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January 16, 2004

Missouri Public Service Commission
Attn: Secretary of the Commission
200 Madison Street, Suite 100
P.O. Box 360
Jefferson City, Missouri 65102-0360

FILED[3]
JAN 16 2004
Missouri Public
Service Commission

Re: Case No. TO-2004-0207
Mass Market Impairment Inquiry

Dear Mr. Roberts:

Please find enclosed for filing on behalf of Sage Telecom, Inc. in the above-referenced case: 1) an original and eight (8) copies of the Rebuttal Testimony of Robert W. McCausland; an original and eight (8) copies of the Highly Confidential Rebuttal Testimony of Michael Starkey; and 3) one original non-proprietary version of the Rebuttal Testimony of Michael Starkey.

A copy of this filing has been sent this date via electronic mail to counsel for all parties of record.

Sincerely,

Brent Stewart
Brent Stewart

CBS/bt

Enclosure

cc: Counsel for all parties of record

Exhibit No.:	
Issues:	Geographic Market and Cross-over
Witness:	Michael Starkey
Type of Exhibit:	Rebuttal Testimony
Case No.	TO-2004-0207
Date Testimony Prepared:	Jan. 16, 2004

MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. TO-2004-0207

Rebuttal Testimony
Of

Michael Starkey

On Behalf Of
Sage Telecom, Inc.

January 16, 2004

** **Denotes Highly Confidential Information** **

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Phase I Rebuttal Testimony
of
Michael Starkey

Case No. TO-2004-0207

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Michael Starkey. My business address is QSI Consulting, Inc., 703 Cardinal Street, Jefferson City, Missouri. 65101.

Q. WHAT IS QSI CONSULTING, INC. AND WHAT IS YOUR POSITION WITH THE FIRM?

A. QSI Consulting, Inc. ("QSI") is a consulting firm specializing in regulated industries, econometric analysis and computer aided modeling. I currently serve as the firm's President.

Q. ARE YOU THE SAME MIKE STARKEY WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am. Included with my direct testimony as Attachment MS-1 is a thorough description of my educational background and relevant work experience.

Q. ON WHOSE BEHALF WAS THIS TESTIMONY PREPARED?

A. I have prepared this testimony on behalf of Sage Telecom, Inc. ("Sage").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to the recommendations of SBC Missouri ("SBC") on geographic market definition and the appropriate DS0/DS1

cutover level, as set forth in SBC's direct testimony. Namely, I will respond to the testimony of Dr. Timothy Tardiff and Gary Fleming. However, to the extent that other parties to this proceeding have shared SBC's views on these issues, I will also respond to the arguments of these parties.

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A. *Geographic Market Definition.* My testimony utilizes actual marketplace data, some of which is derived from SBC's own exhibits, to show that SBC's proposed geographic market definition at the Metropolitan Statistical Area ("MSA") level is not sufficiently granular to fulfill the FCC's objective of a "market-by-market" analysis as set forth in the *Triennial Review Order*[1]. Indeed, my testimony shows that the analysis of the parties endorsing an MSA geographic market definition acknowledge that an examination more granular than the MSA is needed. I also discuss the examples cited by the parties purportedly showing the FCC previously utilizing MSAs for market definition purposes and demonstrate that these examples are not dispositive and should be given little, if any, weight by the Commission.

In contrast, I will show that the data supports Sage's proposed geographic market definition at the wire center level, and a wire center definition will provide the level of granularity needed for the impairment analysis the Commission must

[1] *In the Matter of Review of the section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, and deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-330, 96-98 & 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking (rel. Aug. 21, 2003)("*Triennial Review Order*" or "*TRO*").

conduct. Furthermore, I will explain why the arguments proffered by the parties to undermine this proposal are misleading and misplaced.

DS0/DS1 Cutover. I also address issues responsive to parties' testimony related to the appropriate DS0/DS1 cutover level for distinguishing between mass market and enterprise customers. I will provide a recommendation to the Commission related to the DS0/DS1 cutover that is based on actual marketplace evidence and takes into account the point at which competitive local exchange companies ("CLECs") could economically transition multi-line DS0 customers to a DS1. I will also show that the cutover analysis proffered by SBC to support its proposal is result-driven and inconsistent with the FCC's Triennial framework. Finally, I will briefly respond to Dr. Tardiff's allegations that Congressionally-approved competitive modes of entry provide inherent advantages to CLECs and that these modes of entry will provide an ubiquitous CLEC presence in Missouri absent unbundled switching pursuant to Section 251 of the federal Telecommunications Act of 1996 ("Act"). My recommendations can be summarized as follows:

- SBC's proposed MSA geographic market definition should be rejected by the Commission in favor of my proposed wire center definition.
- SBC's proposal to expand the cutover established by the FCC in the UNE Remand Order (i.e., 3 DS0 loops) to the entire State of Missouri, as well as the analysis supporting this proposal, should be rejected in favor of my recommendation to establish a range whereby the Commission can analyze the mass market in a flexible manner.

II. USING MSAS TO DEFINE THE GEOGRAPHIC MARKET IS INSUFFICIENTLY GRANULAR AND WOULD LEAD TO INCORRECT RESULTS

Q. WHAT DOES SBC RECOMMEND AS THE GEOGRAPHIC MARKET DEFINITION FOR PURPOSES OF THE MASS MARKET SWITCHING ANALYSIS UNDER THE ANALYTICAL FRAMEWORK ESTABLISHED BY THE *TRO*?

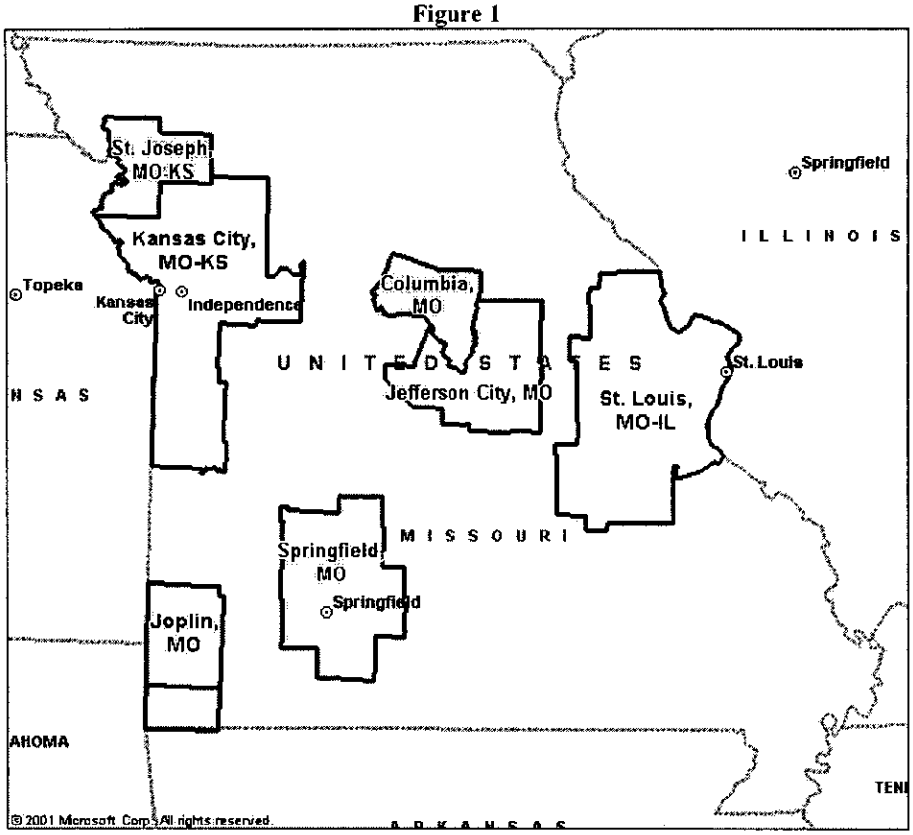
A. SBC is recommending that MSAs be used to define geographic markets for purposes of the mass market switching analysis. In his testimony, SBC witness Mr. Fleming states that SBC provides no service in one of these MSAs and has "minimal" access lines in two others, so he is recommending that only five MSAs with counties in Missouri (out of eight in total) need to be considered for purposes of the mass market impairment switching analysis. These five are Joplin MO, Kansas City MO-KS, St. Joseph MO, St. Louis MO-IL, and Springfield, MO. Two of these MSAs—Kansas City MSA and St. Louis MSA—include counties in neighboring states. According to Mr. Fleming, "no action is required on these portions of the MSA."[2] However, since this Commission is defining geographic markets for Missouri overall—not just for SBC—I will address the economics of MSAs in general (not just the five of interest to SBC).

Q. PLEASE PROVIDE AN OVERVIEW OF THE EIGHT MSAS IN MISSOURI.

A. The following map shows where all eight MSAs are located within Missouri:

[2] Direct Testimony of Gary D. Fleming at 9 ("Fleming Direct").

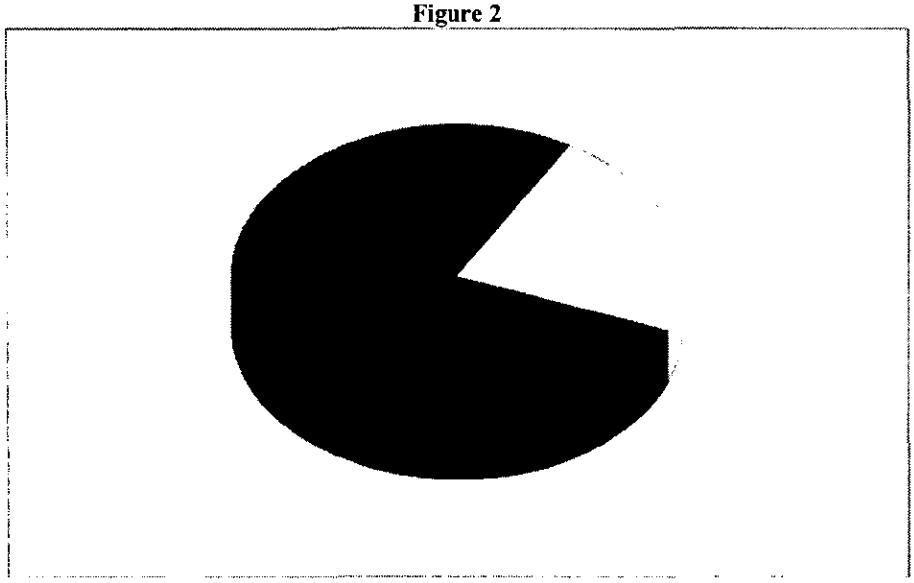
Figure 1



The small box at the lower left in Figure 1 is McDonald County, the only Missouri county in the Fayetteville-Springdale-Rogers AR-MO MSA. The other MSAs are labeled.

The first thing you will notice in looking at this map is that a substantial portion of the State does not fall within SBC's requested market definition at all. Out of 115 counties in Missouri, only 35 are in MSAs. Those 35 counties cover a land area of 19,779 square miles out of a total Missouri land area of 68,886 square miles. Thus, only a little more than one quarter of the state—about 28 percent—falls within SBC's recommended market definition. This is represented by the following pie chart shown in Figure 2:

Figure 2



The dark portion of this pie chart represents the percentage of land in Missouri that is not in any MSA.

Q. DO YOU AGREE THAT THE MSA REPRESENTS AN APPROPRIATE GEOGRAPHIC MARKET FOR THIS ANALYSIS?

A. No, I do not.

Q. PLEASE SUMMARIZE YOUR REASONS.

A. The main reasons I do not agree with the use of MSAs as the proper geographic are as follows:

1. For purposes of this analysis, MSAs are essentially arbitrary aggregations of counties;
2. MSAs do not provide workable definitions of geographic markets;
3. Counties within MSAs show dramatic variations in their population densities;
4. The reasons provided by SBC for the use of MSAs are not convincing;

5. The available data does not support defining the geographic market at the MSA level; and

6. The FCC's alleged reliance on MSAs to define the geographic scope of local exchange markets in the past is of little significance.

I will address each of these reasons in detail.

A. MSAs are Arbitrary with Respect to Telecommunications Markets

Q. PLEASE EXPLAIN WHY MSAS ARE ARBITRARY TERRITORIES FOR THE PURPOSES OF DEFINING TELECOMMUNICATIONS MARKETS.

A. It is not surprising that MSAs are arbitrary territories, since MSAs are constructed without any reference to telecommunications markets at all. MSAs are defined as core counties of 50,000 or more residents surrounded by satellite communities for which 25 percent or more of their residents work in the core county or counties. There is no reference to telecommunications markets in this definition, so any relationship to such markets would be coincidental.

Q. SINCE SO MUCH OF THE ECONOMICS OF TELECOMMUNICATIONS IS DRIVEN BY POPULATION DENSITY, DO MSAS SERVE AS REASONABLE PROXIES FOR URBANIZED VS. RURAL AREAS?

A. No. According to the Office of Management and Budget's ("OMB") "Standards for Defining Metropolitan and Micropolitan Statistical Areas":

> The CBSA [Core Based Statistical Areas that form the basis of Metropolitan and Micropolitan statistical area definitions] classification does not equate to an urban-rural classification; Metropolitan and Micropolitan Statistical Areas and many

counties outside CBSAs contain both urban and rural populations.[3]

I will have more to say on the relationship between economic factors affecting telecommunications markets and the mix of population densities within MSAs below.

