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And Mass Market Cutover
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BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

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**

Phase I Direct Testimony
of
August H. Ankum, Ph.D.
on behalf of
MCImetro Access Transmission Services, LLC
Brooks Fiber Communications of Missouri, Inc.
MCI WorldCom Communications, Inc.
Intermedia Communications, Inc.

December 18, 2003

BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

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 AUGUST H. ANKUM

STATE OF ILLINOIS)
) SS.
COUNTY OF ________)

I, August H. Ankum, of lawful age, being duly sworn, depose and state:

1. My name is August H. Ankum. I am Senior Vice President at QSI Consulting, Inc.

2. Attached hereto and made a part hereof for purposes is my Phase I direct testimony.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

August H. Ankum

Subscribed and sworn to before me this 18th day of December, 2003.

Notary Public

My Commission Expires:

"OFFICIAL SEAL"
Elaine McDaniels
Notary Public, State of Illinois
My Commission Expires 12-1-2007

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dr. August H. Ankum. I am Senior Vice President at QSI Consulting, Inc., a consulting firm specializing in economics and telecommunications issues. My business address is 1261 North Paulina, Suite #8, Chicago, Illinois.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a Ph.D. in Economics from the University of Texas at Austin in 1992, an M.A. in Economics from the University of Texas at Austin in 1987, and a B.A. in Economics from Quincy College, Illinois, in 1982.

My professional background covers work experiences in private industry and at state regulatory agencies. As a consultant, I have worked with large companies, such as AT&T, AT&T Wireless and MCI, as well as with smaller carriers, including a variety of competitive local exchange carriers ("CLECs") and wireless carriers. I have worked on cost proceedings and arbitrations in many states. I have also assisted public agencies, such the Office of Public Utility Counsel of Texas and the New Mexico Public Utility Regulatory Commission.

Prior to practicing as a telecommunications consultant, I worked for MCI as a senior economist. At MCI, I provided expert witness testimony and conducted economic analyses. Before I joined MCI in early 1995, I worked for Teleport Communications Group, Inc. ("TCG"), as a Manager in the Regulatory and External Affairs Division. In this capacity, I testified on behalf of TCG in proceedings concerning local exchange competition issues, such as Ameritech's Customer First proceeding in Illinois. From 1986 until early 1994, I was employed as an economist by the Public Utility Commission of Texas ("PUCT") where I worked on a variety of electric power and telecommunications issues. During my last year at the PUCT, I held the position of chief economist. Prior to joining the PUCT, I taught undergraduate courses in economics as an Assistant Instructor at the University of Texas from 1984 to 1986.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. MCI has asked me to identify the market definition that the Public Service Commission of Missouri ("PSC" or "Commission") should use in evaluating whether competitive local exchange carriers ("CLECs") in Missouri are impaired without access to unbundled switching for mass-market customers at prices based on Total Element Long Run Incremental Cost ("TELRIC").

My testimony presents the results of my analysis and provides supporting rationale for my recommendation of the use of the wire-center as the relevant market definition for analysis of impairment issues related to unbundled switching for mass-market customers in the subsequent phases of this proceeding.

I also discuss the issue of mass market cutover.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Economic theory and practice, as well as the FCC's guidance in its *Triennial Review Order*, all suggest that the wire center is the most appropriate starting point for an analysis of whether CLECs are impaired without access to unbundled switching for mass-market customers. Use of the wire center as the basic building block for analysis accomplishes the FCC's goals of a granular analysis that maximizes accuracy of results, subject to the constraints of practicality.[1]

However, even an analysis of individual wire-center markets could lead to erroneous findings of no impairment if the Commission does not conduct its analysis in a way that accounts for existing lawful price discrimination between residential and small business customers and existing operational constraints. The Commission, therefore, should treat the market definition adopted in this phase as a provisional one, allowing for the possibility of either defining submarkets (*e.g.*, residential vs. small business) or establishing guidelines for the impairment analyses in the next phase of this proceeding that will properly reflect significant variations in economic and operational barriers to entry between customer classes and among geographic locations.

For all of these reasons, I urge the Commission to adopt the wire center as the starting point for all subsequent impairment analyses. I also recommend that the Commission adopt a product market definition that includes all local exchange service options that provide service at a cost, quality and maturity equivalent to the ILEC's offerings. This product market definition should explicitly exclude Commercial Mobile Radio Service ("CMRS"), fixed wireless and cable telephony.

[1] *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338); Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No. 96-989); Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147), FCC No. 03-36, (rel. Aug. 21, 2003) (hereinafter, "*Triennial Review Order*"), ¶ 130.

Finally, I recommend that the Commission conduct its trigger and potential deployment analyses in a way that evaluates whether (1) residential and small business customers should be treated as being in separate markets, even at the wire-center level, and (2) whether customer locations served over integrated digital loop carrier ("IDLC") should be treated as being in a separate submarket for which unbundled switching would continue to be available, even if a finding of no impairment were otherwise justified for a given wire center. In any event, the Commission should not consider any company that is not actively providing residential service with its own switches (*i.e.*, one that is only providing business service) to be a market participant and therefore should not count such a carrier as a trigger company for mass-market switching.

The remainder of my testimony explains the basis for each of these conclusions and recommendations.

II. THE ADOPTED MARKET DEFINITION SHOULD PERMIT REASONABLE CONCLUSIONS FROM BOTH TRIGGER AND POTENTIAL DEPLOYMENT ANALYSES.

Q. WHAT DECISIONS MUST THE COMMISSION MAKE IN THIS PROCEEDING?

A. Although the FCC made a national finding that CLECs are impaired without unbundled access to incumbent local exchange carrier ("ILEC") local switching to serve mass-market customers,[2] it delegated to this Commission the task of determining whether the national finding of impairment is overcome in any areas

[2] *Id.* ¶ 419.

within Missouri. Specifically, the FCC has "ask[ed] the states to assess impairment in the mass market on a market-by-market basis."[3] The Commission must conduct a market-by-market investigation into whether barriers to entry for mass-market switching "are likely to make entry into a market uneconomic."[4]

Q. PLEASE DESCRIBE THE PROCESS THE COMMISSION SHOULD FOLLOW IN REACHING THESE DECISIONS.

A. The first step in the analytical process, logically (although it need not be procedurally), is to define the markets in which the Commission will consider evidence of impairment on a "granular basis to each identifiable market."[5] Establishing a market definition, at least on a tentative basis, is the task that the Commission has designated for this first phase of the proceeding.[6]

I recommend that the Commission adopt a market definition that permits the most unambiguous and accurate answer to the question of whether CLECs are impaired without access to unbundled switching in a given market. Implicitly, therefore, the market definition and every step of the subsequent analysis should allow this Commission to assess whether there is evidence that demonstrates the basis for the national finding of impairment does not apply in a specific defined market.

