many more sources of interference so the effective "floor" actually rises above the -100 dBm previously discussed. So when one says that they are looking for an urban design using a -75 dBm received signal level, they are actually saying that they are looking to get a signal to a handset that is above the handset floor after allowing for the need to overcome obstacles that reduce the amount of signal reaching the handset and to keep the amount of energy reaching the handset above the handset's "floor" in that higher-noise environment.

The point to be made here in this somewhat over-simplified engineering analysis is that trying to evaluate the acceptability of the MMC service based upon where there is a received signal level of -75 dBm for "urban quality" is meaningless. In the rural market such as the MMC licensed service area, the noise floor is typically not an issue. As a result, most of the radiated power is available to provide service. We then look to see what the typical "obstruction" is that would be expected to be encountered and then design for an average signal level that would overcome the obstacles likely to be encountered in that environment.

We don't need to have sufficient signal available to penetrate a concrete and steel skyscraper if there are no such structures in the market being served.

Q. So what is an appropriate criterion for an environment such as MMC's?

A. Again, at any given location the needed level of signal is a function of the obstacles to propagation that will be encountered. While this means that the question has no simple answer, the -85 dBm is a reasonable number to use from the standpoint of evaluating MMC service on an overall basis.

Q. And how can that be graphically presented?

A. On the average, areas where the MMC received signal level would be predicted to be below a -85 dBm could be characterized as areas where MMC's network performance would benefit from signal enhancement. That is, of course, the proprietary maps which MMC submitted in its original applications labeled as Areas Where CDMA Coverage Would Benefit from Enhancement (Appendices E and G to my Direct Testimony). Those maps depict areas in MMC's FCC-licensed service area where the existing MMC CDMA received signal level is predicted to be below a -85 dBm. I also provided proprietary maps that showed where the Phase 2 would add coverage and where, thereafter, the current MMC CDMA network receives a signal level below a -85 dBm.

One other factor to keep in mind is that the subscriber handset transmits with far less power than the cell site transmitter. It is of little value to have "5 bars" of received signal if the subscriber handset does not have enough power to "talk-back" to the cell site. Accordingly, the MMC network has been designed to "balance" the "talk-out" and "talk-back" paths so that enhancements at the cell site receiver compensate for the lower power that is transmitted from the subscriber handset as compared to the higher power that is

transmitted by the cell site. Accordingly, while the discussion centers around "received" signal strength at the subscriber handset, in the context of the MMC network it would fair to state that the depicted coverage represents an area where full two-way conversations would occur.

To better tie-in with the discussion above, I have included three proprietary maps as attachments to this surrebuttal. Attached hereto as Appendix S is a map that graphically depicts the -85 dBm and -95 dBm signal level for MMC's current CDMA system. Please note that the coverage depicted assumes a handheld portable unit operating at an elevation of five feet. These "received signal levels" and resulting coverage areas would therefore be significantly larger in the context of a fixed-premises installation with a roof-top antenna.

Appendix T is a map that graphically depicts the same two signal levels for MMC's CDMA network assuming Phase 2 of its CDMA deployment (the first part of MMC's 5 year network enhancement plan that would complete the CDMA overlay at all existing MMC sites) has been completed. Appendix U is a map that shows the same signal levels for the MMC CDMA network when the entire 5 year network enhancement plan has been deployed. Appendices S, T and U were all prepared under my direction and supervision.

Q. So how can the MoPSC determine what wire centers will receive improved service from MMC's network enhancement plan?

A. Appended to my Direct Testimony as Appendix P was a detailed listing of the proposed network enhancement information identifying the specific wire centers and population within the proposed ETC service area that would receive signal from each proposed additional cell site. This information was presented separately for each and every proposed new cell site.

Q. So how would the completion of the 5 year enhancement program affect dropped calls and dead spots?

A. There is no doubt that the addition of these cell sites would substantially enhance the MMC network, especially in some of the most rural portions of its proposed ETC service area. However, wireless services will always have dead spots and a number of dropped calls.

Dead spots will occur anywhere that the received signal level falls below the signal "floor" previously discussed. However, as the number of cell sites is increased, the number of dead spots declines. In the wireline environment we don't typically think of "dead spots" yet, from an availability of service perspective, every location where there is ***not*** an active phone jack with a phone plugged into it is, in essence, a "dead spot." I suspect that comparing the geographic area encompassed within a few feet of every active phone jack in the proposed ETC service area with the spots where wireless service might not be available, would show that MMC has far fewer dead spots than the ILECs.