B. MSAs Are Unworkable

Q. WHY ARE MSAS UNWORKABLE FOR PURPOSES OF DEFINING THE GEOGRAPHIC MARKET FOR ANALYZING MASS-MARKET SWITCHING?

A. First, MSAs in general often are split among states and thereby across state regulatory jurisdictions. This is the case for three of the eight MSAs in Missouri, including the Fayetteville-Springdale-Rogers MSA in which SBC provides no service.

Q. WHAT IS SBC'S RECOMMENDATION IN THESE CASES?

A. Mr. Fleming recommends that this Commission ignore the portions of those MSAs that fall outside its regulatory purview. Mr. Fleming's testimony includes the following Q/A:

> **Q. PARTS OF THE ST LOUIS AND KANSAS CITY MSAS ARE NOT LOCATED IN MISSOURI. WHAT SHOULD THE COMMISSION DO ABOUT THOSE PARTS OF A MSA?**
>
> A. SBC Missouri understands that the Commission has no authority to make decisions about the counties located in Illinois (St. Louis MSA) and Kansas (Kansas City MSA).

[3] Federal Register Vol. 65, No. 249, December 27, 2000 Notices.

> Therefore, no action is required on these portions of the MSA.[4]

Be that as it may, there is no getting around the fact that for two of the five MSAs that are of concern to SBC, the company is *not* recommending that the market be defined as the MSA, but rather as a portion of the MSA.

Q. ARE THERE ANY OTHER WAYS IN WHICH SBC HAS TO "HEDGE" ITS RECOMMENDATION TO DEFINE THE MARKET ACCORDING TO MSA BOUNDARIES?

A. Yes. On page 8 of his testimony, Mr. Fleming acknowledges that around the periphery of MSAs "there may not be an exact match between the wire center service area and the MSA boundary." His testimony continues:

> To accommodate this difference, I propose that the entire service area of a wire center be treated as part of the MSA in which the central office is physically located.

This proposed solution is an acknowledgement that the geographic boundaries of MSAs require further granularity in order to apply them to an impairment analysis in a manner that is administratively practical. In effect, Mr. Fleming asks the Commission to define the markets as the *wire centers* served by SBC within the MSAs in question.

Q. WOULD A MARKET DEFINITION BASED ON WIRE CENTERS REQUIRE THIS "WORK AROUND" SOLUTION?

A. No. If the Commission establishes the geographic market on a wire center basis, by definition it will already exclude those portions of the MSA outside the State of Missouri and will limit the analysis to the wire centers served by SBC.

[4] Fleming Direct at 9.

Q. DOES MR. FLEMING POINT OUT OTHER SHORTCOMINGS OF HIS PROPOSED MSA MARKET DEFINITION?

A. Yes. On page 9 of his testimony, Mr. Fleming acknowledges some of SBC's wire centers are not assigned to MSAs. Mr. Fleming states that "[t]hese are generally located in smaller urban and rural areas," and suggests that Micropolitan Statistical Areas may be appropriate for these areas (he does not, however, follow up on this suggestion). Thus, Mr. Fleming recognizes that his proposal to define markets in terms of MSAs leaves smaller urban and rural areas outside of his market definition. This contradicts one of the FCC's stated purposes of conducting a granular analysis.

Q. PLEASE EXPLAIN.

A. When determining which markets are impaired without ULS, the granular analysis required by the FCC was designed to take into account precisely those areas the MSA excludes. In requiring its state-specific granular analysis, the FCC stated that "[s]uch an approach permits us to take the circumstances of rural carriers and the areas they serve into account."[5] Mr. Fleming observes that the wire centers outside of MSAs are generally smaller urban and rural areas, and urges the Commission to ignore them for the purposes of defining markets. This is inconsistent with a stated objective of the FCC and, as shown above, would require the Commission to omit large portions of the state from its analysis.

[5] *Triennial Review Order*, ¶ 130.

Q. WOULD THE COMMISSION NEED TO IGNORE CERTAIN GEOGRAPHIC MARKETS IF THE MARKET WERE DEFINED AT THE WIRE CENTER LEVEL?

A. No. A wire center market definition provides sufficient granularity so as to avoid the types of exceptions proffered by Mr. Fleming, and properly allows each market in the State of Missouri to be examined independently.

C. Counties Within MSAs Show Dramatic Variations in Their Population Densities

Q. DO COUNTIES WITHIN MSAS SHOW SUFFICIENT SIMILARITY OF ECONOMIC CHARACTERISTICS TO JUSTIFY TREATING THEM AS SINGLE MARKETS FOR MASS-MARKET SWITCHING?

A. In general, no.

Q. SO YOU DISAGREE WITH THE STATEMENTS OF MR. FLEMING AND DR. TARDIFF THAT MSAS ARE DESIGNED TO TAKE INTO ACCOUNT ECONOMIC INTEGRATION?

A. MSAs are defined in such a way as to take into account *a specific kind* of economic integration. As Dr. Tardiff quotes the OMB,

> The Metropolitan Statistical Area comprises the central county or counties containing the core, plus adjacent outlying counties having a high degree of social and economic integration with the central county *as measured by commuting ties.*[6]

Depending on how economic integration is measured, one may reach very different conclusions as to whether or not two areas are economically integrated. For example, measured by the flow of goods and services, the United States and Canada are economically integrated; measured by commuting ties, they are not. I

[6] Direct Testimony of Timothy Tardiff at 11 (emphasis added) ("Tardiff Direct").

have no quarrel with the idea that the counties comprising MSAs are economically integrated as measured by commuting ties, but, measured by the factors that create a unified geographic market for mass-market switching, they are not.

Q. WHAT ARE THE ECONOMIC FACTORS THAT SHOULD BE TAKEN INTO ACCOUNT IN ASSESSING THE SCOPE OF THE GEOGRAPHIC MARKET?

A. The FCC has provided some guidance in this area. On the issue of how to define the market, in paragraph 495 of the *TRO* the FCC instructed state commissions as follows:

> The triggers and analysis described below must be applied on a granular basis to each identifiable market. State commissions must first define the markets in which they will evaluate impairment by determining the relevant geographic area to include in each market. State commissions have discretion to determine the contours of each market, but they may not define the market as encompassing the entire state. Rather, state commissions must define each market on a granular level, and in doing so they must take into consideration the locations of customers actually being served (if any) by competitors, the variation in factors affecting competitors' ability to serve each group of customers, and competitors' ability to target and serve specific markets economically and efficiently using currently available technologies. While a more granular analysis is generally preferable, states should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market. State commissions should consider how competitors' ability to use self-provisioned switches or switches provided by a third-party wholesaler to serve various groups of customers varies geographically and should attempt to distinguish among markets where different findings of impairment are likely. The state commission must use the same market definitions for all of its analysis.

This is a complex list of factors to consider, though as one would expect, there is nothing here that is remotely related to commuting ties.

Q. AMONG THIS LIST OF FACTORS TO CONSIDER IN DEFINING MARKETS, ARE THERE ANY YOU CONSIDER PARTICULARLY IMPORTANT?

A. Yes. In the quotation above and throughout the *TRO*, emphasis is laid on economies of scale. For the most part, the costs associated with switching in a given wire center are fixed—they do not vary with the number of customers served. In order to justify the investment in switching and other costs associated with replacing UNE-P with UNE-L, the CLEC must have a realistic possibility of recouping its costs.

The ability to exploit economies of scale is directly related to population density in the area being served. It is, therefore, essential to define a market that is sufficiently granular to capture significant differences in population densities.

Q. WOULD DEFINING THE GEOGRAPHIC MARKET AT THE MSA LEVEL ACCOMPLISH THIS OBJECT?

A. No, it would not. The counties that comprise MSAs show very significant variations in population densities.

Q. CAN YOU DEMONSTRATE THAT?

A. Yes. Consider this map of the St. Louis MO-IL MSA:

Figure 3

The map in Figure 3 has been shaded to reflect population densities in each county, where the population density is the number of residents (according to the 2000 U.S. census) divided by the land area in square miles. The counties in white have population densities of less than 2,000 persons per square mile; the middle shaded county—St. Louis County—has a population density of 2,001 persons per square mile; and the most densely shaded county is St. Louis City, with a population density of 5,623 persons per square mile.

The visual breakdown shown in Figure 3 understates the degree of variation. In order to accommodate the level of resolution possible in black and

white, I have only used three levels of density. In fact, there are 10 counties in this MSA with *fewer than 100* persons per square mile, as follows:

Table 1

County	*StateCode*	*PopDensity*
Calhoun County	IL	20
Crawford County	MO	31
Washington County	MO	31
Bond County	IL	46
Macoupin County	IL	57
Warren County	MO	57
Jersey County	IL	59
Lincoln County	MO	62
Monroe County	IL	71
Clinton County	IL	75

In other words, defining the geographic market for mass market switching as the MSA would cause sparsely populated counties within Missouri such as Crawford, Washington, and Warren to be included with St. Louis County and the City of St. Louis in the same market. Economies of scale and other important economic features are not the same for these counties, so it is inappropriate to combine them into a single market.

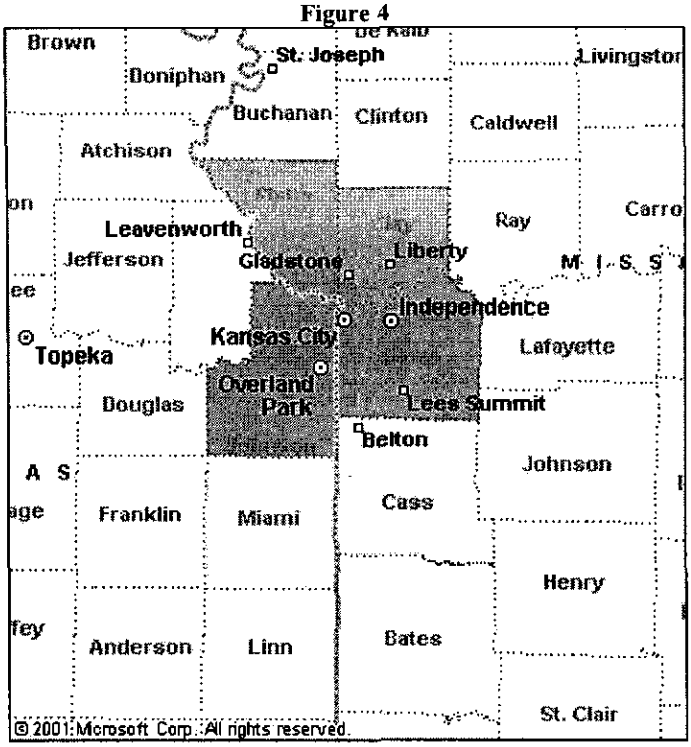
Q. IS THIS MSA UNUSUAL IN THIS RESPECT?

A. No. Although the presence of St. Louis makes this the most extreme example in Missouri, this is by no means unusual for MSAs. Recall the quotation above where the OMB warns against relying on MSA boundaries to distinguish between urban and rural counties.

Q. CAN YOU PROVIDE ANOTHER EXAMPLE OF THIS VARIATION IN POPULATION DENSITIES FOR AN MSA IN MISSOURI?

A. Yes. Here is the map of the Kansas City, MO-KS MSA:

Figure 4



The map in Figure 4 shows a more gradual variation in population densities within this MSA, but the range is still extreme. The counties in white have population densities of between 15 and 44 persons per square mile of land. The middle-shaded counties, which are hard to distinguish in black and white (Clinton, Lafayette, Cass, Miami, and Leavenworth) have population densities of between 45 and 149 persons per square mile of land. The most densely populated counties have population densities ranging from 153 to 1,083 persons per square mile.

