BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO 030851-TP

In the Matter of

:MPLEMENTATION OF REQUIREMENTS
ARISING FROM FEDERAL COMMUNICATIONS
:OMMISSION'S TRIENNIAL UNE REVIEW:
.OCAL CIRCUIT SWITCHING FOR MASS
MARKET CUSTOMERS.

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VOLUME 3

Pages 399 through 598

?ROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN BRAULIO L. BAEZ COMMISSIONER J. TERRY DEASON COMMISSIONER LILA A. JABER COMMISSIONER RUDOLPH "RUDY" BRADLEY COMMISSIONER CHARLES M. DAVIDSON
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REPORTED BY: LINDA BOLES, RPR
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APPEARANCES: (As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER:		ID.	ADMTD.
65	Exhibits to Prefiled Testimony of Witness McElroy as Indicated in the Prehearing Order	506	
66	Exhibits to Prefiled Testimony of Witness Pleatsikas as Indicated in the Prehearing Order	539	

P R O C E E D I N G S

(Transcript follows in sequence from Volume 2.)

PUBLIC DISCLOSURE DOCUMENT

BELLSOUTH TELECOMMUNICATIONS, INC.

SURREBUTTAL TESTIMONY OF DR. DEBRA J. ARON

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

January 28, 2003

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Debra J. Aron.

Q. ARE YOU THE SAME DEBRA J. ARON WHO FILED DIRECT AND REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My surrebuttal testimony rebuts the economic arguments made by Mr. Wood (AT&T), Mr. Nilson (Supra), Dr. Staihr (Sprint), Dr. Bryant (MCI), Mr. Dickerson (Sprint), and Mr. Bradbury (AT&T) on a number of topics.

Q. PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.

A. The arguments that I respond to typically are based on one of several themes. The first reflects a desire to re-write the TRO more to the witnesses' liking, or re-argue some of the positions that were considered and rejected by the FCC in its determination of its rules. For example, Dr. Bryant and Mr. Wood counsel this Commission to simply ignore the FCC's requirement to examine a "potential deployment" analysis. Mr. Wood argues that if potential deployment indicates "no impairment" in markets that do not pass the triggers tests, the results must be wrong, because we do not observe facilities deployment sufficient to pass the triggers tests, and because we have observed failure in the past. Besides being contrary to the directions provided by the FCC, and totally irrelevant to the task at hand, such arguments fail to consider the economic fact that CLECs select their method of competitive entry, such as UNE-P or UNE-L, *not* solely on the basis of unimpairment, which is the topic of this proceeding, but also on the basis of what is most profitable to the CLEC given the options available. It is therefore unreasonable from an economic perspective (as well as contrary to the plain language of the TRO) to rely solely on actual deployment as a basis for determining unimpairment.

A second set of criticisms involves the structure of the BACE model. For example, there are subjective declarations by one witness that the model is overly sensitive, and by another witness that it is not sensitive enough. Such subjective criticisms are, of course, without merit. In other instances, I believe that the basis of the criticisms is a result of a misinterpretation by the witness of the model structure or how one goes about implementing an assumption change, or some

combination of these. Later in my testimony, I will clarify instances where parties have misunderstood or misinterpreted the model. With regard to the various re-runs of the BACE model, I have not been entirely successful in replicating all of the results that have been described in the rebuttal testimonies. I have asked for (but have not yet received) witnesses' workpapers so that Mr. Stegeman and I can determine, respond to, and possibly correct, what has been done. However, nothing that I have seen, replicated, or attempted to replicate changes any of my conclusions regarding the markets in which we have found that CLECs are "unimpaired" without unbundled local switching.

The third general area of complaint pertains to the parameter estimates that I provided to the BACE model. In determining these estimates, I recognized that the FCC is very clear that the potential deployment analysis should be based on an efficient CLEC using the "most efficient network architecture available" and executing the "most efficient business model." (TRO 517.) The FCC also notes that it is appropriate to "weigh[ ] advantages and disadvantages" (TRO 517) that may be available to the efficient CLEC.

While these requirements provide substantial discretion, my approach is very conservative. We model a generic, new CLEC that seeks to enter the market without any customers or any real-world advantages such as a brand name. My parameter estimates, such as those regarding customer acquisition costs, General and Administrative ("G&A") expenses, and churn are developed from existing ILEC, CLEC, or industry data, which means that these estimates may be more

conservative than what an efficient CLEC could attain. Moreover, I typically base my estimates on averages and midpoints rather than on best-of-class (or better-than-existing) ILEC, CLEC, or industry figures, even though these best-in-class figures might arguably better represent the prospects of an efficient CLEC executing the most efficient business model.