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[3] *Id.* ¶¶ 476 and 493.

[4] *Id.* ¶ 84.

[5] *Id.* ¶ 495.

[6] Order Establishing Procedural Schedule (12/1/2003).

Once the Commission has defined the relevant markets, it must then "identify where competing carriers are not impaired without unbundled switching, pursuant to the triggers and analysis of competitors' potential to deploy."[7] Both the "trigger" analysis and the analysis of potential deployment apply on a market-by-market basis, and the FCC has specified that states must use the same market definition in conducting both analyses.[8] Hence, the task before the Commission in this phase is to determine what market definition is most appropriate, given that the same definition will be used to conduct both "trigger" and potential deployment analyses.

Q. PLEASE ELABORATE ON THE FIRST USE OF THE MARKET DEFINITION IN THIS PROCEEDING.

A. The separate markets defined by the Commission will first be used to identify market participants that may count toward satisfaction of self-provisioning and wholesale triggers. The *Order*'s trigger analysis is intended to provide "bright-line rules" that "can avoid the delays caused by protracted proceedings and can minimize administrative burdens."[9] The correct functioning of these "bright-line rules" depends crucially on the markets the Commission defines for use in "market-by-market" analysis.

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[7] *Triennial Review Order* ¶ 473.

[8] *Id.* ¶ 495.

[9] *Id.* ¶ 498.

In particular, for the trigger analysis to correctly serve its function, markets must be defined so that "[i]f the triggers are satisfied, the states need not undertake any further inquiry, because no impairment should exist in that market."[10] That is, markets must be defined so that if the triggers are satisfied and the Commission reaches a finding of no impairment for a market, customers in the market have real choice, and competitive carriers are not impaired in their ability to reach the customers in the defined market. Otherwise, the triggers could appear to be satisfied when customers have no alternative choice of providers and indeed where competitors are impaired. The FCC made clear the importance of firms serving as actual alternatives when it explained that existing firms can only be counted toward satisfaction of a trigger if they are "currently offering and able to provide service, and likely to continue to do so."[11]

The triggers merely identify whether CLECs in a market are clearly not impaired without access to the local switching UNE. Failure to meet the triggers results in further analysis of potential deployment.

As a result, the role of market definition in the trigger analysis should be to identify the scope of telecommunications services and locations for which a market participant's switching capacity clearly shows the absence of impairment because customers already have real alternatives. Market definition should ensure that a qualifying market participant provides an acceptable alternative to

[10] *Id.* ¶ 494.

[11] *Id.* ¶ 500.

qualifying service provided at a geographic location that actually serves the customers in the market. The new entrant's service must be an acceptable substitute, and the location at which service is offered must encompass the areas in which the customers require service. Successful entry into a different market, where the entrant's offering is not a close substitute for service provided with the incumbent's local switching or where the entrant is unable to provide service to the customers, offers no such evidence of non-impairment. Only if the qualifying participant has succeeded in overcoming operational and economic barriers to entry into a properly defined market, which recognizes buyers' product and location substitution possibilities, can the Commission be confident that the new entrant offers evidence of no impairment in provision of the specified service at the specified location.

Q. PLEASE ELABORATE ON THE SECOND USE OF THE MARKET DEFINITIONS.

A. If the triggers are not satisfied in a market, analysis at some point (not necessarily in this case) proceeds to the possibility of potential deployment to test whether barriers to entry without unbundled access to a network element are "likely to make entry into a market uneconomic," or whether the market in question is "suitable for 'multiple, competitive supply.'"[12] This analysis must also be conducted on a market-by-market basis, analyzing the same markets that are used

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[12] *Id.* ¶¶ 84, 506.

in the trigger analysis. At this stage of the analysis, the Commission must consider any local switching capacity of market participants identified in the trigger analysis in concert with analysis of operational and economic barriers to entry. As with the triggers, it is critical that markets not be defined too broadly; otherwise, the Commission could end up finding non-impairment in many areas in which competitors are in fact impaired, leaving customers with no choice among providers.

Q. IS YOUR RECOMMENDED APPROACH TO MARKET DEFINITION EQUALLY APPLICABLE TO BOTH THE WHOLESALE AND SELF-PROVISIONING TRIGGERS?

A. Yes. As I explain in more detail below, the same approach to market definition applies to evidence of no impairment presented with respect to wholesale and self-provided switching.

Q. YOU INDICATED ABOVE THAT THE MARKET DEFINITION SHOULD PERMIT THE MOST UNAMBIGUOUS AND ACCURATE ANSWER TO THE QUESTION OF WHETHER CLECS ARE IMPAIRED WITHOUT ACCESS TO UNBUNDLED SWITCHING IN A PARTICULAR MARKET. PLEASE EXPLAIN IN MORE DETAIL WHAT YOU MEAN BY THAT STATEMENT.

A. The FCC has observed that "[i]t is fundamental to our general impairment analysis to consider whether alternative facilities deployment shows a lack of impairment in serving a particular market."[13] This means that the markets as defined should be sufficiently uniform that evidence of (actual or potential) facilities-based competition in any part of a given market implies the ability to provide service to all (or nearly all) customers in that market without access to unbundled switching.

Specifically, the *Order* calls for this Commission to conduct its investigation "on the most accurate level possible, while still preserving administrative practicality."[14] Accuracy is essential to carrying out the pro-competitive purposes of the Telecommunications Act of 1996 ("Act"). As I explained in more detail above, if markets are not defined correctly, the Commission could mistakenly find no impairment where, in fact, customers are left without competitive alternatives; or, a faulty market definition could lead the Commission to find impairment where none exists.

Q. HAS THE FCC ESTABLISHED ANY GUIDELINES OR PARAMETERS FOR THE MARKET DEFINITION TO BE USED IN TRIGGER AND POTENTIAL DEPLOYMENT ANALYSES?

A. Yes. The rules that the FCC adopted in its *Triennial Review Order* specify that:

> A state commission shall define the markets in which it will evaluate impairment by determining the relevant geographic area to include in each market. In defining markets, a state commission shall take into consideration the locations of mass market customers actually being served (if any) by competitors, the

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[13] *Id.* n. 1536.

[14] *Id.* ¶ 130.