Q. HOW MANY COUNTIES IN THIS MSA HAVE FEWER THAN 100 PERSONS PER SQUARE MILE?

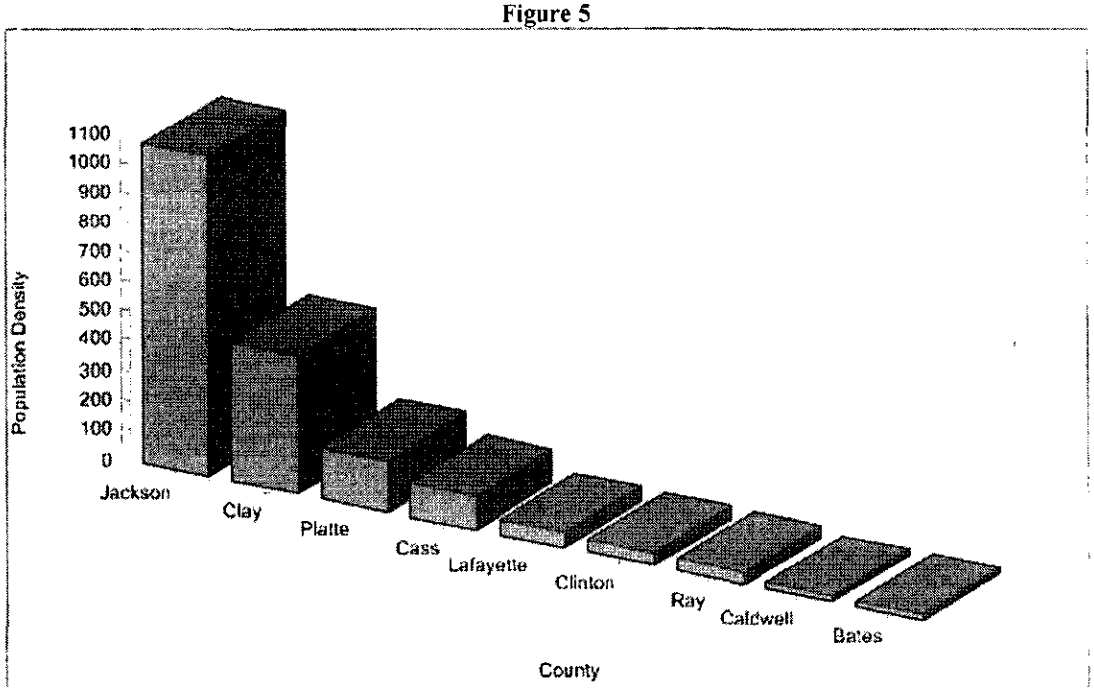
A. There are eight:

Table 2

County	*StateCode*	*PopDensity*
Linn County	KS	16
Bates County	MO	20
Caldwell County	MO	21
Ray County	MO	41
Franklin County	KS	43
Clinton County	MO	45
Miami County	KS	49
Lafayette County	MO	52

To further illustrate the significance of these variations in population densities, the following Figure 5 and Table 3 show the population densities for all nine of the counties in Missouri that make up the Kansas City, MO-KS MSA:

Figure 5



The data corresponding to this graph are as follows:

Table 3

Kansas City, MO-KS	
County	*Pop. Density*
Jackson	1083
Clay	464
Platte	176
Cass	117
Lafayette	52
Clinton	45
Ray	41
Caldwell	21
Bates	20

It is worth reiterating that this is not the most extreme case; St. Louis MSA shows even greater extremes in the range of population densities.

Q. ALTHOUGH THE COUNTIES WITHIN MSAS ARE NOT UNIFORMLY DENSE, IS IT AT LEAST SAFE TO ASSUME THAT NON-MSA COUNTIES HAVE LOWER POPULATION DENSITIES THAN THOSE WITHIN MSAS?

A. No, there are so many exceptions that even this cannot be safely assumed. The following 15 counties in Missouri have population densities greater than 50 persons per square mile of land and are not in any MSA:

Table 4

County	*PopDensity*
Randolph County	51
Camden County	57
Lawrence County	57
Pettis County	58
Johnson County	58
Butler County	59
Phelps County	59
Dunklin County	61
Stone County	62
Taney County	63
Marion County	65
Pulaski County	75
Scott County	96
Cape Girardeau County	119
St. Francois County	124

Of the 35 counties in the eight MSAs in Missouri, *15*—over 40 percent—have population densities of less than 50 persons per square mile of land. In other words, the counties in Table 4 above, which are not in any MSA, all have population densities that are higher than over 40 percent of the counties that are in MSAs in Missouri.

Q. WHAT CONCLUSIONS CAN YOU DRAW FROM THIS ANALYIS?

A. This detailed analysis confirms the statement of the Office of Management and Budget that MSAs cannot be used to distinguish between urban and rural counties. MSAs include very sparsely populated counties, and there are many counties that are more densely populated that are not a part of any MSA. Since the economics of telecommunications is driven to a large extent by population densities, it is inappropriate to ignore these differences and to necessarily treat every county in an MSA as having the same impairment characteristics as every other county in the MSA.

D. The Reasons Provided by SBC for the Use of MSAs are Not Convincing

Q. WHAT ECONOMIC JUSTIFICATION HAS SBC PUT FORTH FOR THE USE OF MSAS AS THE APPROPRIATE GEOGRAPHIC MARKET?

A. This is addressed most directly in Dr. Tardiff's testimony. Dr. Tardiff provides the following analysis:

> Specifically, from the perspective of the CLEC, two related considerations come into play, which together determine the geographic area in which the CLEC chooses to compete for mass-market customers. First, the CLEC incurs fixed costs (costs incentive to the number of customers) when it chooses to locate its switch and market its services following the contours of media markets. That is, when a CLEC enters using mass market advertising, it has implicitly chosen to reach all potential customers in the geographic market serviced by the media. Thus, to serve mass-market customers, CLECs implicitly offer service to a geographic area consisting of the areas (i) served by a switch and (ii) corresponding to media market geographic reach. Second, the CLEC must decide how to serve customers in particular ILEC wire centers to which it ahs already offered service: whether to incur fixed costs of collocation or to serve the customers through enhanced extended links (EELs). Putting these two types of costs together, the CLEC entrant determines that it is likely to be profitable to serve this area—*i.e.,* the intersection of the reach of a switch and the reach of mass media—given the most efficient way to connect customers in different ILEC wire centers to its switch.[7]

Thus, Dr. Tardiff argues that the MSA is the appropriate geographic market because, in his view, it is the intersection of the area covered by mass-market advertising and the area covered by "a switch that serves a large geographic area."

[7] Tardiff Direct at 9.

Q. DO YOU AGREE WITH DR. TARDIFF'S ANALYSIS?

A. No, I do not. Both his arguments regarding advertising and his arguments regarding the geographic reach of switches are flawed.

Q. LET'S BEGIN WITH HIS ANALYSIS OF THE RELATIONSHIP BETWEEN MEDIA MARKETS AND THE GEOGRAPHIC MARKET FOR MASS-MARKET SWITCHES. WHAT PROBLEMS DO YOU SEE WITH THIS ANALYSIS?

A. There are three main problems:

- The assertion that service offerings "are frequently rolled out by an individual MSA" is unsubstantiated;
- Dr. Tardiff's analysis confuses the economics of advertising with the economics of telecommunications; and
- It is not supported by the data.

Q. WHAT SUPPORT DOES DR. TARDIFF PROVIDE FOR HIS ASSERTION THAT SERVICE OFFERINGS ARE FREQUENTLY ROLLED OUT BY INDIVIDUAL MSA?

A. None. He has not mentioned a single MSA—either in Missouri or anywhere else—or a single service offering that was rolled out by MSA.

Q. IS THERE ANY INFORMATION ON THE RECORD IN THIS PROCEEDING THAT PERTAINS TO THIS QUESTION?

A. Yes. As explained in the direct testimony of Sage Witness Robert McCausland, Sage does not take part in mass media advertising.[8] Mr. McCausland also further discusses this issue in his rebuttal testimony.

[8] Direct Testimony of Robert McCausland at 7 ("McCausland Direct").

Q. IN WHAT WAY DOES DR. TARDIFF'S ANALYSIS CONFUSE THE ECONOMICS OF ADVERTISING WITH THE ECONOMICS OF TELECOMMUNICATIONS?

A. His analysis assumes that because many companies purchase media packages that cover a whole MSA, it follows that everyone in that MSA must be in the same market. I agree with Dr. Tardiff that the MSA corresponds more-or-less to the geographic area covered by newspapers, local radio, television, and some cable media. This may well imply that the MSA is a sound market definition for advertising media, but says nothing at all about telecommunications markets.

Q. PLEASE EXPLAIN WHY NOT.

A. Dr. Tardiff's argument is not specific to telecommunications services. As I quoted above, Dr. Tardiff states that "when a CLEC enters using mass market advertising, it has implicitly chosen to reach all potential customers in the geographic market serviced by the media." There is nothing special about CLECs here. One could replace the word "CLEC" with anything else: the argument is that *anything* that advertises on an MSA basis faces a geographic market equal to the whole MSA. In fact, it would also follow from Dr. Tardiff's argument that any product that advertises nationally must be facing a national market. This is clearly wrong.

Q. CAN YOU PROVIDE EXAMPLES THAT PROVE IT IS INCORRECT TO EQUATE MEDIA MARKETS WITH GEOGRAPHIC MARKETS FOR THE PRODUCTS SOLD?

A. Yes. Several examples come immediately to mind; there are undoubtedly others.

In general, any time transportation costs exceed the benefits of price differentials across an MSA, the market is not as wide as the MSA. Consider

retail gasoline and many franchise products, such as fast food. Nobody will drive across an MSA to save a few pennies on a gallon of gasoline or to get free fries with their Big Mac. Yet we see countless ads—both across the MSA and nationally—for these products.

Perhaps the best example of how advertising and geographic markets do not necessarily overlap is political advertising. For example, during election season, a person living in New Jersey will see countless ads for the Governor of New York. This is not because the geographic market for voters in New York extends to New Jersey. It is because the economics of advertising dictate that media purchases be made on an MSA basis.

It is clear, then, that no conclusions can be drawn about the geographic market of products or services based on the scope of media advertising.

Q. DOES THE ANALOGY WITH POLITICAL ADVERTISING SHED ANY FURTHER LIGHT ON THE QUESTION OF THE GEOGRAPHIC SCOPE FOR MASS-MARKET SWITCHING?

A. Yes. The reason political advertising is so definitively not the same as the scope of media advertising is *location specificity*. The "market" for voters for a particular office is absolutely tied to the location of residence of those voters. Location specificity is also critical to this impairment analysis.

Q. WHY IS LOCATION SPECIFICTY CRITICAL TO THE IMPAIRMENT ANALYSIS?

A. In this context, location specificity refers to the situation in which mass market customers are tied to the incumbent-owned loops serving their respective locations, and are therefore limited in their competitive options to those

competitive services (if any) provided over their loops. Location specificity is driven by the fact that the customer's loop is a bottleneck facility and requires CLECs to access customers' loops at the individual wire centers serving those customers.

Q. HAS THE FCC RECENTLY RECOGNIZED THAT MASS MARKET LOOPS ARE BOTTLENECK FACILITIES?

A. Yes. The FCC found in its *Triennial Review Order* that "[w]ith respect to our mass market analysis, we make national impairment determinations for loops based on general economic and operational factors that do not vary significantly by geographic region."[9] Thus, after its recent review, the FCC has concluded that mass market loops are a bottleneck element for which there are currently insufficient competitive options and will continue to be unbundled for CLECs serving mass market customers. Hence, in order to serve a mass market customer, CLECs must have access to the incumbent-owned loop(s) serving that customer.

Q. HOW DOES A CLEC GAIN ACCESS TO THE LOOPS OF CUSTOMERS?

A. Facilities-based CLECs gain access to customer loops by interconnecting with the incumbent's network, generally, at the incumbent LEC's central office serving a particular wire center.[10] A CLEC can connect customers' loops to its own switch collocated in the central office serving the wire center or can utilize EELs to transport traffic to a CLEC-owned switch in a different location. The important

[9] *Triennial Review Order*, ¶ 198.

[10] Where technically and economically feasible, facilities-based CLECs can also interconnect and access customer sub-loops at a remote terminal.

point is that CLECs must access mass market customer loops at each individual wire center.[11]

Q. COULD A CUSTOMER CHOOSE TO SWITCH TO COMPETITIVE SERVICES PROVIDED BY CLECS SERVING OTHER WIRE CENTERS?

A. No. Due to location specificity of mass market customers, they are limited to the services provided over the loop serving their location. Moreover, due to economic barriers, CLECs do not overbuild the incumbent LEC's loop infrastructure to serve mass market customers as they might for enterprise customers.

Q. WHY DO YOU EMPHASIZE LOCATION SPECIFICITY AT THIS POINT?

A. Because it highlights the inappropriateness of the MSA as the geographic market. It does so in two ways.

First, since economic principles used to define geographic markets emphasize the market response (*i.e.*, whether or not the market switches to products of other firms) to a price increase by one firm, it is imperative to understand the effect customer location specificity has on customers' ability to switch to competing firms. In the same way that political advertising is irrelevant outside of its intended geographic boundary, if a CLEC is providing service to a wire center adjacent to a customer's wire center but is not serving the wire center

[11] SBC Witness Fleming acknowledges this point in his Direct Testimony. "A CLEC that collocates in an SBC Missouri central office has the ability to access the local loops in that office (or, with EELs, to connect to local loops in other offices) and to direct traffic from those loops back to the CLECs' own switch." Fleming Direct at 17.

in which the customer resides, that customer would be unable to switch in response to a price increase by the incumbent LEC.

Second, some parties argue for a larger geographic market definition based on the reach of a CLEC switch.[12] However, location specificity precludes CLECs from serving every customer within the reach of its switch because it must still interconnect at each wire center served to access customer loops. Hence, economic barriers are tied to location specificity. Likewise, operational barriers are driven by location specificity, which may make it technically infeasible for CLECs to serve a subset of the customers within the reach of its switch. I will expand on this issue below, in conjunction with an analysis of the available data.