The criticisms of my parameter value estimates either point to actual CLEC performance, or they seek to perversely handicap the hypothetical CLEC, depending on whichever contributes toward a finding of "impairment." For example, several of the witnesses claim that the assumed market penetration in the first year for residential customers is too high. Notwithstanding the fact that they misinterpret how the BACE model uses this data (it essentially cuts the market penetration in half when computing revenues for the year), even a casual glance at reality would demonstrate that real-world firms already have an existing base of UNE-P customers and that they do not start from a base of zero, as the modeled CLEC does. Consistent with the FCC's directions, we could have modeled a CLEC that begins with some level of UNE-P-based customers (and revenues). Instead, we adopted the conservative approach that the CLEC starts with no customers at all. Witnesses such as Mr. Wood and Dr. Staihr essentially argue that this is not conservative enough for them. As another example, there are criticisms of my recommended residential customer acquisition costs. These costs were developed from *actual CLEC expenses* as reported to investment analysts. Dr. Bryant recommends that customer acquisition costs be developed on the basis of what *wireless* companies incur, even though these costs may include

the cost of the handset. This is unreasonable. In addition, as I describe later in my testimony, the use of actual CLEC data to determine customer acquisition costs is conservative because UNE-P-based CLECs can have the incentive to spend inefficiently high amounts to acquire customers.

There are also criticisms of the prices that I recommend for use in the BACE model. The FCC foresaw that price would be a contentious issue, and instructed us to base the modeled prices on existing prices. I therefore developed prices on the basis of existing CLEC bundle prices and discounts from BellSouth's prices for *a la carte* services. Consistent with the FCC's directions, we kept prices constant over the entire time horizon of the model. Although not required by the TRO, to be consistent, we kept costs constant as well, and did not adjust them downward for any gains in productivity that an efficient CLEC might arguably attain. In another example of trying to re-write the TRO, several of the witnesses recommend that we put prices on a downward trend based on speculation about the future (though none noted or complained about our declining to impose a productivity factor on costs over time).

In sum, the model that we present takes a cautious, conservative approach to switch-based CLEC entry. The services that the CLEC is assumed to offer are services that CLECs offer today, and the prices are based on prevailing prices. The costs associated with customer acquisition, G&A, and the like also are based on industry data. Our approach implements the FCC's requirement to consider an efficient CLEC, but it does not come close to testing the limits of that

requirement. Our results therefore should provide the Commission with a reasonable indication of the prospects for successful economic entry by a switch-based CLEC in the BellSouth territory in Florida.

Q. HOW IS YOUR SURREBUTTAL TESTIMONY ORGANIZED?

A. In section II, I respond to interpretations that other witnesses seek to ascribe to the FCC's Triennial Review Order ("TRO"). In section III, I respond to issues related to competition. In section IV, I respond to criticisms and misrepresentations of the operations of the BACE model. In section V, I respond to testimony regarding the implementation of the "efficient CLEC" requirement of the TRO. Finally, in section VI, I respond to criticisms of the various parameter values that I provided in the BACE model.

II. REBUTTAL OF ISSUES RELATED TO THE INTERPRETATION OF THE TRIENNIAL REVIEW ORDER

Q. DR. ARON, PLEASE GENERALLY DESCRIBE THE CONTENTS OF THIS SECTION OF YOUR TESTIMONY.

A. Several of the witnesses offer recommendations that amount to re-writing the requirements of the TRO. I will discuss why these recommendations are in error and should be rejected.

Q. MR. WOOD ARGUES THAT THE "POTENTIAL DEPLOYMENT" ANALYSIS CAN IDENTIFY CAUSES OF IMPAIRMENT, BUT THAT IT MAY NOT BE VALID TO DETERMINE WHETHER THERE IS ANY IMPAIRMENT. (WOOD REBUTTAL 15-16) PLEASE COMMENT.

A. Mr. Wood's argument is directly contrary to the express language of the FCC's rules and the intent of its TRO. Mr. Wood repeats a similar erroneous argument that Mr. Gillan made in his direct testimony. (Gillan Direct 17-18.) The erroneous argument is that if there is insufficient actual deployment to satisfy the triggers test, any potential deployment analysis that indicates "no impairment" must, in some way, be flawed. As a result, the business case approach can only be used to identify possible reasons for impairment, and not impairment itself. (Wood Rebuttal 6-7, 15-16.) This is nonsense.

A plain reading of the FCC's rule (51.319(d)(2)(iii)(B)) and paragraphs 515 to 520 of the TRO (which describe the factors that the state commission should consider in its potential deployment analysis) shows that there is no support for Mr. Wood's argument. It is clear from those paragraphs and from the rules themselves that the purpose of the potential deployment test is to help the Commission identify markets where CLECs are not impaired without access to the switching UNE precisely in situations where the triggers are not met.