With respect to the concept of "dropped calls", dropped calls that are associated with traveling into dead spots will clearly be reduced as the number of dead spots decreases. However, there are a myriad of other items that can cause a call to drop. When a subscriber drives out of the licensed service area, the call can drop. If the mobile handset moves into a location where there is a strong interfering signal, the call can also drop. Similarly, where there is sufficient signal but inadequate network capacity a call can drop because the handset moves out of the coverage area of the serving cell into the coverage area of another cell that has no "available" channel to carry the call.

Q. What steps does MMC take to ensure that it has adequate network capacity to protect against these types of "dropped calls?"

A. MMC monitors traffic on every cell site in its network on a real-time basis and adds capacity as needed. In a wireless network, the radio channels are effectively "trunked" and MMC applies standard traffic engineering analysis to maintain a level of service comparable to that experienced in an ILEC trunk environment. The need to expand network capacity on an ongoing basis is why MMC has included in its network enhancement plan capacity expansions at existing cell sites and proposed sites to ensure that network capacity keeps up with subscriber usage growth and demands. In the *FCC Guideline Order*, the FCC recognized such expenditures as a valid component of a five year network enhancement plan.

Q. Turning to the map in Appendix U, I notice that even after implementation of the 5 year network enhancement plan there remain areas in the MMC proposed ETC service area that are depicted as having a received signal level below -95 dBm. Why is that?

A. The MMC proposed ETC service area encompasses a large, rural geographic area. With the level of ETC support not being tied to MMC's cost of providing service, the MMC network enhancements must be timed to correlate with the actual receipt of USF support. The amount of money projected to be received over the initial 5 year period would finance the construction and operation of the plan as proposed in the MMC application. However, the MMC USF support and network enhancement is not envisioned to terminate at the end of those first five years. As MMC completes this initial 5 year plan, it would expand its network enhancement to include additional areas and further upgrades over the next successive five year period.

Q. But what are the implications of these remaining areas with a received signal level below -95 dBm in the event that an ILEC in those areas were to decide to

relinquish its ETC designation and MMC were required to become the carrier of last resort?

A. There should be no adverse implication. In the context of carrier or last resort obligation, the obligation does not require "mobility." Rather, the obligation is to the supported services at a fixed location. Accordingly until such time as sufficient USF support was received to allow MMC to expand its basic network to accommodate full mobility in those areas, MMC would follow the procedures set forth in Mr. Dawson's Direct Testimony, including modifying or replace the requesting customer's equipment to provide service; adjusting the nearest cell site to provide service; identifying and making any other adjustments that can reasonably be made to the network or customer facilities to provide service; or installing a roof-mounted antenna or other equipment to provide service; in order to provide the required service at a location outside of the area that is then capable of receiving reliable mobile coverage. In areas where the signal level was truly below -100 dBm, MMC would most likely deploy a rooftop or pole-mounted receive antenna.

Q. How would utilizing a rooftop or pole-mounted antenna bring the signal level above the "floor" needed to allow service.

A. As I previously testified, in predicting received signal levels and developing coverage maps such as those attached to this testimony, the engineer has to make assumptions about the receiver. For these situations, the assumption is that the receiver would be a handheld unit at a height of about five feet with only the standard antenna that comes with the subscriber handset. As the height of the receiving antenna is increased, the effective signal level also increases. As a rule of thumb, every time the height of the antenna is doubled, the effective received signal level increases by 6 dB (or, doubles twice). So just by "elevating"

the receiving antenna from 5 to 10 feet, we would see a four-fold increase in signal level. On top of that, in a fixed wireless environment MMC could deploy a "high gain" directional antenna oriented back toward the closest cell site. These antennas, similar to a standard residential TV antennas (but typically much smaller) can readily provide gains of 12 to 15 dB above the standard "built-in" antenna in the handset with even higher gain antennas being available. Adding even the 12 dB gain antenna to the 6 dB gain realized by moving the antenna to the roof gives an overall system gain of 18 dB (or a doubling of received power six times since 18 dB represents six-3 dB "steps"). In addition, electronic amplification is also available if the antenna gains alone were insufficient to provide quality service at a fixed location. MMC is quite confident that utilizing these techniques, because of the number of cell sites that it has deployed and will be adding, it can provide carrier of last resort service throughout its proposed ETC service area, even though it might not be able to provide full mobility at any given site.

And with respect to mobility, please keep in mind that, unlike a fixed ILEC phone, when the subscriber leaves the residence where that is being served by this "fixed wireless," the subscriber can remove the handset from the docking station that connects it to the outside antenna and take that phone with them. Once they are in the mobility coverage area, that handset obtains full mobility capabilities throughout the MMC service area.