E. The Available Data Does Not Support Defining the Geographic Market at the MSA Level

Q. WHAT IS THE SECOND RATIONALE PROVIDED BY SBC FOR RECOMMENDING THAT MSAS BE USED TO DEFINE THE GEOGRAPHIC MARKET?

A. In the words of Mr. Fleming, "switches each can serve very large geographic areas, including entire MSAs or larger areas."[13] Mr. Fleming goes on to present data the he asserts supports this conclusion. In the same paragraph, he continues:

> As evidenced by data presented below, in those MSA markets where CLECs are using self provisioned switches they are serving a large number of customers, including mass market customers, in wire centers which constitute a significant majority of the SBC access lines in the MSA.[14]

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[12] Switch reach refers to the geographic area that could be served by a CLEC switch absent any operational and economic barriers that limit access to customers.
[13] Fleming Direct at 10.
[14] *Id.*

Q. DO YOU AGREE THAT THE DATA SUPPORTS THE CONCLUSION THAT THE MSA IS THE APPROPRIATE GEOGRAPHIC MARKET FOR ANALYZING MASS-MARKET SWITCHING?

A. No, I do not. In fact, the data presented by Mr. Fleming in his Schedule GAF-2 HC clearly establishes that the MSA is *not* the correct geographic market.

Q. WHAT CONCLUSIONS CAN BE DRAWN FROM THE DATA INCLUDED IN SCHEDULE GAF-2 HC?

A. First, as explained in my direct testimony (at 34), an MSA market definition is, in reality, an aggregation of individual wire centers averaged to a larger, non-homogeneous grouping. As wire centers are grouped together to form an MSA-wide market, the boundaries for areas where competitive alternatives may be available to mass market customers are expanded to include areas where competitive alternatives are not available. At the MSA level, it may appear that customers are being served by competitors, when, in actuality, large portions of the market have no competitive alternatives. This is confirmed by Schedule GAF-2 HC.

As this data shows, there is a wide variation of competitive activity in wire centers within the same MSA. For instance, the St. Louis MSA contains both the St Clair wire center and the Chestnut wire center. According to SBC, the Chestnut wire center contains **_____** collocated CLECs, **____** CLECs providing service via EELs, and **_____** ported telephone numbers ("TNs"). The St Clair wire center, on the other hand, contains **____** collocated CLECs, **____** CLECs providing service via EELs, and **____** ported TNs. These two wire centers, while residing in the same MSA, do not exhibit similar

competitive characteristics, and to the extent that the market is defined as the MSA and the national finding of impairment is overturned, all customers in the St Clair wire center will likely be left without viable competitive alternatives. \

Q. IS THIS AN ISOLATED EXAMPLE?

A. No. The following two charts show the number of CLECs collocated in the wire center, the number of CLECs with EELs, and the number of CLECs with ported TNs in the St. Louis MSA (due to the large number of wire centers in this MSA—**__**—I've divided the data into two charts):

Figure 6

**

**

Figure 6 Contains Highly Confidential Information

**

**

Figure 7

** **

Figure 7 Contains Highly Confidential Information

** **

As shown in the legend, squares show the number of CLECs collocated in each wire center, circles show the number of CLECs with EELs in each wire center, and triangles show the number of CLECs with ported TNs in each wire center. For example, from Figure 6 we read that the wire center named "Antonia Tot" has **___** CLECs collocated, **___** CLECs with EELs, and **____** CLECs with ported TNs. From Figure 7, we see that "Flanders" has **____** CLECs collocated, **___** CLECs with EELs, and **___** CLECs with ported TNs. This is the same information as is contained in Schedule GAF-2 HC for the St. Louis MSA, only presented visually.

These two charts show that there is significant variation in the economic characteristics of wire centers within MSAs. If the economic characteristics that would allow CLECs to compete were the same or similar across MSAs, we would

expect each of the three lines in the two graphs above to be more-or-less horizontal, reflecting similar competitive conditions across the wire centers. What we see instead is a large amount of variation in the degree of competition across wire centers within an MSA.

Q. WHAT, SPECIFICALLY, CAN WE CONCLUDE FROM THE DATA PRESENTED IN SCHEDULE GAF-2 HC?

A. First, we must conclude that defining the market at the MSA level would fail to take into account the variations in factors affecting competitors' ability to serve each group of customers, as required by the *TRO*.[15] As explained in my direct testimony (at 31-33), competitors must take wire-center specific variations into account when deciding whether to serve customers in that wire center. For example, as discussed above, customer density is a major driver in this decision-making process, since density exerts major influence on the potential revenues derived from entering the market. Another example is operational barriers, such as deployment of IDLC, that also vary by wire center. If the market is defined at the MSA level, the level of granularity would be insufficient to reflect important variations in these factors.

Schedule GAF-2 HC clearly shows that there are variations in competitive activity among wire centers. These variations are driven by the economic and operational differences inherent in the individual wire centers. The fact that Schedule GAF-2 HC shows that multiple facilities-based CLECs are providing service to some wire centers **_____** while completely excluding

[15] *TRO*, ¶ 495 (quoted in full above in text).

other wire centers **_____ ** is an indication that factors affecting competitors' ability to serve each group of customers varies by wire center.

Moreover, if we assume that the **_____** wire center is not being served by facilities-based CLECs due to low customer density and, in turn, low potential revenues relative to the **_____** wire center, an MSA market definition would simply group **_____** with other wire centers (some of which exhibit characteristics that allow competitors to serve customers and some which do not) and would ignore the factors that contribute to the lack of competitive choices for **_____** and similar wire centers. This definition would therefore preclude the Commission from considering these variations and would strand customers in the **_____** wire center without viable competitive alternatives indefinitely.

Q. ARE THERE OTHER CONCLUSIONS THAT CAN BE DRAWN FROM SCHEDULE GAF -2 HC THAT ARE IMPORTANT TO THE COMMISSION'S ANALYSIS?

A. Yes. It is important to note that there has been no evidence provided showing what portion (if any) of this competitive data pertains to mass market customers. Thus, the competitive data contained in this exhibit (and utilized for demonstration purposes above) could predominantly reflect CLEC service to enterprise customers. While the data is informative for analyzing trends and patterns of competitive activity and demonstrating variations among wire centers, as a general rule, the Commission should not rely upon the numbers contained in the exhibit in gauging the level of competition currently available for *mass market customers* – with one exception.

Q. WHAT IS THE ONE EXCEPTION?

A. The Commission should consider the UNE-P data contained in Schedule GAF-2 HC. While I cannot independently verify the numbers, this data shows that UNE-P provides competitive choices to every wire center except **_** (or **____**). This is important not only because UNE-P is clearly the most prevalent form of competition in Missouri, but also because nearly all (if not all) of the customers served via UNE-P are mass market customers – and the focus of this proceeding. Since virtually all UNE-P customers are mass-market customers, one could deduce that the remainder of the competitive data relates, in large part, to enterprise customers.

Q. SCHEDULE GAF-2 HC CONTAINS A COLUMN ENTITLED "MASS MARKET UNE LOOPS." SHOULD THE COMMISSION RELY UPON THIS DATA?

A. No. While I have not reviewed the source data, it is my understanding that SBC is defining "mass market" to include customer locations with 3 or fewer DS0s. As I will address later in my testimony, the Commission should not adopt SBC's proposed definition of the mass market, and should, therefore, give little (if any) weight to SBC's mass market loop data. That being said, where they exist, mass market loops, as defined by SBC, exhibit considerable variation between wire centers in the same MSAs.[16] This strongly suggests that CLECs are picking and choosing which wire centers to serve (**_____** of total wire centers), and more importantly, which wire centers not to serve (**_____** of total wire centers) via their own facilities.

[16] ** **

F. *The FCC's Alleged Reliance on MSAs to Define the Geographic Scope of Local Exchange Markets in the Past is of Little Significance*

Q. HAVE PARTIES SUGGESTED THAT THE FCC HAS UTILIZED MSAS IN THE PAST TO DEFINE THE GEOGRAPHIC SCOPE OF LOCAL EXCHANGE MARKETS?

A. Yes. SBC Witness Tardiff provides several examples of the FCC allegedly determining that an MSA is the appropriate geographic scope,[17] including: the FCC's recent *Wireless Number Portability Order*,[18] *Bell Atlantic/Nynex Merger Order*,[19] *Pricing Flexibility Order*, [20] and the *UNE Remand Order*.[21] I will address each of these examples below.

Q. DO YOU AGREE THAT THE *WIRELESS NUMBER PORTABILITY ORDER* IS RELEVANT TO DEFINING THE GEOGRAPHIC MARKET IN THIS PROCEEDING?

A. No. The *Wireless Number Portability Order* pertains to local number portability between incumbent LECs and wireless carriers. Wireless carriers and CLECs, however, are not similarly situated, and the geographic markets for each will likely be much different. Wireless customers are not tethered to the local loops of the incumbent LEC and can, therefore, easily switch to competitors. Likewise,

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[17] Tardiff Direct at 13-15. *See also, Direct Testimony of Arthur P.* Martinez at 8, referencing the *Pricing Flexibility Order*.

[18] *In the Matter of Telephone Number Portability and CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues* (CC Docket No. 95-116) Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, FCC 03-284, ¶¶ 29-30 (released November 10, 2003) ("*Wireless Number Portability Order*").

[19] *In the Applications of Nynex Corp., Transferor, and Bell Atlantic Corp., Transferee, for Consent to Transfer Control of Nynex Corp. and its Subsidiaries,* Memorandum Opinion and Order, ¶ 43 (rel. Aug. 14, 1997) ("*Bell Atlantic/Nynex Merger Order*"). 43.

[20] *In the Matter of Access Charge Reform,* CC Docket No. 96-262, ¶ 72 ("*Pricing Flexibility Order*").

[21] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996,* CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, 3699, ¶¶ 276-98 ("*UNE Remand Order*).

wireless competitors do not face the operational barriers, or incur the same fixed costs, in accessing customers' loops at the wire center level as do their wireline counterparts. Further, since wireless companies need not rely on the incumbent LEC's loops in order to provide wireless service to their customers, they are not affected by the incumbent LEC's antiquated network design, which was built over many years during most of which the incumbent was a monopoly provider. While CLECs can deploy facilities with up-to-date technology, they still face inherent inefficiencies in accessing the local loops of customers. This is because the incumbent LEC's network was not designed to provide to other parties efficient access to these loops.

Since those factors that play a major role in defining markets, such as location specificity, operational feasibility, and economic feasibility, are markedly different for wireline competitors than for wireless carriers, it follows that it is incorrect to assume that the appropriate geographic market is the same for each.

Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT THE *WIRELESS NUMBER PORTABILITY ORDER* REFERRED TO BY DR. TARDIFF?

A. Yes. The excerpt to which Dr. Tardiff refers explains a temporary waiver, based on technical feasibility concerns, granted to wireline carriers outside the top 100 MSAs to provide LNP to wireless carriers. Thus, the FCC divided the nation into only two "markets" (*i.e.*, carriers within the top 100 MSAs and carriers outside the top 100 MSAs). This is hardly an indication that the FCC was supporting an MSA based geographic market definition for local exchange competition.

Q. PLEASE ADDRESS THE *BELL ATLANTIC/NYNEX MERGER ORDER* CITED BY DR. TARDIFF.

A. The reference in this order to which Dr. Tardiff points is as follows:

> 43. With respect to the proposed merger of Bell Atlantic and NYNEX, we conclude that the proposed merger will likely eliminate Bell Atlantic as a competitor to NYNEX and therefore retard competition and its development. We conclude first that the relevant market is the provision of local exchange and exchange access services to residential and small business customers, particularly in LATA 132. There is significant evidence that bundled local and long distance services may become a relevant product market as well as firms begin to enter complementary markets. Because there is also significant evidence that the New York metropolitan area, including northern New Jersey, may likely become a relevant geographic market as competition develops, we will treat the New York metropolitan area as a relevant geographic market as well. The record further suggests that other geographic markets may also be relevant, including Boston, Massachusetts and Providence, Rhode Island.

Nowhere in the above excerpt does the FCC state that MSAs are the appropriate geographic market for evaluating local exchange competition. Instead, the FCC simply determined, *based on the evidence provided in that particular proceeding,* that it would treat the New York metropolitan area as a geographic market. This is not a specific endorsement of MSAs, nor does it have any bearing on the appropriate geographic markets for Missouri.

Q. DO YOU AGREE THAT THE *PRICING FLEXIBILITY ORDER* SUPPORTS THE USE OF MSA GEOGRAPHIC MARKET DEFINITIONS?

A. No. As Dr. Tardiff points out, this order pertains to the FCC granting pricing flexibility to incumbent LECs for certain *interstate access* services (or access services provided by incumbent LECs to IXCs). Location specificity associated

with local exchange service caused by the bottleneck local loop does not affect IXCs to the same degree as CLECs. Instead of being required to physically or virtually collocate equipment in the central office (or interconnect through EEL arrangements) to access the local loops of customers (as CLECs must do to provide intrastate services) at a wire center level, IXCs simply pay an interstate access rate for use of the incumbent LEC's facilities and route interstate toll traffic to its Point of Presence (POP). The two different service platforms used to provide interstate toll and intrastate local exchange service, respectively, provide different incentives to invest in facilities. While an MSA may be appropriate for analyzing competition for interstate access services, a more granular approach is needed for local exchange services.