There is a valid economic reason that the FCC provided for such a test. A CLEC's decision about switching deployment depends not only on what is

feasible, but also on what is most profitable under the relevant market conditions. The rational CLEC selects the most profitable method of entry from the set of feasible methods. Thus, while the existence of actual CLEC self-deployment (or wholesaling) of switching clearly demonstrates that there is no impairment in that geographic market, *an observed lack of deployment sufficient to satisfy the triggers test cannot by itself indicate that there is impairment* for two reasons. First, as I explained in my rebuttal testimony, failure to satisfy the triggers test does not mean that there is no facilities-based competition. For example, a market may have two, robust switch-based CLECs serving the mass market and others serving the enterprise market. Such a situation would fail the triggers test. The FCC noted that the existence of such competition is nevertheless relevant to the analysis of impairment. Second, a rational CLEC may select UNE-P, and the use of the ILEC's network, *even if there is no impairment associated with self-provisioning.*

For example, suppose a CLEC could generate a net present value (discounted profits) of $100 using its own infrastructure to enter a market, but that it can generate $200 of value using the incumbent's infrastructure. The positive NPV from self-provisioning means, by definition, that the CLEC is unimpaired without access to unbundled switching. Nevertheless, a rational firm would select the second alternative because it is more profitable.

Q. MR. WOOD CLAIMS THAT ACTUAL DEPLOYMENT (OR LACK THEREOF) SHOULD BE A REALITY CHECK TO A POTENTIAL

DEPLOYMENT ANALYSIS BECAUSE CLECS WILL DEPLOY THEIR OWN SWITCHES WHENEVER IT IS FEASIBLE. (WOOD REBUTTAL 8) PLEASE COMMENT.

A. Mr. Wood's argument is profoundly mistaken. As I discussed, economics demonstrate that a CLEC rationally will select its entry method based not only on feasibility but also on relative profitability.

Q. DOES THE POTENTIAL DEPLOYMENT ANALYSIS ASK THE COMMISSION TO IDENTIFY AN "AS-YET HIDDEN FORMULA FOR *POTENTIAL* SUCCESS" AS CLAIMED BY MR. WOOD? (WOOD REBUTTAL 16)

A. No. The purpose of the analysis is to identify situations where it is economic for an efficient CLEC to serve mass-market customers without access to the switching UNE. As I explained, in situations where actual deployment is feasible, CLECs may nevertheless use UNE-P if UNE-P is more profitable. That is why a simple review of actual deployment is insufficient for determining impairment.

Moreover, the existence of UNE-P in markets where there is no genuine impairment can harm switch-based firms, and reduce their survival prospects. One reason (among others) is described in a paper by Hazlett and Havenner, which I described in my direct testimony. UNE-P-based firms that operate in areas where there is no genuine impairment have the incentive to spend

inefficiently high amounts of money on customer acquisition. In areas where there is no genuine impairment, UNE-P provides CLECs with the ability to maintain flexibility and lack of commitment to a market because the CLEC need not invest in its own switching. UNE-P-based CLECs have the incentive to dissipate this value by competing against the ILEC and against one another on the only dimension that they fully control, which is marketing and customer acquisition. This inefficiently high spending harms switch-based CLECs that seek to operate in the same market but who do not have the windfall that is available to UNE-P-based CLECs. Accordingly, the market is distorted away from UNE-L-based firms. As a result, the Commission cannot rely on whether switch-based CLECs have exited the market or have become UNE-P firms. It is not a matter of finding any hidden formulas, but rather of accounting for the distortions that exist in markets where UNE-P is offered but where there is no genuine impairment.

Q. DR. BRYANT ARGUES THAT BECAUSE OF UNCERTAINTY REGARDING THE PARAMETER ESTIMATES, THE COMMISSION SHOULD NOT DRAW ANY CONCLUSIONS ABOUT IMPAIRMENT IN ANY MARKET IN FLORIDA ON THE BASIS OF THE POTENTIAL DEPLOYMENT ANALYSIS. (BRYANT REBUTTAL 42) PLEASE COMMENT.

A. This is another example of an attempt to re-write the TRO. The potential deployment analysis necessarily requires judgment in making the estimates of the

parameters required for a business case analysis. However, any experienced observer should recognize that this is no different from many other decisions in the real world, including actual investment decisions, which are always based on projections and estimates of an uncertain future. Investors and businesses routinely must make substantial commitments under uncertainty, given the information available. Dr. Bryant's contention that the Commission should ignore the FCC's rules because the business case approach can produce different results if different inputs and assumptions are used is to presume that the FCC failed to understand that business cases are sensitive to their input assumptions. There is ample evidence in the TRO, however, that the FCC fully recognized this fact (TRO 483-485, fn 1600), but it ordered state commissions to consider such analyses nevertheless.