> variation in factors affecting competitors' ability to serve each group of customers, and competitors' ability to target and serve specific markets profitably and efficiently using currently available technologies. A state commission shall not define the relevant geographic area as the entire state.[15]

The *Order* also presents examples of the factors that may vary geographically, such as "how the cost of serving customers varies according to the size of the wire center and the location of the wire center, and the variations in the capabilities of wire centers to provide adequate collocation space and handle large number of hot cuts."[16] Significantly, these criteria for market definition are not limited to variations in potential profitability that might be captured, at least in part, by grouping together wire centers that fall into the same UNE and/or retail rate bands. Instead, consistent with the operational basis for the FCC's national finding of impairment for mass-market switching, the FCC suggests that the market consider variations in the ability of wire centers to handle large numbers of hot cuts. I interpret this language to reference what I understand has been termed the "mass-market migration hot cut process" or "MMMHCP" and not just the batch cut procedure that the FCC has directed state commissions to develop in the nine-month impairment proceedings. The ongoing ability of the ILECs to perform hot cuts as mass-market customers change carriers (only one or a handful of lines per location, but potentially and collectively hundreds of lines each day in a given wire center) is critical to the success of switch-based competition and

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[15] 47 C.F.R. § 51.319(d)(2)(i).

[16] *Triennial Review Order* ¶ 496.

must be considered at all phases of the impairment analysis, beginning with market definition.

Q. DOES ECONOMIC THEORY PROVIDE ANY GUIDANCE WITH RESPECT TO MARKET DEFINITION?

A. Yes. There is a body of economic analysis that applies to the question of defining markets. Much of the economic literature on market definition has focused on facilitating the assessment of market power in merger and antitrust proceedings. The FCC noted in its *Triennial Review Order* that the market power question is somewhat different from the impairment question before the Commission in this proceeding.[17] Nonetheless, the FCC also acknowledged that the market definition literature developed in the context of merger and antitrust analyses provides helpful guidance for market definition in the impairment context.[18] Hence, as I describe in more detail in a following section, I have taken this economic literature into account in developing my recommended market definition.

The essential economic criterion for whether a product belongs in a relevant market is whether the product can serve as an alternative to consumers in that market. Thus, for example, an apartment in Jefferson City is not in the same geographic market as an apartment in Kansas City, because the Jefferson City apartment does not serve as a meaningful alternative for Kansas City consumers. I elaborate on this economic criterion in Section III below.

[17] *Id.* ¶¶ 74 and 109.

[18] *Id.* n. 439.

Q. WHAT CONCLUSIONS HAVE YOU REACHED BASED ON YOUR APPLICATION OF THE GUIDANCE IN THE *TRIENNIAL REVIEW ORDER* AND ECONOMIC THEORY CONCERNING MARKET DEFINITION?

A. I have concluded that criteria of "accuracy" as well as "practicality" argue for the Commission to begin its analysis with the presumption that wire centers establish the appropriate level of granularity.

Wire centers are the most natural geographic boundaries for purposes of defining markets for several reasons. First, the costs of providing service vary widely from one wire center to another; it is not possible draw conclusions about one wire center from an analysis of another wire center. Second, once a CLEC is serving some customers in a wire center, it will face relatively lower cost of serving other customers in the same wire center, compared to the cost of entering a new wire-center market. Third, it is administratively feasible to administer the requirements of the *Order* on a wire-center basis, because data on CLEC activity, including collocation, and other cost information is available on this basis.

III. THE APPROPRIATE MARKET DEFINITION IS THE WIRE CENTER

A. Market Definition Analysis Starts with a Specific Service or Product Offering in a Narrow Geographic Market and Then Expands the Relevant Market to Incorporate Substitutes

Q. HOW DO ECONOMISTS TYPICALLY DEVELOP MARKET DEFINITIONS?

A. The process of defining a market invariably requires answering questions as to whether a particular product or location belongs in the market, or falls outside its boundaries. These questions are properly answered by starting with a single firm's product, offered at a specific location, and then expanding beyond this point to see whether customers regard products from the expanded product set or geographic area as substitutes or alternatives for the original product.

Q. IS THIS APPROACH USED IN ANY OTHER REGULATORY CONTEXT?

Yes, the market definition approach I have just outlined is the same as the one used in the *Horizontal Merger Guidelines* ("HMG") of the U.S. Department of Justice ("DOJ") and the Federal Trade Commission ("FTC").[19] The HMG state that

> [a] market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. *A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.*[20]

The HMG approach "begin[s] with each product (narrowly defined) produced or sold by each merging firm" for the product dimension and "the location of each

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[19] The full text of the *Horizontal Merger Guidelines* of the U.S. Department of Justice and Federal Trade Commission, issued April 2, 1992, and revised April 8, 1997, (hereinafter, "HMG") is available online at http://www.usdoj.gov/atr/public/guidelines/horiz_book/10.html.

[20] HMG, Section 1.0, emphasis added.

merging firm (or each plant of a multiplant firm)" for the geographic dimension.[21] This initial tentative market definition is expanded by asking whether consumers regard other products or locations as close enough substitutes that a price increase in the narrowly defined tentative market definition would be met by consumers switching to other products or locations.

The notion of "close enough" substitutes is given precision by asking whether a "small but significant and nontransitory" price increase in the narrowly defined tentative market definition would be met by a strong enough substitution response by consumers to make the price increase unprofitable, if it were implemented by a hypothetical monopoly provider controlling all of the products and locations in the tentative narrow market definition. The tentative market definition is too narrow if it fails to incorporate substitutes that consumers regard as "close enough," as measured by consumers switching to a substitute in response to a price increase. If a tentative market definition is found to be too narrow, the definition is expanded to incorporate the next best products or locations that consumers regard as "close enough" substitutes, but stops as soon as the market definition is sufficiently expansive to meet the price increase test I cited above.

In short, the analysis of market definition under the HMG is essentially the same as the one that I have outlined.

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[21] HMG, 1.11 *Product Market Definition General Standards,* and 1.21 *Geographic Market Definition General Standards.*

Q. YOU INDICATED ABOVE THAT THE CHOSEN MARKET DEFINITION MUST BE APPROPRIATE FOR BOTH TRIGGER AND POTENTIAL DEPLOYMENT ANALYSES. DOES THE HMG APPROACH TO MARKET DEFINITION WORK IN BOTH THESE CONTEXTS?

A. Yes. The concept of market participants in the HMG provides a straightforward basis for linking the geographic market definition to the trigger analysis. The *Horizontal Merger Guidelines* state that:

> Participants include firms currently producing or selling the market's products in the market's geographic area. In addition, participants may include other firms depending on their likely supply responses to a "small but significant and nontransitory" price increase. A firm is viewed as a participant if, in response to a "small but significant and nontransitory" price increase, it likely would enter rapidly into production or sale of a market product in the market's area, without incurring significant sunk costs of entry and exit. Firms likely to make any of these supply responses are considered to be "uncommitted" entrants because their supply response would create new production or sale in the relevant market and because that production or sale could be quickly terminated without significant loss.[22]

In the context of impairment analysis, firms counted toward the trigger analysis should be participants in the geographic market. A CLEC serving a group of customers in a specific geographic area would only be counted as a participant in another geographic market if it were currently offering service in that market or would promptly extend service to that market in response to a "small but significant nontransitory" price increase.