Q. DID THE FCC PROVIDE ANY INDICATION THAT ADMINISTRATIVE EASE WAS OF UTMOST IMPORTANCE IN DEFINING THE GEOGRAPHIC MARKET FOR THE *ACCESS CHARGE REFORM ORDER?*

A. Yes. Unlike in the *Triennial Review Order*, in which the FCC favors the finest level of granularity that is administratively practical, the FCC appears to favor administrative ease in the *Access Charge Reform Order* – where it states:

> The triggers we adopt below should permit incumbent LECs to make the required showings, with a minimum of administrative burden for the industry and the Commission.[22]

[22] *Access Charge Reform Order*, ¶ 69.

Q. WHY WOULD THE FCC EMPHASIZE GRANULARITY OVER ADMINISTRATIVE EASE IN THE *TRIENNIAL REVIEW ORDER*, IN LIGHT OF ITS EMPHASIS ON THE LATTER IN THE *ACCESS CHARGE REFORM ORDER*?

A. The FCC's emphasis on granularity in its *Triennial Review Order* is a direct result of the *USTA*[23] court vacating the FCC's previous interpretation of the "impair" standard on the grounds that it did not consider market-specific variations that may lead to varying impairment findings across markets smaller than the national market.[24] Hence, since the time of the *Access Charge Reform Order,* the courts have specifically required the FCC to emphasize granularity when examining unbundling requirements.

Q. SHOULD THE COMISSION RELY ON THE FCC'S *UNE REMAND ORDER* IN EXAMINING THE FCC'S PRIOR ACTIONS ON GEOGRAPHIC MARKET DEFINITIONS.

A. Not as Dr. Tardiff suggests. The FCC states:

> We conclude that it is appropriate to create an exception to the local circuit switching unbundling obligation *only in density zone 1, within the top 50 MSAs*. The exception applies to density zone 1 as it was defined on January 1, 1999. Based on the limited evidence in the record, we believe that *density zone 1 closely reflects the wire centers where competitive LEC switches are located*...we believe that drawing a line at density zone 1 within the top 50 MSAs represents a reasonable approximation of where requesting carriers are not impaired without access to unbundled local circuit switching.[25]

As the italicized language above shows, the FCC believed that a level of granularity finer than the MSA level was needed in establishing its switch carve-out rule. Further, the FCC based this determination on the wire centers where

[23] *United States Telecom Ass'n v. FCC*, 290 F.3d 415 (D.C. Cir. 2002)("*USTA*"), *cert. denied sub nom.*

[24] A more detailed explanation of the *USTA* court's decision can be found on pages 12 and 13 of my Direct Testimony.

[25] *UNE Remand Order,* ¶ 285 (emphasis added).

CLECs had collocated switches. If the Commission gives any weight to this example of the FCC defining geographic markets, it should conclude that it supports my proposed wire center market definition.

Q. WHAT, IF ANYTHING, SHOULD THIS COMMISSION CONCLUDE FROM THE EXAMPLES ABOVE?

A. If the Commission gives this information weight, it should find that it supports my recommendation for a market definition more granular than the MSA level. Although the examples provided are distinguishable from those in this proceeding, the FCC has demonstrated that it has the ability to manage an MSA level inquiry without the intervention of state commissions. The significant point is that the FCC declined to adopt an MSA market definition in its *Triennial Review Order*, despite having the full opportunity to do so. The fact that the FCC recruited state commissions to take on this analytical task, coupled with the clear statements by the FCC favoring a fine level of granularity, suggests that the FCC believes the appropriate geographic market was smaller than an MSA.

III. ATTEMPTS TO DISCREDIT A WIRE CENTER GEOGRAPHIC MARKET DEFINITION ARE MISLEADING AND INCONSISTENT WITH THE FCC'S MARKET DEFINITION GUIDELINE

Q. IN DIRECT TESTIMONY, SEVERAL PARTIES CRITICIZED THE USE OF WIRE CENTERS FOR DEFINING MARKETS. PLEASE SUMMARIZE THOSE CRITICISMS.

A. There were several criticisms of the wire center market definition that generally fall under the following categories:

1. A wire center geographic market definition is too narrow and is inconsistent with FCC directives;[26]

2. A wire center geographic market definition allows CLECs to perpetuate UNE-P in wire centers indefinitely based on the relative economics of using their own switches;[27]

3. Location specificity is less important for defining telecommunications markets, thereby suggesting that wire center distinctions are essentially meaningless to end-users.[28]

I will consider each of these criticisms in turn.

A. Using a Wire Center Definition is Not Too Narrow and is Not Inconsistent with FCC Directives

Q. WHAT CRITICISMS HAVE BEEN MADE WITH REGARD TO A WIRE CENTER MARKET DEFINITION BEING TOO NARROW AND BEING INCONSISTENT WITH THE FCC'S MARKET DEFINITION DIRECTIVES?

A. Several parties make this allegation. The following excerpts summarize these criticisms.

> Smaller market definitions [than an MSA] would conflict with the FCC's mandates that "states should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market" ...[I]t would be neither efficient nor reasonable for a competitor to serve only an isolated wire center. The best proof of this is the actual entry pattern of competitors in the state. It does not appear that any competitors have generally chosen to enter the market on a wire center level.[29]

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[26] Direct Testimony of Mark D. Harper at 9 ("Harper Direct"), Fleming Direct at 9, Martinez Direct at 8, and Tardiff Direct at 23.
[27] Fleming Direct at 10.
[28] Harper Direct at 10; Tardiff Direct at 8.
[29] Fleming Direct at 9 (citing *TRO*, ¶ 495).

> The TRO explicitly requires that the defined market should be large enough for the entrant to take advantage of scale economies. In many cases wire centers are situated such that an entrant could, for example, co-locate in one wire center and use extended, enhanced loops (EELs) to serve another wire center at an overall lower per-unit cost than if the two were served separately. This is precisely the type of scale economies that are available when the market is defined as something larger than a wire center.[30]

> ...technological advancements in switching technology may make it inefficient for CLECs to deploy a circuit switch for a single wire center.[31]

Q. IS THERE A COMMON THEME UNDERLYING THE CRITICISMS LISTED ABOVE?

A. Yes. The one common theme underlying the excerpts above is that a wire center definition precludes CLECs from taking advantage of economies of scale that would be available from serving a larger market. Two of the excerpts appear to suggest that a wire center definition requires a CLEC switch to be collocated in each individual wire center or that a wire center definition assumes that CLECs will serve a single wire center.

Q. WHAT IS YOUR RESPONSE TO THE CRITICISM THAT THE WIRE CENTER PRECLUDES CLECS FROM TAKING ADVANTAGE OF ECONOMIES OF SCALE?

A. I disagree. The wire center definition recognizes that wire centers are the building blocks of local competition. Factors affecting a competitor's ability to serve customers vary by wire center, and therefore, play a large role in determining whether and to what extent CLECs will deploy facilities to serve that wire center. However, profit-maximizing firms will evaluate the potential to serve additional

[30] Harper Direct at 9-10.
[31] Martinez Direct at 8.

wire centers, and will expand if the potential revenues from expansion outweigh the costs of expansion (absent insurmountable operational barriers to entry). Variations among wire centers – both operational and economic – will lead the CLEC to the conclusion that serving some wire centers would be uneconomic or not operationally feasible. Thus, wire centers with active competition should not be in the same market as wire centers lacking such competition. Since the market data demonstrates that facilities-based CLECs choose to serve some wire centers within an MSA and not others, the wire center is a more appropriate geographic market definition than an MSA.

Q. WHAT IS YOUR RESPONSE TO THE CRITICISM THAT A WIRE CENTER MARKET DEFINITION REQUIRES A SWITCH TO BE COLLOCATED IN EACH WIRE CENTER?

A. I disagree. A wire center definition does not suggest that a CLEC must collocate a switch in each central office serving the wire centers. Rather, it recognizes that the wire center is the appropriate market where economic decisions are made by CLECs in determining whether and to what extent to serve customers. As Mr. Harper describes in the above excerpt, instead of collocating a switch in each wire center, CLECs *could* collocate a switch in one wire center and utilize EELs to serve customers in another wire center. However, CLECs are still forced to make economic decisions on a wire center basis as to whether it is feasible to economically and operationally serve customers in those wire centers with EELs. The data provided in Schedule GAF-2 HC in Mr. Fleming's testimony, although it combines mass market customers with enterprise customers, shows that CLECs are making these economic decisions and

excluding certain wire centers from their competitive offerings. Specifically, only **_____** of the total wire centers contain CLECs utilizing EELs. There is also variation in EEL provisioning among wire centers in the same MSA, ranging from **__** of wire centers containing EELs (Jefferson City MSA) to **_____** of wire centers containing EELs (St. Louis MSA).

Q. ARE THERE ANY OTHER REASONS WHY THE CRITICISMS OF THE PARTIES REGARDING SWITCH COLLOCATION IN DEFINING THE GEOGRAPHIC MARKET AT THE WIRE CENTER LEVEL ARE MISPLACED?

A. Yes. These parties attempt to support their proposed MSA market definition by suggesting that the geographic market should be defined according to the reach of CLECs' switches - and CLECs' switches can serve an entire MSA. Following this logic, CLECs should generally be collocating one switch per MSA to serve customers in that particular MSA. However, this is not what the marketplace data shows. Schedule GAF-3, from Mr. Fleming's testimony, shows that several CLECs have collocated numerous switches within the same MSA. Thus, the argument constructed by SBC and others suggesting that CLECs will collocate a switch to serve an entire MSA is rebutted by a review of the marketplace data.

B. A Wire Center Geographic Market Definition Does Not Inappropriately Perpetuate UNE-P in Wire Centers Indefinitely Based on the Relative Economics of Using its Own Switch

Q. PLEASE PRESENT YOUR UNDERSTANDING OF THE CRITICISM THAT UNE-P IS INAPPROPRIATELY PERPETUATED BY A WIRE CENTER MARKET DEFINITION.

A. Mr. Fleming states:

> Defining the geographic market areas as a wire center would also be inconsistent with the TRO because it would give competitors the power to perpetuate unbundled switching and UNE-P in wire centers indefinitely based on the *relative* economics of use of their own switch versus low priced UNE switching rather than on whether it is *economically feasible* to serve mass market customers using their own switch.[32]

The placement of Mr. Fleming's statement within his testimony suggests that it may be based on the assumption that a wire center definition must assume a CLEC will collocate a switch in each wire center to serve customers. As explained above, a wire center market definition does not make this assumption. In any event, Mr. Fleming's statement reveals an incorrect interpretation of the FCC's impairment framework.

Q. WHAT IS THE PROPER ANALYSIS TO BE USED?

A. Once the markets have been defined, the proper analysis to be conducted by the Commission is to first determine whether the triggers have been met, thereby demonstrating multiple retail or wholesale options to the incumbent LEC's unbundled local switching. If these triggers are satisfied and no exceptional barrier to entry is found, the Commission will render a decision of no impairment

[32] Fleming Direct at 10 (emphasis in original).

for that market. If the triggers are not satisfied, the Commission must conduct a potential deployment analysis to determine whether the market is suitable for "multiple, competitive supply."[33] In conducting this review, the Commission must evaluate three types of evidence: (1) whether competitors are using their own switches to serve enterprise or mass market customers, (2) the role of operational barriers to self-provisioning, and (3) the role of economic barriers to self provisioning. Nowhere in the impairment analysis, according to the FCC's *Triennial Review Order,* must the Commission consider the relative economies of ULS versus self-provisioned switches.

C. *Wire Center Distinctions are Critical to End-Users and Determine Whether They Have Access to Viable Competitive Choices*

Q. PLEASE ELABORATE ON THE CRITICISM THAT LOCATION SPECIFICITY IS LESS IMPORTANT TO DEFINING TELECOMMUNICATIONS MARKETS, THEREBY MAKING WIRE CENTER DISTINCTIONS MEANINGLESS.

A. In arguing that that the relevant telecommunications geographic market scope is different than what is called for by a typical geographic market analysis, Dr. Tardiff states:

> CLECs frequently offer service (using resale of UNE-P) in geographic areas whether they have no facilities, so the notion of identifying a firm with a location at which it provides service makes less sense for telecommunications carriers than (for example) cement manufacturers.[34]

Mr. Harper also attempts to downplay the importance of location specificity and states:

[33] *Triennial Review Order,* ¶ 506.
[34] Tardiff Direct at 8.

> Furthermore, because wire centers distinctions are essentially meaningless to end-users it is doubtful that a single wire center – particularly in an urban area – represents anything close to unique economic community of interest all by itself.[35]

Q. WHAT IS YOUR RESPONSE TO THESE CRITICISMS?

A. Location specificity is critical in determining whether and to what extent customers will have access to competitive alternatives. The bottleneck loop limits customers to the competitive services provided over that loop, and limits CLECs' ability to serve customers by requiring interconnection at the wire center level. Indeed, location specificity is more important to the telecommunications industry than cement manufacturers, as competitors in cement manufacturing are not constrained by a bottleneck element that exerts pressure from both a competitive and customer perspective.