Q. MR. WOOD ARGUES THAT THE COST OF A SWITCH AND THE NEED TO BACKHAUL TRAFFIC CREATE AN ENTRY BARRIER. (WOOD REBUTTAL 13-14) PLEASE COMMENT.

A. Mr. Wood improperly presumes the outcome of this case. Moreover, Mr. Wood's argument is actually nothing more than a reprise of the invalid impairment framework sponsored by Mr. Turner, to which I responded in my rebuttal testimony. (Turner Direct 5-7.) Mr. Wood essentially seeks to define an entry barrier as being a cost disadvantage relative to the ILEC. (Wood Rebuttal 13-14.) As I explained in my rebuttal testimony, the FCC examined and rejected this interpretation of impairment. (Aron Rebuttal 31-33, TRO 84 and 112.) The

economic rationale for the FCC's rejection of this argument is that, despite any cost disadvantage, an efficient CLEC may nevertheless find entry to be profitable without access to the unbundled element. The FCC correctly recognized that the entire issue of whether CLECs suffer cost disadvantages relative to the ILEC is a sideshow that does not address the central economic issue of impairment.

Q. MR. WOOD ARGUES THAT ANOTHER RISK FACING THE EFFICIENT CLEC IS THAT IT STARTS WITH NO CUSTOMERS AT ALL, WHEREAS THE ILEC ALREADY HAS CUSTOMERS. (WOOD REBUTTAL 13) PLEASE COMMENT.

A. This is not precisely correct. Out of an abundance of conservatism, we have *elected* to model the competitive entry of a CLEC that starts without any customers. We took this approach to demonstrate that *even if* an efficient CLEC were to start without customers, it nevertheless could profitably enter particular markets. The obvious reality is that CLECs such as AT&T, MCI, and others already have mass-market customers that they are serving using UNE-P. According to the TRO, one legitimately could have modeled the efficient CLEC as starting with some level of penetration via UNE-P and then migrating those customers while gaining new ones. The Commission should keep this additional source of conservatism in mind as we discuss the other parameter estimates later in my testimony.

Q. IS IT CONSISTENT WITH THE TRO TO DETERMINE IMPAIRMENT ON THE BASIS OF WHETHER "ALL" CUSTOMERS THAT CAN BE SERVED BY UNE-P ALSO CAN BE SERVED BY UNE-L OR SOME OTHER FORM OF COMPETITIVE ENTRY, AS CLAIMED BY DR. BRYANT? (BRYANT REBUTTAL 14)

A. The CLEC that we model in BACE offers service to *every* customer in each market (and in each wire center in that market) in which it operates. The model takes customers from every spend category and from every wire center. In this way, the BACE model would seem to address Mr. Bryant's concern. However, I will add that Mr. Bryant's proposal to make such an investigation is interjecting an additional layer of analysis that is not required by the TRO. The TRO specifically requires consideration of the *most efficient business model*, and not of a particular model, such as UNE-P. Moreover, the TRO does not suggest that switch-based CLECs must serve precisely the same set of customers as are served under UNE-P. Indeed, this would seem to be an impossible standard to implement because it would require a separate, granular analysis of which customers could be economically served via UNE-P. Such an additional layer of analysis is neither appropriate, nor called for in the TRO, and would further burden an already challenging proceeding.

Q. DR. ARON, PLEASE COMMENT ON DR. STAIHR'S TESTIMONY REGARDING THE IMPLICATIONS OF NEW TECHNOLOGIES SUCH AS VOICE OVER INTERNET PROTOCOL ("VOIP") AND WIRELESS

SERVICES FOR THE POTENTIAL DEPLOYMENT ANALYSIS UNDER THE TRO. (STAIHR REBUTTAL 35)

A. Dr. Staihr briefly discusses the possible growth of, and competition from, VOIP and wireless providers over the 10-year horizon of the BACE model. He concludes that as these technologies become more successful they may put additional downward pressure on local exchange service prices over the forecast horizon, and that, as a result, our price projections should be trended downward. As I will discuss later, Dr. Staihr, in his rebuttal, takes great pains to lecture us on the need to use a "structured process" to estimate variables, but in this case he ignores his own advice and presents an analysis that is woefully incomplete.