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[22] *Id.*, Section 1.0, footnote omitted.

This is one reason that it is important not to adopt too broad a geographic market definition. As the FCC has observed, "if competitors with their own switches are only serving certain geographic areas, the state commission should consider establishing those areas to constitute separate markets."[23] Using market definitions that correspond to the geographies over which competitors are actually serving customers will ensure that the trigger analysis works as intended, identifying cases in which multiple, competitive supply within a single geographic area is already a reality, not just a possibility. It would be wrong as a matter of economic principles, and contrary to the purpose of the trigger analysis, to lump together multiple geographic areas, each of which has fewer than three competitive suppliers, and treat those as a single geographic market in which the trigger is met.

Defining markets in this manner does not require a finding of impairment in every geographic market that currently lacks multiple, competitive supply. As the HMG indicate in a footnote to the passage concerning market participants quoted above:

> Probable supply responses that require the entrant to incur significant sunk costs of entry and exit are not part of market measurement, but are included in the analysis of the significance of entry. See Section 3. Entrants that must commit substantial sunk costs are regarded as "committed" entrants because those sunk costs make entry irreversible in the short term without foregoing

[23] *Triennial Review Order* n. 1537.

> that investment; thus the likelihood of their entry must be evaluated with regard to their long-term profitability.[24]

The potential deployment analysis described in the *Triennial Review Order* corresponds closely to this HMG approach of examining "committed entry" based on long-term profitability analysis. Only through the detailed business case analysis of potential long-term profitability and an operational impairment analysis can the Commission determine whether firms that have not yet actually entered a particular geographic market are likely to enter, even in the presence of sunk costs (such as the costs of acquiring and equipping collocation space in a previously unserved wire center) and other entry barriers. A market definition that inappropriately lumps together geographic areas already served by switch-based competitors with areas that have little or no current competitive supply could short-circuit the analysis required under the *Triennial Review Order* and inappropriately eliminate access to unbundled switching in substantial geographic areas that are not feasible for competitors to serve using their own switches.

[24] *Id.* n. 7.

B. <u>The Geographic Market Definition Should Reflect the Customer Locations to which Competitors Now Provide Switching, Not the Physical Location or Potential Reach of Their Switches</u>

Q. WHAT IS THE RELATIONSHIP BETWEEN THE SWITCH LOCATION AND THE MARKET DEFINITION FOR PURPOSES OF AN IMPAIRMENT ANALYSIS?

A. The Commission should not focus on the location of the competitor's switch as the relevant indicator of how to define the market. The Commission should note the FCC's statement to that effect:

> [B]ecause 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*. For example, a switch located in Rhode Island could satisfy the switching trigger in Massachusetts if it is serving customers in the relevant market in Massachusetts.[25]

Because a triggering switch need not be located in the defined geographic market, it also follows that the geographic market need not correspond to the physical area that a switch can serve. Thus, I believe that it would incorrect to focus on the physical location of the switches that CLECs deploy and the physical area that those switches can serve.

Instead, the Commission should focus on where CLECs actually provide *switching* in lieu of the unbundled switching that the ILEC provides throughout specific wire-center boundaries. That is, I believe that the Commission should focus on the actual customer locations that CLECs serve using their own switches.

[25] *Triennial Review Order*, n. 1536, emphasis added.

C. <u>The Product Market Should Include All Alternatives Comparable in Cost, Quality and Maturity to the ILEC's Local Voice Services</u>

Q. HOW SHOULD THE COMMISSION IDENTIFY THE PRODUCT OR PRODUCTS INCLUDED IN THE RELEVANT MARKET?

A. The Commission should identify the product or products included in the initial tentative market based on the *Triennial Review Order*'s discussion of qualifying services: in short, "those services that have been traditionally the exclusive or primary domain of the incumbent LECs."[26] As I will discuss below, it may be necessary to subdivide the ILECs' customers into two different markets, residential and business, even though most of the same products are sold to these two classes of customers. The reason is that lawful price discrimination can be enforced between the two market segments.

Q. BASED ON THE ABOVE DISCUSSION, WHAT PRODUCT MARKET DEFINITION DO YOU RECOMMEND FOR COMMISSION ADOPTION?

A. In the product market dimension, the Commission should include any alternative to the ILEC's local voice service, including vertical features and access service, that is comparable in "cost, quality and maturity" to the ILEC's own retail local exchange services.[27] This product definition includes traditional circuit-switched local exchange services provided by competitors that self-deploy switches (or use third-party switches) in conjunction with the incumbent's voice-grade UNE loops

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[26] *Id.* ¶ 135.

[27] *Id.* ¶ 97.

(what is sometimes described as a "UNE-L" entry strategy) and may include packet-switched local service or "intermodal" alternatives when such services meet the "cost, quality and maturity" requirements of the *Triennial Review Order*. Consistent with the FCC's own findings, my product definition excludes CMRS[28] and fixed wireless services.[29]

Q. SHOULD CABLE TELEPHONY BE INCLUDED IN THE PRODUCT MARKET?

A. No. As the FCC acknowledged, cable telephony fails to serve the "crucial function" of affording access to the incumbent's loops,[30] and therefore "provides no evidence that competitors have successfully self-deployed switches as a means to access the incumbents' local loops, and have overcome the difficulties inherent in the hot cut process."[31] Cable telephony's strategy is to "bypass the incumbent LECs' networks entirely."[32] This strategy is only available to a single firm in any market because cable TV companies, due to "unique economic circumstances of first-mover advantages and scope economies, have access to customers that other competitive carriers lack."[33] As a result, neither cable telephony nor CMRS "can

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[28] *Id.* ¶ 445 and n. 1549.

[29] *Id.*, ¶ 310 (fixed wireless has "not proven to be viable or deployable on a mass market scale").

[30] *Id.*, ¶ 439.

[31] *Id.*, ¶ 440.

[32] *Id.*

[33] *Id.*, ¶ 310.

be used as a means of accessing the incumbents' wireline voice-grade local loops. …. Accordingly, neither technology provides probative evidence of an entrant's ability to access the incumbent LEC's wireline voice-grade local loop and thereby self-deploy local circuit switches."[34] Any competitive facilities that allow access to some customer locations but not others clearly cannot be regarded as probative evidence of no impairment concerning those customer locations that cannot be reached by the competitive facilities. Cable telephony is at most an alternative to the ILEC's local voice service for the specific customer locations served via the cable company's facilities, which typically do not reach all of the ILEC's mass-market customer locations. (For example, cable facilities frequently do not serve the central business districts in which many mass-market small business customers may be located.[35])

For similar reasons, the FCC determined that the availability of cable telephony does not eliminate impairment with respect to the ILEC's voice-grade loop facilities.[36] Because cable telephony offers an alternative to the ILEC's mass-market switching facilities only where it also offers an alternative to the ILEC's loop facilities, it logically follows that cable telephony does not cure impairment with respect to mass-market switching, either.