Q. YOU POINT OUT THAT DR. TARDIFF ARGUES THAT THE RELEVANT TELECOMMUNICATIONS GEOGRAPHIC MARKET SCOPE IS DIFFERENT THAN WHAT IS CALLED FOR BY A TYPICAL GEOGRAPHIC MARKET ANALYSIS. DOESN'T DR. TARDIFF CONCEDE THAT THERE IS A REASONABLY CLOSE ALIGNMENT BETWEEN ASSESSING IMPAIRMENT FOR ULS AND THE MORE TRADITIONAL GEOGRAPHIC MARKET DETERMINATION?[36]

A. Yes. However, Dr. Tardiff incorrectly concludes that the appropriate location is the location of a CLECs' switch. As mentioned above, the location of the CLEC's switch tells us little (if anything) about the mass market customers served from that switch, due to location specificity brought about by the bottleneck loop.

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[35] Harper Direct at 10; *also see id.* at 8-9.
[36] Tardiff Direct at 8.

Q. DID THE FCC SPEAK TO THIS ISSUE IN ITS *TRIENNIAL REVIEW ORDER*.

A. Yes. The FCC states that, "because we measure alternative 'switching' in a given market, not switches located in that market, *the physical location of the switch is not necessarily relevant to defining the geographic market.*"[37] Hence, the FCC has specifically rejected the underpinning of Dr. Tardiff's recommendation.

Q. WOULD YOU LIKE TO RESPOND TO THE ASSERTION THAT WIRE CENTERS DO NOT SERVE AS ECONOMIC COMMUNITIES OF INTEREST?

A. Yes. I strongly disagree with the allegation that a wire center does not provide anything close to a unique economic community of interest all by itself. Since CLECs must interconnect at each wire center to access the loops served by that wire center, economic decisions regarding entry (*e.g.*, whether the expected revenue streams from serving this market will outweigh the costs) must be made by the CLECs at the wire center level. Thus, a wire center serves as a unique economic community of interest for CLECs determining whether or not to serve customers in that market. Considering that the ultimate objective is to determine whether and to what extent retail and wholesale alternatives exist to the incumbent LEC's switching, the wire center would be the most important economic community of interest for the Commission's analysis.

Q. DO YOU HAVE ANY FINAL RESPONSES TO THE PARTIES' CRITICISMS OF A WIRE CENTER MARKET DEFINITION?

A. Yes. I have two additional points I would like to raise in response to Staff. First, Staff Witness Cecil, in his rebuttal testimony, suggests that a wire center is a

[37] *Triennial Review Order,* n. 1536 (emphasis added).

concept with multiple definitions leading to semantic confusion.[38] Although Mr. Cecil does not fully explain this statement, one only needs to review SBC's Schedule GAF-2 HC and Staff's Schedules 1HC and 2HC, which show wire center groupings by MSA and exchange, respectively, to conclude that there is no semantic confusion surrounding the term "wire center" in this proceeding.

Second, Staff Witness Thomas, in his rebuttal testimony, states that an exchange level geographic market definition does not preclude a finding of no impairment throughout an entire MSA.[39] However, in those exchanges that consist of multiple wire centers, an exchange level market definition does preclude a finding of no impairment in individual wire centers. A wire center definition, on the other hand, does not preclude a finding of no impairment throughout an entire exchange or an entire MSA.

IV. THE DS0/DS1 CUTOVER SHOULD TAKE INTO ACCOUNT ACTUAL MARKETPLACE EVIDENCE AND SHOULD BE SUFFICIENTLY FLEXIBLE SO THAT IT DOESN'T INTERMINGLE MASS MARKET CUSTOMERS AND ENTERPRISE CUSTOMERS

Q. DID YOU ADDRESS THE DS0 CUTOVER LEVEL IN YOUR DIRECT TESTIMONY?

A. Yes. A discussion of this issue can be found in my direct testimony at pages 18-23. I discussed the importance of establishing an appropriate cutover level at page 19.

[38] Rebuttal Testimony of Walter Cecil at 11 ("Cecil Rebuttal").
[39] Rebuttal Testimony of Christopher Thomas at 14 ("Thomas Rebuttal").

Q. PLEASE BRIEFLY RECAP YOUR POSITION ON THIS ISSUE TAKEN IN DIRECT TESTIMONY.

A. In my direct testimony, I argued that: (1) mass market customers can only be economically served by DS0 loops, while all enterprise customers are served via DS1 loops; (2) the cutover level referred to by the FCC in the *Triennial Review Order* is not dispositive, because it is not based on empirical evidence; and (3) actual marketplace data should be analyzed to determine the cutover level that has been established by supply and demand. However, at the time of my direct testimony, I had not had an opportunity to review any market data. I have since had an opportunity to review additional data. I discuss the results of that analysis below.

A. SBC's Proposal to Expand the Cutover Level Established by the FCC in the UNE Remand Order to the Entire State of Missouri Should Not be Adopted by the Commission

Q. PLEASE DESCRIBE THE CUTOVER LEVEL DISCUSSED BY THE FCC IN THE *TRIENNIAL REVIEW ORDER*?.

A. In its discussion on this topic in the *Triennial Review Order*, the FCC states that

> We expect that in those areas where the switching carveout was applicable (i.e., density zone 1 of the top 50 MSAs), the appropriate cutoff will be four lines absent significant evidence to the contrary.[40]

The switch carve-out mentioned above refers to the exception to the unbundled local switching obligation the FCC established in the *UNE Remand Order* in density zone 1 of the top 50 MSAs. The switch-carve out rule for these

[40] *Triennial Review Order*, ¶ 497.

limited, high-density areas was predicated on the nondiscriminatory availability of EELs, and applied to serving customers with 4 or more lines.

Q. HAVE PARTIES RECOMMENDED THAT THE CUTOVER LEVEL EXPLAINED ABOVE BE EXPANDED TO SERVE AS THE CUTOVER LEVEL THROUGHOUT THE STATE OF MISSOURI?

A. Yes. SBC Witness Fleming[41] and CenturyTel Witness Martinez[42] both propose to expand the use of the cutover level established in the *UNE Remand Order* to define the mass market throughout the State of Missouri. These parties refer to this cutover as the FCC "default" cutover.[43]

Q. DO YOU AGREE THAT THE FCC ESTABLISHED A "DEFAULT" CUTOVER?

A. No. The parties' characterization of the cutover point embodied in the *UNE Remand Order* as a "default" is misleading. As the excerpt above shows, the FCC considered this cutover level only for areas governed by the switch carve out rule (*i.e.*, density zone 1 of the top 50 MSAs). Furthermore, the FCC did not require the states to utilize this cutover level for *any* geographic market (even in density zone 1 of the top 50 MSAs) if evidence was provided that supports a more appropriate cutover level.

Q. DO YOU DISAGREE WITH THESE PARTIES ON ANY OTHER POINT?

A. Yes. The alleged empirical evidence provided by SBC is result-driven, inconsistent with the characteristics attributed to each customer class by the FCC,

[41] Fleming Direct at 27.
[42] Martinez Direct at 11.
[43] *See,* Fleming Direct at 26.

and does not reflect a competitor serving mass market customers. I will address these issues in more detail below.

Q. DO YOU AGREE THAT THE COMMISSION SHOULD SIMPLY EXPAND THE CUTOVER ESTABLISHED IN THE *UNE REMAND ORDER* TO THE ENTIRE STATE OF MISSOURI, WITHOUT SUPPORTING EMPIRICAL EVIDENCE?

A. No. This determination should be based on marketplace data.

B. An Appropriate Cutover Level Between Mass Market and Enterprise Customers Should Take Into Account Actual Marketplace Evidence

Q. HOW DO YOU PROPOSE THE COMMISSION ESTABLISH THE CUTOVER LEVEL IN THIS PROCEEDING?

A. As part of its analysis, I believe it is instructive for the Commission to analyze the customer base of competitors serving only mass market customers to determine the number of loops mass market customers generally purchase. Analyzing the marketplace data of a competitor only serving mass market customers greatly simplifies the analysis because there is no chance for inappropriately commingling enterprise and mass market customers. To the extent that trends or patterns become evident with regard to the number of lines these competitors serve per customer location, the Commission could use this information in guiding its decision on the appropriate cutover level.

Q. DOES THE COMMISSION HAVE THE ABILITY TO ANALYZE THE CUSTOMER BASE OF COMPETITORS SERVING ONLY MASS MARKET CUSTOMERS?

A. Yes. Sage is the quintessential provider of competitive services to the mass market. Analyzing the data related to Sage's customer base will therefore allow

the Commission to identify trends attributable to mass market customers in isolation.

Q. YOU STATE THAT SAGE IS THE "QUINTESSENTIAL" PROVIDER OF COMPETITIVE SERVICES TO THE MASS MARKET. WHY IS THAT?

A. Because unlike other CLECs who have a customer base consisting of both mass market and enterprise customers, Sage's business plan is focused entirely on providing competitive alternatives to ***mass market customers***. Indeed, the customer profile of Sage is a virtual carbon copy of the FCC's definition of the mass market. I have compared Sage's profile to the FCC's definition of the mass market (shown in bold) as follows:

- Sage provides competitive service exclusively to residential and very small business customers throughout the territory of SBC Missouri (including rural and suburban areas). **"Mass market customers consist of residential customers and very small business customers."** (*Triennial Review Order,* ¶ 127).

- Sage provides POTS services, which include local and long distance services, vertical services, and a variety of bundled calling plans. While most of Sage's customers purchase single DS0s, some customers purchase multiple DS0s. **"Mass market customers typically purchase ordinary switched service (Plain Old Telephone Service or POTS) and a few vertical features. Some customers also purchase additional lines and/or high speed data services."** (*Id.*)

- Sage provides its competitive services solely over DS0 loops and does not provide any services over DS1 loops. **"...mass market customers are analog voice customers that...can only be economically served via DS0 loops."** (*Id.*, ¶ 497).

Furthermore, the FCC mentions the data-centric nature of business customers as a

factor attributable to the enterprise market,[44] and Sage does not provide data services in conjunction with POTS services at this time.

Q. DOES THE DATA SUPPORT YOUR POINT THAT SAGE IS THE QUINTESSENTIAL PROVIDER OF COMPETITIVE SERVICES TO THE MASS MARKET?

A. Yes. The mass market, as defined by the FCC, typically purchases a line for POTS services, while some mass market customers also purchase additional lines. Figure 1 illustrates the average number of lines per customer for Sage in each state in which it does business.

Figure 8

** _____ **

Figure 8 Contains Highly Confidential Information

** _____ **

[44] *See, generally, Triennial Review Order,* ¶¶ 128-129.

As Figure 8 shows, the average number of lines for residential customers across all jurisdictions is **_____**. The very small business customers served by Sage are also included in the mass market and purchase, on average, **_____** lines. The average lines per customer across all Sage jurisdictions including both very small business and residential is **___** lines per customer. This number is consistent withthe FCC's findings with regard to the mass market and supports my contention that the Sage's customer base is a reasonable proxy for analyzing trends related to mass market customers.

Q. ARE YOU RECOMMENDING THAT THE COMMISSION ESTABLISH THE DS0 CUTOVER BASED ON SAGE-SPECIFIC CHARACTERISTICS AND BUSINESS DECISIONS?

A. No. I'm recommending that the Commission examine marketplace data of a typical competitive provider to the mass market in order to gain an understanding of the impacts a particular cutover could have on the mass market. Since Sage's customer base is limited only to mass market customers and is entirely consistent with the FCC's mass market definitions, I recommend that the Commission use Sage's data, in its analysis, as a representative sample of mass market data.

Q. AFTER REVIEWING THE DATA, WHAT CONCLUSIONS HAVE YOU DRAWN REGARDING THE NUMBER OF LOOPS PER CUSTOMER LOCATION?

A. A vast majority of mass market customers served via DS0 loops are finding that 3 lines meet their telecommunications needs. An analysis of national data, as well as Missouri-specific data is presented below.

Q. **PLEASE PRESENT AND EXPLAIN THE NATIONAL DATA.**

A. Table 5 shows the number of customers Sage serves at each line count level, on a national basis, and Figure 9 depicts this data graphically.

Table 5

** _____ **

Table 5 Contains Highly Confidential Information

** _____ **

Figure 9

** _____ **

Figure 9 Contains Highly Confidential Information

** _____ **

As shows, **_____** of Sage's national customer base purchases 3 lines. While the incremental difference between 1 line and 2 lines is **___**, and the incremental difference between 2 lines and 3 lines is **___**, only **____** of the customer base purchases more than 3 lines. Hence, there is a strong indication that mass market customers can generally be served with 3 lines on a national basis.

Q. PLEASE PRESENT AND EXPLAIN THE MISSOURI DATA.

A. Table 6 presents the number of customers Sage served at each line count level in Missouri and Figure 10 illustrates this data.

Table 6

_____

Table 6 Contains Highly Confidential Information

_____

Figure 10

** ** **

Figure 10 Contains Highly Confidential Information

** ** **

As Table 6 shows, the data in Missouri closely resembles the national data. Specifically, **____** of Sage's customer base purchases less than 4 lines. The incremental difference between 1 line and 2 lines is **_____** and the incremental difference between 2 lines and 3 lines is **____**, but only **_____** of the customer base purchases more than 3 lines. Once again, there is a strong correlation between mass market customers and 3 lines per customer location.