Dr. Staihr advocates that the Commission speculate about the possible effects that new technologies and increased wireless competition might have on prices. However, if one were to fully adopt Dr. Staihr's speculative exercise, one would also have to consider the effect that these new entry technologies might have on *costs*, and, possibly, on CLEC market shares—indeed, on the entire concept of impairment.

The greater the extent to which other technologies impinge on and even begin to render the traditional circuit switched wireline network obsolete, the less relevant unbundled circuit switching becomes to the market and the less relevant is unbundled circuit switching, and the less policy justification there is for any unbundling of switching because competition would have passed it by using other

technologies. Therefore, to be conservative, and in compliance with the TRO, we steer clear of Dr. Staihr's speculative path, and our potential deployment model considers *existing* marketplace prices and costs that are based on *existing*, standard landline technologies, and on competitive entry by a circuit-switch-based CLEC that uses the ILEC's loops. Not only is this approach consistent with the requirements of the TRO regarding prevailing prices, (TRO 520 fn 1588), but it is also more coherent than the scattershot and self-serving considerations that Dr. Staihr suggests.

III. RESPONSES TO ISSUES REGARDING COMPETITION THEORY

Q. MR. WOOD SAYS THAT BELLSOUTH'S ABILITY TO REDUCE PRICES TO WIN BACK CUSTOMERS WOULD DISCOURAGE A PRUDENT CLEC FROM MAKING INVESTMENTS IN THE FIRST PLACE AND WOULD THEREFORE DISCOURAGE ENTRY. (WOOD REBUTTAL 15) PLEASE RESPOND.

A. While competition may cause some prices to decrease in the market, such price decreases should be applauded by the Commission, and not treated as a reason to discourage competition. I believe it would be perverse public policy indeed if the Commission were to decline to relieve the incumbent of a UNE obligation on the grounds that doing so might unleash additional price competition. While I understand that Mr. Wood is attempting to paint a scenario in which CLEC entry

would not occur despite a lack of impairment, I am aware of no evidence, and Mr. Wood provides none, that this is a realistic concern. Certainly, if the FCC believed this to be a realistic concern it would not have established the impairment rules it did. Under the FCC's rules established in the TRO, the incumbent's ability and desire to win back customers is not identified as a barrier to entry, except perhaps insofar as it is a component of a CLEC's churn. The BACE model reflects reasonable churn assumptions, and therefore explicitly accounts for this concern.

Q. PLEASE COMMENT ON MR. NILSON'S DISCUSSION OF "MEANINGFUL COMPETITION." (NILSON REBUTTAL 10)

A. Mr. Nilson argues that a finding of non-impairment must be predicated upon a finding of "meaningful competition," which he defines as "ubiquitous" service. He claims that anything else is "token" competition. (Nilson Rebuttal 10.) Let me first say that meaningful competition does not require ubiquitous retail service by all of the providers—Mr. Nilson is simply wrong about that. But, second, and more important, this proceeding is not about retail competition, it is about CLEC impairment. In its TRO, the FCC specifically rejected an impairment standard based on the level of retail competition. (TRO 114) As the FCC notes, "the [Act] requires [the FCC] to ask whether requesting carriers are 'impaired,' not whether certain thresholds of retail competition have been met." (TRO 114.) Mr. Nilson's arguments on this matter therefore are irrelevant for this proceeding.

IV. RESPONSE TO ISSUES REGARDING THE BACE MODEL

Q. PLEASE DESCRIBE THE CONTENTS OF THIS SECTION.

A. In this section, I respond to comments and criticisms regarding the way the BACE model implements the business case analysis that is required under the TRO.

A. RESPONSE TO ISSUES REGARDING THE STRUCTURE OF THE BACE MODEL

Q. DR. STAIHR CLAIMS THAT THE OPTIMIZATION ROUTINES OF THE BACE MODEL ARE CONTRARY TO THE TRO BECAUSE THEY PERMIT THE MARKET ENTRANT TO IGNORE UNPROFITABLE WIRE CENTERS WITHIN A UNE RATE ZONE/CEA MARKET. (STAIHR REBUTTAL 17-18) IS THIS TRUE?

A. No, it is not true. The optimization routine of the BACE model treats all of the wire centers within each UNE Rate Zone/CEA market area as a unit. That is, the BACE model determines whether the efficient CLEC would be NPV positive in that geographic market by serving *all* of the wire centers in the market. It does not apply the wire center-by-wire center approach described by Dr. Staihr.