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[34] *Id.* ¶ 446.

[35] *Id.* n. 1349.

[36] *Id.* ¶¶ 228, 229 and 245.

In addition, cable telephony does not unambiguously fulfill the "cost, quality and maturity" criteria established by the FCC. Cable telephony services (particularly the recent variants provided using Voice over Internet Protocol, or VoIP, technology) are relatively new; it is not yet clear whether most consumers perceive such services to be comparable to local telephone service, especially with respect to reliability issues such as E-911 and backup power in emergencies.[37]

Thus, I believe that a reasoned analysis disqualifies cable telephony from being considered as a "close enough" substitute for the ILEC's local voice services to be included in the product market for the mass-market switching impairment analysis.

D. <u>Last, the Geographic Market Should Allow the Most Accurate Analysis Possible, Consistent with Administrative Practicality</u>

Q. HOW DO YOU RECOMMEND THE COMMISSION DETERMINE THE RELEVANT GEOGRAPHIC MARKETS?

A. As I mentioned above, the *Triennial Review Order* requires that the Commission conduct its impairment analyses "on the most accurate level possible, while still preserving administrative practicality."[38] Market definition at the most accurate level of granularity, whether for application of the prescribed triggers or for

[37] *See, for example,* Alan Breznick, "Backup Power Reemerges as Issue for Cable VoIP Service," *Cable Datacom News,* October 2003.

[38] *Id.* ¶ 130.

analysis of potential deployment, would be conducted on a customer-by-customer basis.

This is precisely the approach that the FCC specifies in defining the geographic markets for application of trigger analysis to enterprise loops, for which impairment analyses must be conducted on a "customer-by-customer location basis."[39] It takes only a moment's reflection to recognize that mass-market consumers of qualifying telecommunications services also will not accept any substitutes that do not deliver service to the customer's premises. Because qualifying services provided to a location other than to a customer's own premises will not generally be a satisfactory substitute, the "most accurate" level of granularity would address switching capability for particular customer premises.

Although mass-market customers are tied to their locations just as tightly as enterprise customers, the FCC observes that considerations of practicality will not permit a customer-by-customer analysis, for at least some mass-market investigations.[40] Fortunately, subject to certain important limitations I discuss below, it is possible to analyze customer-specific locations in large numbers, achieving administrative practicality with little or no loss of accuracy.

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[39] *Id.* ¶ 307.

[40] *Id.* ¶ 309.

1. In Most Circumstances, Wire Centers Provide a Reasonable Starting Point for a Mass-Market Switching Impairment Analysis

Q. WHAT AGGREGATIONS OF CUSTOMER LOCATIONS MAKE SENSE FOR AN IMPAIRMENT ANALYSIS OF MASS-MARKET SWITCHING?

A. Recognizing the limited role that can be fulfilled by non-incumbent mass-market loop facilities,[41] impairment analysis for mass-market switching must identify substitutes to the incumbent's local circuit switch "as a means of accessing the local loop."[42] Wire centers are the centers of outward-radiating ILEC loop facilities, and determine the point at which access to the incumbent's loops must occur. Because impairment regarding the local switching UNE is so closely related to access to the incumbent's loops, the wire center provides a natural unit of analysis. *Insofar as an entrant in a particular wire center is not impaired in its ability to expand service to all customers served by loops in that wire center*, it is reasonable to aggregate customers and consider impairment issues at the wire-center level. There are, however, exceptions to this rule based on operational and technical impairment issues, as I explain below.

Q. WHAT LIMITATIONS MUST BE IMPOSED ON THE AGGREGATION OF CUSTOMER LOCATIONS TO THE WIRE-CENTER LEVEL?

A. The crucial limitation is that a UNE-L CLEC's entry in a wire center must afford that CLEC the opportunity to expand to serve any customer in that wire center.

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[41] *Id.* ¶ 439.

[42] *Id.*, ¶ 429.

The failure of this condition implies that aggregation of customers to the wire-center level will introduce misleading evidence and lead the Commission to mistaken conclusions about impairment. The nature of this requirement is explained in the following quotation from a popular antitrust law text:

> Competitors, supply substitution, and entry. (a) Expansion by immediate competitors. The demand for Alpha Company's product is obviously affected by the ability of its direct competitors to deliver the same product. But if the others are to limit Alpha's actions, they must be able to expand their production when Alpha increases its prices because consumers cannot turn to other suppliers if those suppliers are unable to expand their output.[43]

I will discuss below several specific conditions that can limit the ability of a CLEC in a particular wire center to serve certain customers in that wire center. I simply note here that aggregating customers to the level of the wire center presumes the absence of one overarching limitation on the CLEC’s ability to expand. That overarching limitation is the possibility that there are operational barriers to the CLEC’s expansion. If a CLEC that has entered a particular wire center cannot adequately expand its operations in that wire center, due to the presence of operational barriers such as the hot-cut limitation that is the basis for the national finding of impairment, then it is not reasonable to aggregate customers and consider the question of impairment at the wire-center level.

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[43] Phillip Areeda and Louis Kaplow, *Antitrust Analysis: Problems, Text, and Cases*, Fifth Edition, 1997, Aspen Publishers, p. 570, ¶ 342.

Q. ARE THERE OTHER FACTORS THAT SUPPORT A MARKET DEFINITION AT THE WIRE-CENTER LEVEL?

A. Yes. The *Triennial Review Order* specifically requires state commissions "to define each geographic market on a granular level and direct[s] them to take into consideration the locations of customers actually being served 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."[44] Many of these factors vary at the wire-center level.

In most cases, CLEC self-provisioning of local switching will require collocation at each wire center the CLEC intends to serve. In those cases in which all competitive facilities deployed are available to serve any loop in the wire centers in which they offer service, *i.e.*, where there are no operational barriers to such expansion throughout the wire center, trigger analysis can proceed with the wire center as the geographic market definition with little or no loss of accuracy.[45]

The wire center also provides a natural unit of analysis for the investigation of potential deployment. First, because a portion of the costs of establishing service in a previously un-served wire center will be sunk costs,

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[44] *Triennial Review Order,* n. 1536.

[45] As I discuss further below, there is an important caveat to this discussion. It may be necessary to distinguish between business and residential customers because of the prevalence of price discrimination, as well as other differences, between the two groups.