Q. DUE TO THE ANALYSIS PROVIDED ABOVE, ARE YOU PROPOSING THAT THE COMMISSION ESTABLISH A BRIGHT-LINE MASS MARKET CUTOVER AT 4 OR MORE LINES?

A. No. While the data provided above indicates that 3 lines generally meet the needs of mass market customers, this data does not tell the entire story. In defining the mass market, especially when this definition will be used to conduct a potential deployment analysis for facilities-based service, it is critical to examine the economics facing facilities-based competitive providers. Stated differently, while the Commission should utilize the information above to guide its decision making on this issue, it should also look to the empirical analysis provided by AT&T Witness Finnegan and Sprint Witness Maples. The studies provided by Mr. Finnegan and Mr. Maples demonstrate, based on tariffed rates and vendor prices for inputs, the level at which facilities-based CLECs could economically transition multi-line DS0 customers over to a DS1.

Q. ARE THESE ANALYSES PERFECT AT THIS POINT?

A. Staff Witness Thomas lists several factors in Mr. Finnegan's analysis that Staff requests be supported with additional information.[45] I do not disagree with Staff's suggestion. However, like Staff, I agree that the models provided by AT&T and Sprint provide an appropriate analysis (*i.e.*, the point at which a facilities-based CLEC could economically transition multi-line DS0 customers to a DS1). Overall, I believe the models and assumptions used to generate the models appear reasonable and provide the Commission with solid information on the economics of serving customers with a DS1.

[45] Thomas Rebuttal at 7.

Q. ARE THE ANALYSES PROVIDED BY AT&T AND SPRINT CONSISTENT WITH THE DATA YOU PROVIDE REGARDING MASS MARKET CUSTOMERS?

A. Yes. While the data shows that 3 lines generally meets the telecommunications needs of mass market customers, it also shows that some mass market customers purchase more than 4 lines and exhibit the same mass market characteristics as customers with 3 lines and less (*i.e.*, purchase POTS services over DS0s). Thus, the fact that mass market customers are generally finding 3 DS0 loops sufficient to meet their demand for telecommunications services, does not mean that it would be economical for a facilities-based CLEC to provision service to these customers over a DS1 loop. Indeed, the analyses provided by AT&T and Sprint shows that this point is actually somewhere between 10 and 13 lines, and explains why mass market customers purchasing 4 or more lines are not served with a DS1.

Q. IS THERE ANOTHER FACTOR THE COMMISSION SHOULD KEEP IN MIND WHEN ESTABLISHING THE CUTOVER?

A. Yes. The Commission could simply define the mass market as customers taking service over DS0s, thereby ensuring that *all* mass market customers are included within the established definition. As discussed in my direct testimony (at 20), the FCC has already determined that all customers served via DS1 facilities are enterprise customers, and that mass market customers can only economically be served via DS0 loops. Thus, any bright-line cutover below the DS1 level, will incorrectly include mass market customers in the enterprise market.

Q. BASED ON THE PRECEDING DISCUSSION, WHAT IS YOUR RECOMMENDATION WITH REGARD TO THE CUTOVER LEVEL?

A. Based on the FCC's clear distinction between mass market customers served via DS0 loops and enterprise customers served with DS1 loops, the Commission should simply determine that the all customers served with DS0 facilities are mass market customers. Any bright-line cutover point established below this level will inappropriately include mass market customers in the enterprise market, and, as described in more detail below, will provide a competitive advantage to SBC. If the Commission decides against this course of action, I recommend that the Commission utilize the range established above in determining an appropriate cutover level, *i.e.*, between 3 lines and 13 lines. Specifically, the range should not establish a cutover lower than 3 DS0 loops (as supported by the data of a typical provider of competitive services to the mass market) and should establish the upper boundary at 13 DS0 loops (as supported by the analysis provided by AT&T).[46] This range takes into account the marketplace data exhibited by providers of mass market customers and the ability of facilities-based CLECs to economically provide service over a DS1.

Q. WHY IS IT IMPORTANT TO ESTABLISH A RANGE, AS OPPOSED TO SETTING A 'BRIGHT-LINE' CUTOVER AT 3 DS0 LOOPS, FOR INSTANCE?

A. As shown above, a bright-line cutover of 3 DS0 loops will ignore current mass market customers that are finding it economical to be provided service over 4 loops or more and automatically lump them in with the enterprise market – of

[46] That being said, if Mr. Finnegan is unable to sufficiently address Staff's concerns regarding cost support, and Staff endorses Mr. Maples' analysis, the upper boundary of the range should be established at 10 lines.

which they are not a part. In addition, the range provides flexibility for the Commission to examine additional marketplace evidence at the time SBC provides its evidence related to the triggers. The need for flexibility is particularly true for Missouri, which is conducting its nine-month proceeding in phases, since SBC will not provide evidence on the companies it alleges satisfies the triggers until Phase 2.

Q. WHY SHOULD THE COMMISSION TAKE CURRENT CUSTOMERS WHO ARE PURCHASING MORE THAN 3 DS0 LOOPS INTO ACCOUNT?

A. Regardless of line size, all of the customers in this analysis are residential and small business customers purchasing only POTS services. These customers are obviously finding it economical to be served POTS service with 4 or more DS0s. If these customers are ignored by the Commission in its analysis, they will inappropriately be included in the enterprise market. Since these customers do not share the same characteristics as enterprise customers or provide competitors with the same revenue opportunities, they will likely be underserved.

Furthermore, a bright line cutover point provides a competitive advantage to SBC. For instance, these same mass market customers that receive POTS service over 4 or more DS0 loops from a competing provider, were previously served by SBC over the same number of DS0 loops – as these customers were converted from SBC retail services to competing carriers' UNE-P service. It follows that SBC previously found it economical to serve these customers with the same number of DS0 loops. Therefore, if the Commission does not take these customers into account in its impairment analysis and a subsequent finding of no

impairment is made in their particular market, the competitor providing them UNE-P competitive services will no longer be able to do so, and the customer will likely return to SBC. Since SBC previously found it economical to serve these customers over 4 DS0 loops or more and, unlike CLECs, is not subject to a limitation on the number of DS0 loops that can be used to serve a single customer location, SBC will continue to serve these customers in the same manner (*i.e.*, via 4 or more DS0 loops), subsequent to a finding of no impairment. In short, not taking the current mass market customers with 4 or more lines into account would lead to discriminatory results and a competitive windfall for SBC.

Q. HOW SHOULD THE COMMISSION TAKE THESE CUSTOMERS INTO ACCOUNT?

A. First, the Commission should take these customers into account in defining the market by not establishing a bright-line cutover level that lumps them in with the enterprise market. Also, to avoid customer disruption problems at the time of the trigger analysis (which is the subject of Phase 2), to the extent that the Commission sees fit to overturn the national finding of impairment in a particular market and decides to institute a bright-line cutover point, the Commission should grandfather the current customers of providers. This issue is further addressed by Sage witness McCausland in his rebuttal testimony. Since the Commission is addressing satisfaction of the triggers in Phase 2, I will more fully develop my recommendation on this issue in Phase 2.

C. SBC's Model is Result-Driven and Should be Rejected

Q. SBC'S ANALYSIS SUGGESTS THAT IT IS ECONOMICAL TO PROVIDE DS1 SERVICE TO CUSTOMERS CURRENTLY PURCHASING 4 LOOPS OR MORE. DO YOU AGREE WITH SBC'S ANALYSIS?

A. Absolutely not. Mr. Fleming's analysis is result-driven and based on numerous, self-serving assumptions.

Q. WHAT IS THE SOURCE OF YOUR DISAGREEMENT WITH MR. FLEMING'S ANALYSIS?

A. Mr. Fleming's analysis, entitled "CLEC Integrated Access Analysis", attempts to rewrite the distinctions established by the FCC between enterprise customers and mass market customers to support his argument that it is more efficient to serve very small business customers via DS1.

Q. PLEASE ELABORATE.

A. Mr. Fleming's analysis pertains to small business customers and the revenue opportunities from serving this class of customers. With regard to the revenue opportunities of serving this customer segment, Mr. Fleming assumes that the CLEC provides business-grade data services, and that those data services include services such as web site hosting, provisioning of an IP address, supporting the customer's domain name, and providing an email server.[47] Thus, Mr. Fleming's analysis models the potential revenues to be achieved from a business customer with very sophisticated data needs.

[47] Fleming Direct at 27-28.

Q. HOW DO THE ASSUMPTIONS OF MR. FLEMING'S MODEL DEPART FROM WHAT THE FCC HAS DEFINED AS THE MASS MARKET?

A. Mr. Fleming's analysis departs from the FCC's mass market definition in two very important ways. First, he includes the wrong customer in his model. The customer assumed in his model is a small to medium size business customer and not the residential and very small business customer the FCC included in its definition of the mass market. This is an important distinction, since the potential revenues from serving a small to medium size business customer are higher than for mass market customers. Increasing the potential revenues to be derived from a customer makes it easier for SBC to economically justify serving a customer with a DS1 loop.

Second, Mr. Fleming includes the wrong services in his model. According to the FCC, the mass market purchases POTS services (*e.g.*, local, toll, and vertical services) and possibly high-speed internet access (*e.g.*, ADSL service). Services for enterprise customers, on the other hand, are more data-centric and likely include the same types of services Mr. Fleming assumed in his model for the mass market (*e.g.*, web hosting, email server, etc). What Mr. Fleming has modeled is an enterprise customer – not a mass market customer.

Q. DO YOU SEE ANY OTHER SHORTCOMINGS OF MR. FLEMING'S MODEL?

A. Yes. The analysis is result-driven. Essentially, Mr. Fleming finds that a DS1 loop is cost-effective, compared to four DS0s, if the customer purchases, on

average, $94.81 in data services per month.[48] To arrive at this amount, Mr. Fleming apparently calculates the monthly cost of DS0 and the monthly cost of DS1 and then assumes that the difference between the cost of each service platform will be recovered by data revenues. Following Mr. Fleming's reasoning, we could show that a DS3 loop could be used to economically serve a customer by simply plugging in a number for data revenues that covers the cost of DS3 provisioning.

Q. WILL MASS MARKET CUSTOMERS GENERATE, ON AVERAGE, $94.81 IN DATA REVENUES?

A. No. The high-speed data services generally purchased by mass market customers will not produce this level of revenue. For example, SBC is offering its "Basic Package" DSL service for $26.95 per month, while its Deluxe Package is offered for $36.95 per month.[49] Therefore, mass market customers will not generate the level of data revenue that Mr. Fleming assumes, and his analysis should be rejected.

Q. PLEASE SUMMARIZE YOUR POSITION ON THE DS0 CUTOVER.

A. The only cutover point that unquestionably distinguishes mass market customers from enterprise customers is the DS1 loop (*i.e.*, mass market customers are served via DS0 loops, while enterprise customers are served via DS0 loops). This provides a reasonable cutover for distinguishing the mass market from the

[48] This number represents a simple average of the data revenues Mr. Fleming calculates in each zone.

[49] http://www01.sbc.com/DSL_new/content_new/1,,18,00.html?pl_code=MSBC245C8952P192186B0S0&pl_code=MSBC245C8952P185794B192143S0

enterprise market, and, for the reasons described above, is more equitable to competitors and the customers they serve, than is a bright line cutover. The marketplace data and the economic analysis provided in this proceeding, in concert, supports the establishment of a range whereby the Commission can establish a definition of the mass market. The lower boundary of the range should be set at 3 lines and the upper boundary of the range should be set at 13 lines. This range will provide flexibility in defining the mass market so that mass market customers who are purchasing more than 3 DS0 loops are not inappropriately included in the enterprise market, but that customers who can economically be served by a DS1 are not inappropriately included in the mass market. In any event, SBC's proposal to expand the cutover established in the *UNE Remand Order* to the entire State of Missouri should be rejected. The empirical evidence provided by SBC in support of its position is not grounded in the mass market and is result-driven.

V. OPTIONS AVAILABLE TO CLECS IN THE ABSENCE OF UNBUNDLED SWITCHING PURSUANT TO SECTION 251 OF THE ACT ARE NOT LIKELY TO RESULT IN AN UBIQUITOUS CLEC PRESENCE IN MISSOURI

Q. DID ANY PARTY ADDRESS IN DIRECT TESTIMONY THE OPTIONS THAT WOULD BE AVAILABLE TO CLECS IF THE FINDING OF NATIONAL IMPAIRMENT WERE REVERSED IN PARTICULAR MARKETS AND ULS WAS NO LONGER AVAILABLE PURSUANT TO SECTION 251 OF THE TELECOMMUNICATIONS ACT?