Q. Moving on to the MoPSC Staff testimony I direct your attention to the testimony of Mr. McKinnie. Are there any points you wish to clarify in response to that testimony?

A. Yes, there is one point I wish to clarify. Mr. McKinnie cited to my testimony in the previous MMC hearing as indicating that CDMA deployment for MMC would not proceed

without USF support. He viewed this as contradictory in light of the fact that MMC has proceeded to deploy CDMA at approximately two thirds of its existing cell sites.

My testimony in the prior hearing was very specific on this issue:

> A. (Mr. Kurtis) What they're looking to do is to be able to take the new CDMA technology and deploy that ***not just*** on the low-cost areas of their market, but to make that available ubiquitously throughout the rural service area just as they did with the TDMA and just as they did with the analog. ***And that is what the ETC status is going to allow them to do.*** It's going to allow them and Mid-Missouri Cellular has committed to over-build its entire network with CDMA ***if*** it's awarded the ETC status.
>
> Q. (Mr. Poston) Mr. Dawson had testified earlier today that Mid-Missouri Cellular was going to over-build their entire network with CDMA regardless of receiving ETC funds.
>
> A. (Mr. Kurtis) No.
>
> Q (Mr. Poston)-- so what's going to change?
>
> A. (Mr. Kurtis) No. I think what Mr. Dawson was alluding to, and I think he clarified that during his testimony, is that Mid-Missouri Cellular has the very strong desire to over-build its entire network. What Mr. Dawson testified, I believe, was that as of this point in time, they have not been able to proceed with any of that build-out as of yet and ***that the degree of which the***

> ***build-out is going to proceed and the rapidity at which it can proceed is a direct function of the ETC status***. And that's also in our Direct and Surrebuttal Testimony as previously filed as well.[10]

The record is now clear as to precisely how far MMC is able to proceed with its CDMA overbuild without ETC support.

Q. Are there any other clarifications you wish to make with respect to Mr. McKinnie's testimony?

A. No. Mr. Dawson has addressed the remaining issues raised by MoPSC Staff.

Q. Did you have any comments to make with respect to testimony of Ms. Meisenheimer's testimony?

A. No, I did not.

Q. There has been extensive testimony on the new FCC-suggested guidelines and whether MMC has adequately made all of the required showings thereunder. Since those guidelines were issued, have we had any indication as to how the FCC might apply the new guidelines in deciding ETC designations on a prospective basis?

A Yes we do. As I previously testified, the FCC has just issued its *NTELOS Order*. That order confirmed that the requirements of the *FCC Guideline Order* codified the FCC *Virginia Cellular Order* and *Highland Cellular Order* while adding the additional requirements discussed in the prefiled testimony in this proceeding. However, rather than going back and making NTELOS modify its pending proposal, the FCC clarified that

[10] **Case No. TO-2003-0531** Tr. pp 171-172. (emphasis added).

"Carriers that had ETC applications pending before the *[FCC Guideline Order]* took effect, such as NTELOS, will be required to make [the additional] showings [required in the *FCC Guideline Order*] when they submit their annual certification filing no later than October 1, 2006." *NTELOS Order* at ¶ 8. The FCC then proceeded to analyze the NTELOS application strictly under its precedent as it existed at the time NTELOS filed its ETC application.

MMC's application was filed near contemporaneous with when the *FCC Guideline Order* were adopted. Yet MMC endeavored to update its application to make the additional showings set forth in the *FCC Guideline Order.* The MoPSC has yet to adopt any formal rules or procedures and, as I previously testified, the *FCC Guideline Order* is not yet a final order. While MMC believes that it has made all of the suggested showings, the *NTELOS Order* makes it clear that, to the extent that the MoPSC would decide to require additional showings (either in the context of analysis of the MMC application under the FCC-suggested guidelines or some modification thereof), it would be wholly consistent with the FCC's application of its own guidelines to proceed and grant MMC's ETC designation and require MMC to make such additional showings as may be required as a part of its annual certification filing, once the MoPSC requirements are fully developed. MMC respectfully submits that it has more than demonstrated that the grant of its ETC designation would be in the public interest and to the benefit of the rural citizens of Missouri and that any additional submissions desired by the MoPSC would be more appropriately required as a part of MMC's annual certification and not be used as a basis for denying the MMC ETC designation.

Q. Does this conclude your testimony?

Yes, it does.