CLEC entry decisions will have to be justified at the wire-center level. This justification will require the CLEC to compare the stream of net operating income projected for a wire center to the sunk cost that must be incurred to establish the collocation or other arrangements needed to offer service in the wire center. Further, various costs and revenues that must be considered in analysis of potential net operating revenue vary, sometimes dramatically, between wire centers. As examples, potential revenue from serving a wire center will vary with the number of lines in the wire center and the profile of the typical customer at the wire center; also, the cost of backhauling traffic from the wire center will vary with the wire center's proximity to other elements of the CLEC's network.

Q. IS IT PRACTICAL TO CONDUCT IMPAIRMENT ANALYSIS AT THE WIRE-CENTER LEVEL?

A. Yes. For the analysis of triggers, the logical data to rely on initially – facilities in place in the incumbent's wire centers, capabilities of competitors' facilities, capacity available for expansion – are data that are available and most accurately interpreted at the wire center level. ILEC tariff data needed for the impairment analysis – UNE loop rates and retail rates - are also readily available on a wire-center basis. Also, information on customer demographics can be obtained on a wire-center basis, either from the data collected for universal service models or from other public sources.

Q. IS IT IMPORTANT TO CONDUCT AN IMPAIRMENT ANALYSIS AT A LEVEL AS GRANULAR AS THE WIRE CENTER?

A. Yes. As I show in discussing specific evidence below, examination of pertinent data at a higher level of aggregation will be less helpful at best, and very possibly misleading.

For example, it would be an error to conclude that entry is feasible in two wire centers because the combined present value of potential revenues net of operating costs in the two wire centers exceeds the combined sunk costs of entering the two wire centers. The two wire centers may be like a bucket of ice water and a bucket of boiling water, which, on average, are a comfortable temperature. The fact that entry is feasible in one wire center but not the other will not be revealed from examination of average or total costs for the two wire centers. If the Commission finds no impairment in both wire centers, the result will be that end users in at least one of the wire centers will lose the competitive alternatives that would be available to them if CLECs were to retain unbundled access to the incumbent's local circuit switch.

If the Commission conducted its trigger analyses under a market definition that lumps together more than one wire center, it would need criteria to determine whether competitive facilities satisfy the requirement of the trigger or not. The analysis would nevertheless be likely to result in error. The trigger analysis treats each qualifying competitive carrier as evidence that barriers to entry have been overcome and no impairment exists. In fact, in a collection of two wire centers, a competitive switching provider that is offering service to customers in one wire center does not show absence of impairment in the other wire center. As suggested above, analysis of potential deployment in the wire center that has not experienced actual deployment may show that competitive entry without access to the local switching UNE is extremely unlikely because of the cost and revenue characteristics of the wire center. A finding of no impairment in such a wire center, based on actual deployment in another wire center, would result in customers in that wire center losing competitive alternatives based on availability of the local switching UNE, with no prospect of switch-based competitors actually overcoming operational and economic barriers to entry.

A market definition that ignored these factors would fly in the face of the entire foundation of antitrust and regulatory economics. It is nonsensical to ignore the costs and entry barriers faced by CLECs wishing to expand service to new locations and define away these important cost differences by simply declaring a large group of customers to be in the same geographic market.

Q. HAVE ANY REGULATORY BODIES RECOGNIZED THAT THE WIRE CENTER IS AN APPROPRIATE BASIS FOR CONDUCTING IMPAIRMENT ANALYSES?

A. Yes. The Connecticut Department of Public Utility Control has already determined that the wire center is the appropriate unit of analysis. Specifically, the Department noted:

> It is the opinion of the Department that the FCC intended to perform the granularity analysis at the lowest reasonable level possible. The Department believes that since data is collected and compiled at the wire center level as well as the fact that the wire center level is the principal point of interconnection with competitive providers, it represents a consistent point of analysis

> and comparison for this exercise. After considering the questions raised by the parties at the Technical Meeting, the Department finds no compelling reason for further discussion on this matter from any party or to delay the definition to a later date. By adopting a definition that directly corresponds to the principal building block of the ILEC's network the Department is confident that it will have sufficient empirical evidence upon which it can form its judgment regarding the state of competitive presence in Connecticut[.][46]

For the reasons that I outlined above, several of which are affirmed by the Connecticut Department of Public Utility Control, I recommend that this Commission adopt the wire center as its principal unit of analysis for determining whether competitors are impaired without access to unbundled switching.

2. Under Certain Circumstances, a More Granular Market Definition than the Wire Center May Be Appropriate.

Q. DO ALL CUSTOMER LOCATIONS IN A WIRE CENTER NECESSARILY FALL INTO THE SAME MARKET?

A. Not necessarily. There are at least two circumstances when a finer level of disaggregation may be necessary. The first is where there is a longstanding practice of price discrimination between two groups of customers. The second is where the CLEC is unable to access a subset of the ILEC loops within the wire center without access to unbundled switching.

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[46] *Procedural Order* in Connecticut Department of Public Utility Control Docket No. 03-09-01, Ph. 01, October 8, 2003, at 5.

Q. PLEASE EXPLAIN THE ROLE THAT PRICE DISCRIMINATION PLAYS IN DEFINING MARKETS.

A. Basic economic principles require a departure from the ordinary process of market definition in the presence of price discrimination – "charging different prices for the same product, for example."[47] If the characteristics of the product and its buyers permit profitable price discrimination, then market definition must recognize "particular use or uses by groups of buyers" and "particular locations of buyers" that would be targeted for higher prices.[48]

This situation arises whenever the hypothetical monopolist in a tentatively defined market "can identify and price differently to those buyers ('targeted buyers') who would not defeat the targeted price increase by substituting to other products." When this situation arises, the tentative market has been defined too broadly, and must be divided to recognize "targeted buyers," whether identified by location, by the nature of their use of the product, or by membership in an identifiable group of buyers.[49]

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[47] HMG 1.12, *Product Market Definition in the Presence of Price Discrimination.*

[48] HMG 1.12, *Product Market Definition in the Presence of Price Discrimination,* and HMG 1.22, *Geographic Market Definition in the Presence of Price Discrimination.*

[49] The use of the term "targeted buyers" in the HMG is the inverse of the way in which the FCC uses the term "targeted customers." In the HMG, the targeted buyers are the ones who lack competitive options, whereas in the FCC's parlance, the targeted customers are the ones singled out for competitive supply. The fundamental logic of the HMG's discussion of price discrimination, however, aligns precisely with the FCC's identified concern about targeted customers.