Q. SO, IN PERFORMING THE OPTIMIZATION ROUTINE, DOES THE BACE MODEL "OFFSET" THE MASS MARKET WITH THE ENTERPRISE MARKET? (BRYANT REBUTTAL 33-34)

A. Absolutely not. The NPV for the mass market is determined only from the revenues derived from, and costs attributed to, the mass market customers. A market passes the unimpairment test only if the NPV *for the mass market* is positive. The markets that are listed in Exhibit DJA-02, in my direct testimony, were all found to have positive mass market NPV. The NPV derived from the overall combination of customers (i.e., mass market + enterprise) was not the criterion for impairment. Hence, there is no possible subsidy from the enterprise market to the mass market. Moreover, in determining which markets are NPV positive, the BACE model computes mass market NPV in a very conservative manner by including a portion of joint and common costs in the cost structure for serving the mass market. For example, a CLEC rationally would elect to serve both enterprise and mass-market customers even if the mass market covered only its incremental costs (including a normal return to the incremental investments), and no shared or common costs if the enterprise market generated positive NPV on a stand-alone basis. The BACE model nevertheless assigns a portion of shared and common costs to the mass market in the NPV computation. While this is an unnecessarily conservative assumption, this was done to help ensure that there is an additional measure of confidence in our results and recommendations.

Q. PLEASE COMMENT ON MR. WOOD'S CLAIM THAT THE MODEL STRUCTURE "LOCKS" THE TIME HORIZON ASSUMPTION AT 10 YEARS. (WOOD REBUTTAL 5)

A. Mr. Wood's comments on this topic represent a total lack of comprehension of what a business case is and how the BACE model implements the business case. The BACE model is a discounted cash flow model that *explicitly* accounts for a 10-year horizon, but it also accounts for the value of the firm that is generated *beyond* 10 years. It is important to understand that the NPV of a properly constructed business case is completely unaffected by the number of years that are explicitly modeled. That is, the NPV results of a particular business case that uses a 5-year explicit forecast and a terminal value (for the years 6, 7, 8, 9, . . .) will be (or should be) identical to the results of a 10-year explicit forecast and a terminal value (for the years 11, 12, 13, ...). This is because the terminal value represents the NPV of the remaining (unmodeled) years out to, potentially, an infinite horizon. This can be summarized as:

NPV = NPV of Explicitly Modeled Years + Terminal Value

A business case has this structure because the firm's value (i.e., NPV) is (or should be) determined on the basis of economic fundamentals of demand, revenues, and costs over the entire potential horizon of the project, not on the basis of the number of years one explicitly models. In any business case analysis, one cannot appropriately create or destroy value simply by changing the number

of years that are explicitly modeled. The number of years that are explicitly displayed should be sufficient to demonstrate that the firm is beyond its start-up phase. Mr. Wood is welcome to use a shorter explicit time horizon if he wishes, but he must adjust the terminal value appropriately. Further, as Mr. Stegeman discusses, even AT&T's own cost model in this proceeding has a fixed 10-year life.

Q. MR. DICKERSON ALSO DISCUSSES THE ISSUE OF "TERMINAL VALUE." WOULD YOU PLEASE CORRECT MR. DICKERSON'S DISCUSSION? (DICKERSON REBUTTAL 22-24)

A. I don't know that I can fully untangle Mr. Dickerson's discussion, but I will point out where it is fatally flawed. Mr. Dickerson argues (erroneously) that the BACE model assumes that the terminal value represents the liquidation of the firm. He argues (incorrectly) that because this portion of value is not from the firm's continuing operations, it should not be included in the impairment analysis. (Dickerson Rebuttal 23.)

As I explained, terminal value in a business case represents the value of the firm for the period of time that is not explicitly modeled. The base-case assumption that we make in the BACE model is that if, at the end of year 10, investors have $100 of undepreciated investment in the business, they will get, on a discounted basis for all of the years after year 10, $100 of net revenue out of the business. In other words, investors will earn exactly their risk-adjusted cost of capital, or

(same thing) they will earn a return commensurate with risk or (same thing) the economic profits in the years after year 10 will be zero. This is a conservative assumption. We could reasonably have modeled the terminal value as some continuing amount of economic profit, or perhaps an amount of economic profit that tapers down over time, but we did not. Instead, we modeled the terminal value as zero economic profit. In sum, our analysis presumes a going concern, and that the firm will generate income (cash inflows) commensurate with cost (cash outflows) on a present value basis so that the enterprise has *accounting* profits, but its *economic* profits are zero. However, this is not the same thing as liquidation value (i.e., the value associated with "go[ing] out of business"). (Dickerson Rebuttal 23.)