A. Yes. At page 22 of Dr. Tardiff's direct testimony, he states:

> ...CLECs can choose to have a ubiquitous presence using advantages provided to them by the Telecommunications Act that will continue regardless of whether mass-market switching continues to be a UNE in particular markets. In particular,

where CLECs do not offer services completely over their own facilities and/or UNE loops and their own switches, they could still serve customer locations using resale and/or UNE loops that CLECs could combine with local switching, which will remain available at just and reasonable (rather than TELRIC) prices.[50]

Q. DO YOU HAVE A RESPONSE TO DR. TARDIFF'S ASSERTIONS?

A. Yes. First, I reject Dr. Tardiff's characterization of the modes of local exchange competitive entry approved by Congress as an advantage to CLECs over incumbent LECs. Although this may be a disagreement over semantics, I believe it is important to point out that Congress required incumbent LECs to provide resold services for the purposes of spurring competition in the areas of former monopolies. The networks over which retail and wholesale services are provided were funded over many years by captive customers to a monopoly provider. Hence, the real advantage goes to the incumbent LEC who has required captive retail customers to fund its network and now holds the key to the bottleneck loop over which competitors must provide their services in an increasing deregulated environment.

I also reject Dr. Tardiff's suggestion that former Regional Bell Operating Companies ("RBOCs") being governed by Section 271 of the Act is an advantage to the CLECs. While RBOCs will apparently be required to continue to provide switching functionality under Section 271 at unknown prices, in the event of a finding of no impairment, this too is a direct result of the inherent advantage RBOCs such as SBC enjoy in telecommunications competition. For instance, in recognition of the monopoly power RBOCs could wield in competing for

[50] Tardiff Direct at 22 (footnote omitted).

customers across telecommunications markets, Congress required RBOCs to satisfy Section 271 requirements prior to providing in-region interLATA services (in addition to the obligations of Section 251 that apply to all incumbent LECs). The obligations imposed by Congress to foster competition and control the inherent incentive of SBC to exploit its monopoly power should not be viewed as an advantage for CLECs. Indeed, when one considers that SBC added 1.7 million long distance lines in the 3rd Qtr. Of 2003, and has 11.5 million long distance lines in service (with half of these added in 2003 alone),[51] assertions that SBC suffers from a competitive disadvantage relative to competitors falls flat.

Q. DO YOU AGREE WITH DR. TARDIFF'S ASSERTION THAT RESOLD SERVICES AND THE AVAILABILITY OF SWITCHING FUNCTIONALITY AT UNKNOWN PRICES WILL PROVIDE FOR A UBIQUITOUS CLEC PRESENCE?

A. Absolutely not. One needs only to examine Schedule GAF-2 HC to SBC Witness Fleming's direct testimony to determine that the only mode of competitive entry providing for ubiquitous CLEC presence for mass market customers in Missouri is the availability of unbundled local switching, in conjunction with UNE-P, pursuant to Section 251 of the Act.

Q. PLEASE ADDRESS RESOLD SERVICES AS AN ALTERNATIVE TO ULS.

A. Generally speaking, CLECs have discovered that resold services are not an economically attractive entry strategy and appear to be abandoning it. Indeed, data demonstrates that CLEC entry pertaining to resold services has taken a nosedive in recent years. Specifically, resold services, as a percentage of total

[51] http://www.sbc.com/press_room/1,31,00.html?query=20698

CLEC modes of entry, have dropped from 55% in 1999 to 11% in 2002.[52] At the same time, UNE-P volumes have grown considerably, thereby suggesting that competitors are finding UNE-P better suited to bring competitive services to the mass market.

Q. CAN YOU EXPLAIN WHY RESOLD SERVICES WOULD NOT PROVIDE CLECS WITH THE SAME OPPORTUNITY TO DEVELOP A UBIQUITOUS PRESENCE AS UNE-P HAS PROVIDED?

A. Yes. There are at least two reasons why resold services do not provide the CLECs with the ability to develop a ubiquitous presence. First, resold services limit CLECs to providing only the service the incumbent LEC provides at retail. This does not allow CLECs to differentiate their products from the incumbent LEC's products, which severely undercuts CLECs' ability to market to customers through product innovation. In contrast, UNE-P does allow for CLEC product innovation in combination with the incumbent LEC's network elements, thereby providing more flexibility to CLECs in attracting and serving customers. For instance, as described in the direct testimony of Robert McCausland, Sage is in the process of deploying its own voice mail platform in conjunction with UNE-P.[53]

Second, resold services are based on the retail prices of the incumbent LEC (*i.e.*, retail price – avoided costs = wholesale price) and bear little (if any) relationship to the CLECs' cost structures. Therefore, CLECs purchasing resold services will always be tied to the incumbent LEC's cost structure, which will

[52] The UNE-P Fact Report: July 2003, PACE Coalition at 2.
[53] McCausland Direct at 4.

undermine their ability to differentiate in price from the incumbent LEC's retail offering. In sum, resold services inhibit CLECs' ability to compete by precluding them from innovating in both product and price – a situation not likely to lend itself to ubiquitous CLEC presence throughout Missouri.

Q. IN DISAGREEING WITH THE MERITS OF DR. TARDIFF'S ASSERTION, YOU DISTINGUISH BETWEEN ULS PROVIDED PURSUANT TO SECTION 251 OF THE ACT AND THE SWITCHING FUNCTIONALITY PROVIDED PURSUANT TO SECTION 271. COULD YOU ELABORATE ON THIS DISTINCTION?

A. Yes. The unbundled local switching network element made available pursuant to Section 251 of the Act must be priced according to Total Element Long-Run Incremental Cost ("TELRIC"). TELRIC results in unbundled network element prices that are based on forward-looking economic costs. On the other hand, the pricing scheme for the switching functionality RBOCs must continue to provide pursuant to Section 271 is unknown. The FCC found that "the pricing of checklist network elements that do not satisfy the unbundling standards in section 251(d)(2) are reviewed utilizing the basic just, reasonable, and nondiscriminatory rate standard of sections 201 and 202... ."[54]

Q. WILL THIS DISTINCTION HAVE A NEGATIVE EFFECT ON CLECS' ABILITY TO COMPETE?

A. Quite possibly. To the extent that the just, reasonable, and nondiscriminatory standard adopted for the switching functionality made available pursuant to section 271 is higher than the rate produced by TELRIC principles, CLECs could find it uneconomic to serve customers with this offering due to the input price

[54] *Triennial Review Order*, ¶ 663.

increase squeezing profit margins available in serving mass market customers – profit margins that the FCC has already recognized as being narrow relative to the enterprise market. The availability of the switching function is irrelevant if the price is too high to economically justify serving mass market customers.

Q. YOU APPEAR TO LEAVE OPEN THE POSSIBILITY THAT THE SWITCHING FUNCTIONALITY PROVIDED PURSUANT TO SECTION 271 OF THE ACT WILL BE PRICED AT THE SAME OR SIMILAR LEVEL AS THE TELRIC METHODOLOGY WOULD PRODUCE. HASN'T THIS POSSIBILITY BEEN RULED OUT BY THE FCC?

A. No. What the FCC has determined is that the switching functionality made available pursuant to section 271 is not required to be priced at TELRIC.[55] However, if the just, reasonable, and nondiscriminatory standard is applied correctly to this offering, the possibility of arriving at a price level similar to that produced by TELRIC cannot be ruled out.

Q. HOW COULD THE "JUST, REASONABLE, AND NONDISCRIMINATORY" STANDARD ARRIVE AT A PRICE LEVEL FOR SWITCHING AT OR SIMILAR TO TELRIC?

A. As the FCC points out in its *Triennial Review Order*, TELRIC pricing has always contained the requirement for UNE prices to be "just, reasonable, and nondiscriminatory."[56] Further, Congress required that just and reasonable rates for UNEs shall be based on cost.[57] State commissions have, under exhaustive and thorough proceedings, expended a massive amount of resources to ensure that the prices for network elements (and ULS specifically) meet these requirements. Moreover, the courts have already determined that TELRIC pricing satisfies the

[55] *Id.* at ¶ 656.
[56] *Id.* at ¶ 11; *see also,* 47 U.S.C. § 251(c)(3).
[57] 47 U.S.C. § 252(d)(1).

requirements set forth by Congress in the Act, which is inclusive of the just, reasonable, and nondiscriminatory requirement. In sum, while the FCC has not required switching pursuant to 271 to be priced at TELRIC, applying the just, reasonable, and nondiscriminatory standard could arrive at a cost-based rate similar to the rate produced by TELRIC.

Q. HAS THE FCC CONSIDERED THE POSSIBILITY OF THE RATE FOR SWITCHING FUNCTIONALITY REQUIRED TO BE PROVIDED BY RBOCS PURSUANT TO SECTION 271 OF THE ACT BEING COST-BASED, SUBSEQUENT TO A REVERSAL OF THE NATIONAL FINDING OF IMPAIRMENT IN A PARTICULAR MARKET?

A. Yes. In its brief to the DC Circuit Court of Appeals in *USTA*, the FCC states:

> In any event, the just and reasonable rates established for section 271 network elements may well reflect some cost-based methodology, since that is the easiest way for a carrier to justify its rates under the traditional test.[58]

Thus, the FCC has recognized the relationship I describe above between cost-based rates and the just, reasonable and non-discriminatory standard embodied in Sections 201 and 202 of the Act.

Q. IF YOU BELIEVE SWITCHING PURSUANT TO SECTION 271 OF THE ACT SHOULD RESULT IN A PRICE SIMILAR TO THE PRICE PRODUCED BY TELRIC, WHAT IS THE POTENTIAL HARM TO CLECS IN REVOKING UNBUNDLED ACCESS TO ULS PURSUANT TO SECTION 251?

A. As demonstrated by Dr. Tardiff's testimony, incumbent LECs will undoubtedly attempt to increase the price of switching provided under section 271 in markets where the national impairment finding has been overturned (if any). The

[58] FCC Brief for Respondents, *United States Telecom Association, et al. v. Federal Communications Commission and United States of America,* In the United States Court of Appeals for the District of Columbia Circuit, No. 00-1012 (and consolidated cases); On Petition for Review of an Order of the Federal Communications Commission, n. 40 (December 31, 2003).

regulatory uncertainty surrounding this issue will indeed cause harm to non-facilities-based CLECs as the options available to them subsequent to a non-impairment finding will still not be clear, pending resolution of this pricing issue. Furthermore, incumbent LECs' attempts to raise this price will result in further proceedings, requiring additional time and resources, which have already been conducted at substantial cost to CLECs. This degree of regulatory uncertainty will not lend itself to a ubiquitous CLEC presence in Missouri.

VI. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The importance of the Commission's decisions with respect to geographic market definition and DS0 cutover can not be over-stated. These decisions will determine whether, and to what extent, mass market customers (*i.e.,* residential and very small business customers) will enjoy the benefits of competition that this Commission has worked so diligently over the years to provide.

My testimony has demonstrated that painting geographic areas with a broad brush in Missouri, as SBC proposes through the use of the MSA, would be an arbitrary exercise that does not comply with FCC directives, and would leave many customers without viable competitive alternatives for local telecommunications services. My testimony has also shown that wire centers provide a granular, administratively-practical geographic market definition that reflects the economic decision making of competitors and complies with FCC directives. Moreover, a wire center geographic market definition is better suited

for the upcoming trigger test and potential deployment analysis, since it will provide a higher degree of accuracy with regard to the availability of competitive options to the incumbent's switching and the ability for a competitor to compete for customers.

Establishing a proper DS0 cutover is equally-important. Setting an inappropriate cutover level will incorrectly include mass market customers in the enterprise market, where they will likely face little, if any, competitive options. Worse yet, an inappropriate cutover level would force current customers of competitors back to SBC, who will continue to provide these customers service over the exact same DS0 facilities. My testimony has also demonstrated that the Commission should not rely on SBC's flawed analysis for establishing the cutover level because competitors have no hope of achieving the revenue opportunities SBC assumes when serving mass market customers. Thus, the Commission should recognize the primary distinction between mass market customers and enterprise customers: mass market customers are served with DS0 loops and enterprise customers are served with DS1 loops. This distinction does not co-mingle mass market customers and enterprise customers or provide SBC with a competitive advantage. If the Commission does not find this distinction, alone, a sufficient basis for defining the mass market, it should establish a cutover level according to the range I recommend. This range provides a degree of flexibility and reduces the chance of the unfortunate consequences described above occurring (*e.g.*, leaving mass market without competitive options). Finally, the Commission's decision on cutover should take into account all current

customers finding it economic to be served by competitors via DS0 loops. The Commission should not allow its order in the instant proceeding to be used as a tool to force customers who are currently enjoying the benefits of competition back to the incumbent.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of a Commission Inquiry into The Possibility of Impairment without Unbundled Local Circuit Switching When Serving the Mass Market	))))	Case No. TO-2004-0207

AFFIDAVIT OF MICHAEL STARKEY

STATE OF MISSOURI)
)
COUNTY OF COLE)

Michael Starkey, being of lawful age, on his oath states: that he has participating the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 76 pages to be presented in the above case; that he provided the answers in the foregoing Rebuttal Testimony; that he has knowledge of the matters set forth in the answers; and that such matters are true and correct to the best of his knowledge and belief.

Michael Starkey

Subscribed and sworn to me this 15 day of January, 2004.

Irmgard W. Marsh

IRMGARD W. MARSH
Notary Public – Notary Seal
STATE OF MISSOURI
Cole County
MARCH 17, 2006