Q. HOW DOES THE POSSIBILITY OF PRICE DISCRIMINATION AFFFECT THE MARKET DEFINITION YOU HAVE JUST DESCRIBED?

A. As I discussed above, market definition in the presence of price discrimination must treat as separate markets those groups of "targeted buyers" who cannot effectively avoid a "targeted price increase by substituting to other products."[50] The price difference between small business customers and residential customers receiving essentially identical service is a classic example of this form of price discrimination.

The FCC specifically directs state commissions to recognize, for market definition purposes, that "competitors often are able to target particular sets of customers."[51] CLECs provisioning their own switches can, and do, target business customers, even to the exclusion of residential customers.

This targeting of switch-based service to business, rather than residential, customers occurs in part because the characteristics of business customers, even very small ones, are different from those of residential customers, suggesting differences in CLECs' abilities to serve these different groups of customers – a factor this Commission must consider in defining markets. Further, because of the longstanding ILEC practice of targeting business customers for higher rates than residential customers, CLECs can also target this group and price differently to residential and small business customers.

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[50] HMG 1.12 *Product Market Definition in the Presence of Price Discrimination.*

[51] *Triennial Review Order*, n. 1539, interpreting accompanying text at ¶ 495.

The FCC recognized the "swing" role of small business customers in the distinctions it drew between "mass market" and "enterprise market" customers, noting:

> Very small businesses typically purchase the same kinds of services as do residential customers, and are marketed to, and provided service and customer care, in a similar manner. Therefore, we will usually include very small businesses in the mass market for our analysis. We note, however, that there are some differences between very small businesses and residential customers. For example, very small businesses usually pay higher retail rates, and may be more likely to purchase additional services such as multiple lines, vertical features, data services, and yellow page listings. Therefore, we may include them with other enterprise customers, where it is appropriate in our analysis.[52]

This statement, in combination with the FCC's observations on the use of actual marketplace deployment as evidence that barriers to entry are surmountable, suggests that the Commission should allow the empirical evidence to dictate its view of whether residential and small business customers are in the same market for purposes of the trigger analysis. If a carrier serves small business customers but not residential customers using its own switch, that very fact implies that there is a meaningful difference between small business and residential customers. If that pattern is repeated, so that multiple carriers serve small business customers but not residential customers using their own switches, the evidence for distinct customer class markets becomes even more compelling.

Clearly, the Commission should hold open the possibility of subdividing the mass market for purposes of its trigger analysis in the next phase of this

[52] *Triennial Review Order* n. 432.

proceeding. To not do so would possibly lead to a grave public policy error of basing a finding of no impairment solely or largely on evidence of carriers self-deploying switching to serve small business customers, leaving Missouri residential customers with no meaningful competitive alternative.

In short, the Commission should require evidence that both residential and small business customers have competitive choices before it decides to eliminate CLECs' access to unbundled switching in any geographic market. Thus, a company that is not actively providing residential service with its own switches (*i.e.*, one that is only providing business service) should not be counted as a trigger company for mass-market switching.

Q. PLEASE EXPLAIN THE CIRCUMSTANCES UNDER WHICH THE CLEC WILL BE UNABLE TO ACCESS A SUBSET OF THE ILEC LOOPS WITHIN THE WIRE CENTER WITHOUT ACCESS TO UNBUNDLED SWITCHING.

A. As the Commission knows, SBC deploys fiber based loops on Integrated Digital Loop Carrier ("IDLC") systems that CLECs using their own switches cannot serve mass-market customers via IDLC, although they can serve mass-market customers over IDLC when they obtain UNE-P from SBC Missouri.

Over time, SBC Missouri will be deploying more IDLC because loops with fiber feeder and IDLC are generally considered to be a forward-looking technology. Hence, the portion of the market that CLECs using their own switches cannot reach equally efficiently as does SBC Missouri (or, as CLECs can today, using UNE-P) will grow. Furthermore, I also expect that the percentage of IDLC varies significantly depending on the population density of the wire center. This likelihood further justifies examining impairment on a geographic scope no larger than the wire center.

IV. A GEOGRAPHICALLY BROAD DEFINITION, SUCH AS THE MSA, DOES NOT PROVIDE AN APPROPRIATE BASIS FOR THE COMMISSION'S IMPAIRMENT ANALYSIS.

A. CLECs Do Not Tend To Serve All Wire Centers in a MSA

Q. WHY IS THE MSA NOT AN APPROPRIATE GEOGRAPHIC MARKET DEFINITION?

A. I do not believe that the typical CLEC intends to serve all wire centers within the MSAs in which they have a switch-based presence. Instead, I believe that CLECs tend to target specific wire centers, perhaps because the profitability of switch-based entry is greatest in those wire centers or perhaps because operational barriers to entry inhibit their expansion into other wire centers within the MSA. In any event, without an extensive potential deployment analysis conducted at the wire-center level, it would be entirely premature to conclude that entry is equally feasible throughout the MSA. Hence, the Commission should designate the wire center as the initial or provisional market definition, which will facilitate the analysis necessary to determine precisely where CLECs are and are not impaired without access to unbundled switching for mass-market customers. Any grouping of wire centers into larger markets should occur only if a complete and detailed review of the evidence concerning economic and operational barriers to entry establishes that the proposed groupings each constitute a single market with comparable prospects for competitive entry throughout the specified geography.

B. <u>The FCC Does Not, in Fact, Suggest Such a Large Market Definition</u>

Q. DOES THE FCC'S LANGUAGE CONCERNING ECONOMIES OF SCALE AND SCOPE SUGGEST THAT THE GEOGRAPHIC MARKET MUST BE AS LARGE AS THE MSA?

A. No. In the TRO, the FCC discusses the importance of considering economies of scale and scope in the impairment analysis. However, the need to exhaust economies of scope, as discussed by the FCC, cannot imply a single market, the way economists use the term, because by definition scope economies refer to economies across several products, which would necessarily extend beyond a single product market.

Economies of scale and scope occur at many levels of the CLEC's operations, not just at the switch itself. As just one example, a CLEC must accomplish interoperability with the ILEC's Operations Support Systems ("OSS") in a way that allows the CLEC to order and access the ILEC's stand-alone unbundled loops. The necessary work effort typically applies throughout the ILEC's footprint, creating scale and scope economies that a CLEC can only fully exploit by offering service ubiquitously throughout, *e.g.*, all of the SBC local service territories nationwide. But, no one suggests that the appropriate geographic market definition is the entire SBC footprint. In fact, the FCC has ruled that the geographic market definition must be smaller than the entire state.[53]

[53] 47 C.F.R. § 51.319(d)(2)(i).

Further, if the FCC had believed that the appropriate market definition should be the MSA in view of economies of scale and scope, then presumably it would have prescribed an MSA market definition, rather than delegating the task of geographic market definition to the states. The FCC did not hesitate to prescribe a market definition for impairment analysis where it felt the evidence justified such a choice. As I noted above, the FCC has required states to conduct impairment analyses for high-capacity loops on a customer-location-by-location basis.[54] It could just as easily have required states to conduct impairment analyses for mass-market switching on an MSA basis.