While our assumption is reasonable, Mr. Dickerson's proposed adjustment is not. Not only does Mr. Dickerson improperly characterize the terminal value as a bankruptcy sale, he proposes zeroing it out because, he argues, this value is determined by the sale of assets and not by ongoing operations. He has it completely backward. The terminal value of the firm in the model reflects the value of its assets at that point as an ongoing concern, not in liquidation. It is the explicit modeling of cash flows that terminates, not the firm itself. As a result, it is Mr. Dickerson's ill-conceived "fix" that implies that the firm operates for 10 years and that, at the close of business on December 31 of the 10^{th} year, everyone puts down his or her tools and walks away from the business. If the terminal value were zero, this would imply that the business is abandoned and is neither sold for scrap nor anything else. In other words, under Mr. Dickerson's proposal,

all of the accumulated goodwill and all of the tangible assets invested (some of which are invested in year 9, for example) are abandoned and no economic value is derived at all from them. This is an unreasonable and untenable method of estimating terminal value. Standard texts on business case valuation note that an estimate of terminal value is essential to a business case valuation for a going concern. (See, e.g., Tom Copeland, Tim Koller, Jack Murrin, *Valuation: Measuring and Managing the Value of Companies* (2nd ed.), (1994) (New York: John Wiley & Sons), Chapter 9.) Accordingly, the Commission should reject Mr. Dickerson's proposal.

Q. DOES YOUR TERMINAL VALUE ASSUMPTION MEAN THAT THE CLEC NEVER INVESTS IN ANY MORE EQUIPMENT?

A. No. It simply means that any investment after year 10, of, say $50, will provide (on a discounted basis) exactly $50 in expected return. In this way, expected economic profit after year 10 will be zero (on any incremental investment).

B. RESPONSE TO ISSUES REGARDING MODEL SENSITIVITY

Q. WHAT ARE THE ISSUES REGARDING MODEL SENSITIVITY?

A. Several of the witnesses claim to have re-run the BACE model using their own input assumptions. (Dickerson Exhibit KWD-6; Bryant Exhibits MTB-10, 11, 12; Wood at 29.) Based on the description of their runs, I have attempted to replicate

each of the modifications that they have discussed. In several instances I simply could not replicate the results of their runs, while in others I have been able to approximate the total NPV results that they claim but they did not provide any information relevant to the list of unimpaired markets against which to compare my results. I have requested the input files from these witnesses so that Mr. Stegeman and I can review them and determine what was done, but have yet to receive a response. In any event, based on the runs that I have made to date, it seems that the differences in the parties' positions are primarily the result of different input assumptions, rather than a quarrel over the validity of the model itself. However, I have not seen anything that would change my recommendations on "unimpaired" markets that I described in my direct testimony and updated in this testimony.

Q. PLEASE DISCUSS THE INCONSISTENCY OF THE VARIOUS WITNESSES' ASSESSMENTS OF THE SENSITIVITY OF THE BACE MODEL RESULTS TO CHANGES IN THE PARAMETER VALUES. (BRYANT REBUTTAL 29, WOOD REBUTTAL 18)

A. Dr. Bryant expressed "surprise" that varying parameter values did "little" to change the NPV. (Bryant Rebuttal 29.) In contrast, Mr. Wood claimed that "even slight changes" to parameter assumptions cause the analysis to indicate that there is impairment. (Wood Rebuttal 18.) These are, of course, mere subjective conclusions. No one has provided a standard or index of the "appropriate" degree

of sensitivity. Accordingly, these remarks provide no probative criticism of the model.

V. RESPONSE TO ISSUES REGARDING THE "EFFICIENT CLEC" REQUIREMENT

Q. PLEASE DESCRIBE THE ISSUES THAT YOU ADDRESS IN THIS SECTION.

A. The TRO requires that the potential deployment analysis investigate the business model of an efficient CLEC. (TRO 517, fn. 1579.) "No impairment" is determined on the economic success of the most efficient business model for entry, not on the basis of a particular CLEC or a particular business plan. (TRO 517.) This section addresses issues related to interpreting these directions.

Q. MR. WOOD CLAIMS THAT THE BACE MODEL'S TREATMENT OF CLEC PRODUCT OFFERINGS IS OVERLY BROAD, AND THE RELEVANT ISSUE IS WHETHER A CLEC WILL SELF-PROVISION LOCAL SWITCHING ON A STAND-ALONE BASIS IN ORDER TO PROVIDE SERVICES TO MASS-MARKET CUSTOMERS IN A MARKET. (WOOD REBUTTAL 46-47) PLEASE COMMENT.