STATE OF MISSOURI

MISSOURI RSA NO. 7 LIMITED PARTNERSHIP DBA MID-MISSOURI CELLULAR	)	
	)	Case No. TO-2005-0325
Application for Designation as an Eligible Telecommunications Carrier for Purposes of Receiving Federal Universal Service Support Pursuant to Section 214(e)(2) of the Telecommunications Act of 1996.	)	

AFFIDAVIT OF MICHAEL K. KURTIS

COUNTY OF FAIRFAX	)	
	)	ss.
COMMONWEALTH OF VIRGINIA	)	

Michael K. Kurtis, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Surrebuttal Testimony in question and answer form, consisting of 52 pages of testimony to be presented in the above case; that the answers in the foregoing Surrebuttal 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 and belief.

Michael K. Kurtis

Subscribed and sworn to before me this 19th day of July, 2005.

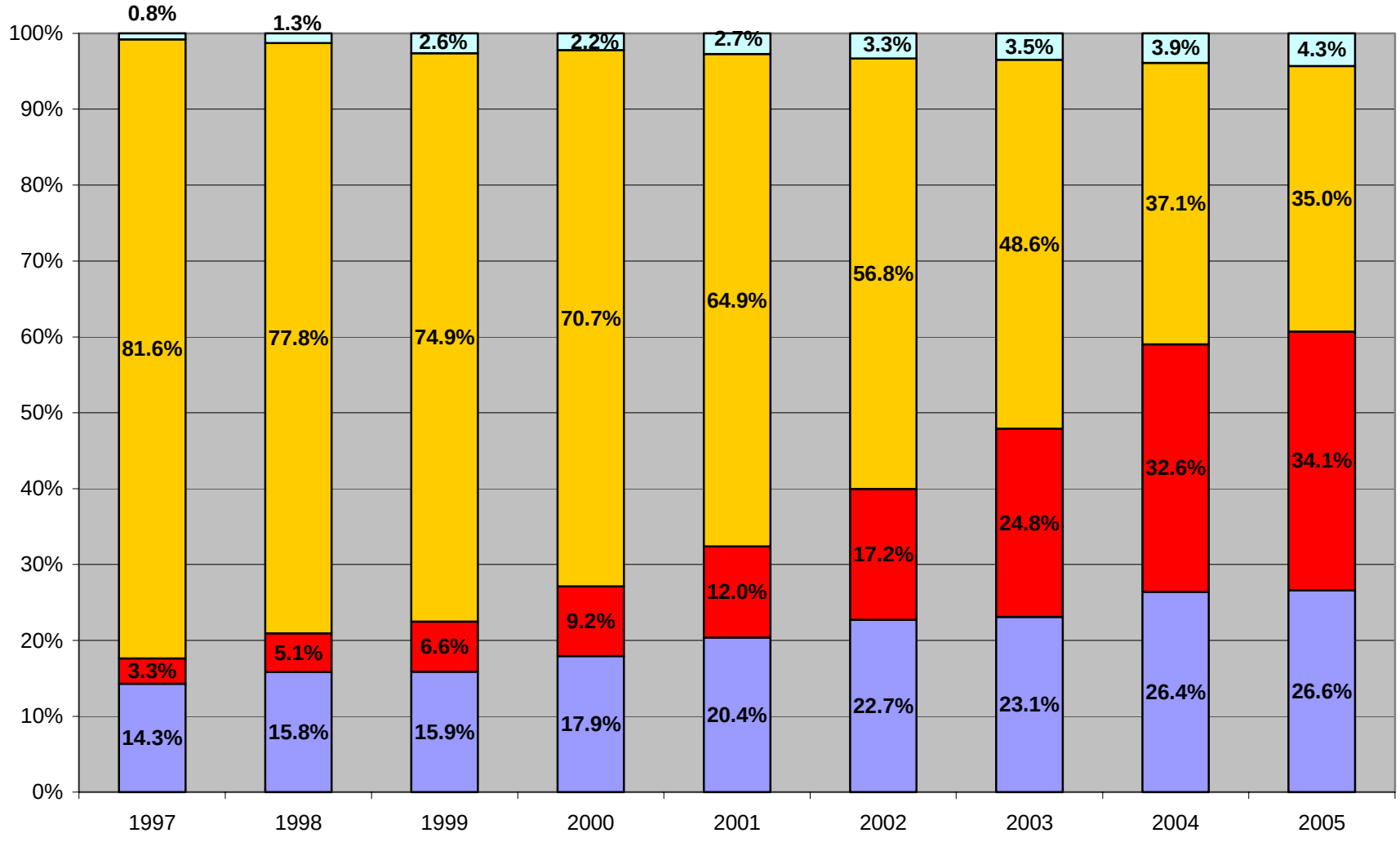
Notary Public

My Commission expires:

My Commission Expires 11/30/07

Appendix Q

Share of Federal Universal Service Contributions by Carrier Category



Source: FCC Revenues Report

Appendix R

Federal Communications Commission
Washington, D.C. 20554

January 26, 2005

Irene Flannery
Vice President, High Cost and Low Income Divisions
Universal Service Administrative Company
2000 L Street, N.W.
Suite 200
Washington, DC 20036

Dear Ms. Flannery:

This letter responds to the issues raised by Universal Service Administrative Company's (USAC) memorandum dated July 22, 2004 (USAC July 22 Memorandum) regarding the size of the Interstate Access Support (IAS) mechanism. Specifically, the Wireline Competition Bureau (the Bureau) affirms that USAC should continue to adhere to the calculation method provided in the Commission's rules. As described below, the Bureau believes that the size of the IAS mechanism does not warrant further action or changes by USAC.

As stated in its memo, USAC projects that, in the fourth quarter of 2004, the annualized quarterly IAS amount will exceed the $650 million target established in section 54.801(a) of the Commission's rules.[1] USAC notes that IAS has never before exceeded $650 million in disbursements per year, but will do so beginning in the fourth quarter because line growth for all eligible telecommunications carriers eligible for IAS will exceed the line growth projected using the method required by section 54.807 of the Commission's rules.[2]

USAC should continue to administer the IAS mechanism by adhering to the calculation method specified in the Commission's rules, even if doing so results in IAS disbursements over $650 million.[3] The Commission's rules do not limit the amount of universal service fund monies distributed pursuant to the IAS mechanism to $650 million. In fact, the Commission's rules state that "[t]he total amount of universal service support under [the IAS mechanism] . . . is *targeted* to be $650 million per year . . . ."[4] Although the rules include several provisions that have the effect of constraining the size of the IAS mechanism, including an annual rebasing of IAS to the target amount, they do not include any provision that would operate to prevent IAS from exceeding $650 million.[5] Accordingly, the Commission's rules do not prevent IAS from

[1] USAC July 22 Memorandum at 2.
[2] *Id.*
[3] USAC's memorandum proposes that USAC "[d]iscontinue the practice of limiting IAS program year payments to no more than $650 million." USAC July 22 Memorandum at 4-5. Based on communications between the Bureau and USAC, however, we understand that USAC has never, in fact, "limited" IAS to $650 million. Rather, the application of the IAS rules in prior years has never resulted in IAS exceeding $650 million.
[4] 47 C.F.R. § 54.801(a) (emphasis added).
[5] *See generally* 47 C.F.R. § 54.800 *et seq.*

Appendix R

exceeding $650 million, nor do they provide any basis for additional constraints on fund size beyond those already included within the rules.

We note that disbursing more than $650 million in IAS does not conflict with the *CALLS Order*. Although the Commission used the term "cap" with respect to the $650 million amount,[6] it expressly acknowledged that the IAS amount could exceed $650 million under the circumstances the mechanism currently faces. In particular, the Commission stated, "[i]f reported line growth were to exceed projected line growth, the interstate access universal service support mechanism could slightly exceed $650 million in a particular year."[7] The Bureau does not believe that an IAS amount in excess of $650 million justifies unilateral action by USAC to constrain the mechanism's size.

USAC suggests two alternative interpretations of the Commission's rules that, if accepted, would limit the disbursement of IAS funds.[8] Each alternative would use a different method of projecting line growth. USAC acknowledges, however, that each method of projecting line growth is "inconsistent" with the Commission's rules.[9] Because neither alternative is consistent with the Commission's existing rules, USAC may not administer the IAS mechanism using either alternative method.

Please do not hesitate to contact the Telecommunications Access Policy Division if you have any further questions.

Sincerely,

Jeffrey J. Carlisle
Chief, Wireline Competition Bureau

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[6] *See, e.g., Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long-Distance Users, Federal-State Joint Board on Universal Service*, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, 15 FCC Rcd 12962, 13049 para. 206 (2000) (*CALLS Order*) ("To maintain the $650 million cap, the distribution formulas also account for growth in the number of lines eligible to receive universal service support during the course of the year.")

[7] *Id.* at 13409 n.460.

[8] USAC July 22 Memorandum at 3-4.

[9] *See id.*

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