Instead, the FCC left the determination of geographic market definition to the states, subject to specific guidance found in the *Triennial Review Order*. A pertinent aspect of the *Triennial Review Order*'s guidance is that states *must* consider competitors' ability to target certain markets; moreover, the FCC specifically observed that competitors may be able to target specific wire centers.[55] States also *may* consider certain factors on a wire-center level, including whether costs of serving customers vary by wire center and the capabilities of wire centers to provide adequate collocation and handle large numbers of hot cuts.[56] Each of these considerations seems to support the wire

[54] *Triennial Review Order* ¶ 307. High-capacity loops are used to provide local exchange services to enterprise customers.

[55] *Id.* n. 1539, commenting on the text at ¶ 495.

[56] *Id.* ¶ 496.

center as a reasonable starting point for a mass-market switching impairment analysis.

The FCC cited the extreme variations in population density and hence wire-center line densities as the reason it was unable to establish a single national geographic market definition for the mass-market switching analysis.[57] Therefore, it seems evident that the FCC intends that states take these variations into account in establishing geographic market boundaries.

In view of this, my approach calls for the Commission to take wire centers as the starting point for its analysis. Further investigation may show that certain groups of wire centers are sufficiently similar to be treated as if they were all in the same geographic market, but any conclusion about groupings of wire centers can only be reached after a detailed review demonstrating near-uniformity of the economic *and operational* conditions in those wire centers. Without such a detailed review, it is impossible for the Commission to know whether, *e.g.*, there are variations in the ILEC's ability to perform the mass-market hot cut procedure that is the basis for the national finding of impairment.

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[57] *Id.* n. 1536.

C. <u>The MSA Is Neither a Natural Nor a Stable Unit for Analyzing Impairment Issues</u>

Q. ARE THERE OTHER REASONS THAT THE COMMISSION SHOULD REJECT THE PROPOSED MSA MARKET DEFINITION?

A. Yes. The MSA is neither a natural nor a stable unit for analyzing impairment issues.

Q. WHY DO YOU SAY THAT THE MSA IS NOT A NATURAL UNIT FOR ANALYZING IMPAIRMENT ISSUES RELATED TO UNBUNDLED SWITCHING?

A. MSA boundaries reflect county lines, not the physical boundaries of the wire centers where the incumbents' switches are located.

Moreover, MSA boundaries may cross state lines and, even within Missouri, could be served by more than one ILEC. In defining MSAs, the Office of Management and Budget does not consider a host of telecommunications-related factors potentially relevant to the current impairment inquiry, including the ILEC's network configuration, LATA boundaries, the geographic region for assigning NXX codes, the ILEC's and CLECs' cost to serve customers in the geographic area, the V and H coordinates of switching facilities, and the volume of ported numbers. Nor has SBC Missouri taken MSA boundaries into account in building out its network, requesting NXX assignments, setting retail prices and pricing UNEs.[58] In contrast, wire centers (and sometimes groupings of wire

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[58] *Id.*, Tr. 47:6-25.

centers) capture variations in these potentially relevant factors, allowing the Commission to assess more precisely whether impairment varies from one geographic area to another.

Q. IN WHAT SENSE IS THE MSA NOT A STABLE UNIT FOR AN IMPAIRMENT ANALYSIS?

A. MSA boundaries are not fixed and invariant. Instead, the MSA boundaries and even the number of MSAs in Missouri may change due to, for example, the 2000 Census. In contrast, central office boundaries do not usually change, although new central offices may be added over time.

V. MASS MARKET CUT-OFF

Q. PLEASE DISCUSS THE IMPORTANCE OF DIFFERENTIATING BETWEEN MASS MARKET CUSTOMERS AND ENTERPRISE CUSTOMERS FOR PURPOSES OF THE TRIGGER ANALYSIS.

A. As determined by the Commission in its Procedural Order, one aspect of Phase I of this proceeding is the determination of the breakpoint between mass market and enterprise customers. This is a critical issue because for companies to be counted as either retail or wholesale triggers, they must be actively serving the mass market.

Q. DOES THE FCC DISCUSS THE MASS-MARKET CUTOFF ISSUE IN THE TRO?

A. Yes. In paragraph 497 of the *Triennial Review Order*, the FCC notes that mass market customers "are analog voice customers that purchase only a limited number of POTS lines, and can only be economically served via DS0 loops." The FCC notes that POTS lines (DS0 loops) are used by both residential and very small business customers. It then goes on to discuss the issue of the mass-market cutoff as a means of differentiating enterprise customers from mass-market customers.

Q. DID THE FCC DIRECT THE STATES TO DETERMINE THE MASS-MARKET CUTOFF LEVEL?

A. Yes. In paragraph 497, the FCC finds the following:

> Therefore, as part of the economic and operational analysis discussed below, *a state must determine* the appropriate cut-off for multi-line DS0 customers as part of its more granular review.

Q. WHAT MASS-MARKET CUTOFF LEVEL DO YOU RECOMMEND?

A. I am unable at this time to recommend a specific mass market cut off level. Before being able to make such a recommendation, I will need to review SBC's initial testimony and also review responses to data requests that I expect will result from the parties' evidentiary filings. I expect to be able to recommend a mass market / enterprise breakpoint in my responsive testimony.

However, as I have stated previously in this testimony, a company that is not actively providing residential service with its own switches (i.e., only providing small business service) should not be counted as a trigger company for mass markets switching.

VI. SUMMARY AND CONCLUSION

Q. PLEASE BRIEFLY SUMMARIZE YOUR RECOMMENDATIONS WITH RESPECT TO MARKET DEFINITION.

A. I recommend that the Commission adopt the wire center as a provisional geographic market definition for its subsequent trigger and potential deployment analyses.

I also recommend that the Commission adopt a product market definition that includes all local exchange service options that provide service at a cost, quality and maturity equivalent to the ILEC's offerings. This product market definition should explicitly exclude CMRS, fixed wireless and cable telephony.

Finally, I recommend that the Commission conduct its trigger and potential deployment analyses in a way that evaluates whether (1) residential and small business customers should be treated as being in separate markets, even at the wire-center level, and (2) whether customer locations served over IDLC should be treated as being in a separate submarket for which unbundled switching would continue to be available, even if a finding of no impairment were otherwise justified for a given wire center. In any event, the Commission should not consider any company that is not actively providing residential service with its own switches (*i.e.*, one that is only providing business service) to be a market participant and therefore should not count such a carrier as a trigger company for mass-market switching.

Q. DOES THAT CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes, it does.