A. Consistent with the FCC's requirements, we did not design the business case analysis to determine whether a particular CLEC or a particular business plan is

profitable. (TRO 517.) Instead, consistent with the TRO, we designed the business case to determine whether the CLEC with an efficient business model economically could serve mass-market customers in a market without access to the local switching UNE. (TRO 517.) The BACE model assumes that the CLEC will offer a variety of communications services, including vertical features, long distance, voice mail, and broadband internet access, in addition to basic local service (inside wire maintenance is excluded, although an efficient CLEC might offer this as well). Mr. Wood may believe that some CLECs might want to offer a narrower range of services or specialize in some way, but that is irrelevant to the directions provided by the FCC. If such a CLEC can do better by specializing than the BACE CLEC, the model is conservative. If such a CLEC would do worse, it has not adopted the most efficient business plan and need not be considered. Moreover, it is specifically contrary to the FCC's direction to consider *all* revenues reasonably available to an efficient CLEC. (TRO 519.)

Q. DOES THE FACT THAT MANY CLECS HAVE GONE OUT OF BUSINESS MEAN THAT THE REMAINING CLECS ARE EFFICIENT (WOOD REBUTTAL 48) OR, IF ANYTHING, THAT THESE CLECS HAVE REDUCED THEIR COSTS BELOW WHAT MIGHT BE OPTIMAL FROM A LONG-RUN PERSPECTIVE? (BRYANT REBUTTAL 35-36)

A. Not at all. A CLEC that has wiped debt off its books via the bankruptcy process may indeed have a lower overall cost structure (in the sense of having less fixed financing costs to recover) than a competitor that did not do so. To the extent this

is a countervailing advantage of some existing CLECs, we did not incorporate it into the BACE model. Certainly, having undergone bankruptcy (and its affect on the company's balance sheet) does not imply that the CLEC has emerged with efficient customer acquisition practices, churn rates, overhead costs, or business practices, nor that carriers who have avoided bankruptcy are efficient in any of these respects. Moreover, as I described in my direct testimony, UNE-P-based CLECs that offer service in markets that are not truly impaired have the incentive to inefficiently increase their customer acquisition costs, for the reasons I discussed earlier. This is an incentive for inefficient behavior that applies to all UNE-P-based CLECs that operate in "unimpaired" markets, and it has not been resolved by the spate of bankruptcies of other CLECs.

Q. MR. WOOD CLAIMS THAT DR. BILLINGSLEY'S DISCUSSION ABOUT BANKRUPTCIES CONFLICTS WITH YOUR OWN. (WOOD REBUTTAL 48, 52-53) PLEASE COMMENT.

A. There is no conflict. Mr. Wood points to a quotation in Dr. Billingsley's direct testimony from a study by New Paradigm, a research group. The study contends that many CLECs took on too much debt and invested in too much infrastructure relative to demand, and succumbed to their debt loads when the expected demand did not materialize. Mr. Wood then cites to a passage in my direct testimony that says that CLECs have gone bankrupt, and my conclusion that , on average, existing CLECs do not have optimally efficient operations.

My comments are in complete concert with the passage from the New Paradigm report cited by Mr. Wood. Overinvestment in anticipation of demand that does not materialize can itself be a form of inefficiency. However, excessive investment is not the only inefficiency exhibited by CLECs. Other inefficiencies that have been noted by researchers include having unstable business processes, incomplete databases, incomplete inventories of circuits, overly informal business practices, and inadequate accounting systems. (See, Larry F. Darby, Jeffrey A. Eisenach, and Joseph S. Kraemer, "The CLEC Experiment: Anatomy of a Meltdown," Progress on Point (The Progress & Freedom Foundation), Release 9.23 September 2002, pp. 16-17.) These are the very reasons that would render it untenable to rely on such CLECs for inputs such as customer acquisition costs or overhead costs as being representative of an efficient CLEC. There also was, of course, substantial fraud by some CLECs that led to bankruptcy. I understand that Dr. Billingsley also responds to Mr. Wood's argument, from the perspective of finance considerations.

Q. MR. WOOD ARGUES THAT "THERE IS NO SUPPORT FOR DR. ARON'S ASSUMPTION THAT CURRENT [ACTUAL] CLEC COSTS NEED TO BE ADJUSTED IN ORDER TO REFLECT EFFICIENT CLEC OPERATIONS." (WOOD REBUTTAL 48) PLEASE COMMENT.

A. This is a disingenuous response. In requests to AT&T, BellSouth sought AT&T's business cases that analyze UNE-P and self-provisioned switching. (BellSouth First Set of Interrogatories No. 15.) AT&T objected to providing that

information, arguing that the TRO required an examination of the most efficient business model, and not, specifically, AT&T's business models. Yet, here Mr. Wood essentially claims that actual CLEC costs should be taken as representative of an efficient CLEC. Moreover, in addition to taking an opportunistic position, I am not sure that there is any real meaning to Mr. Wood's claim that I made "adjustments." For example, if I base my estimate on the midpoint of several actual CLEC figures, that is not an "adjustment." My customer acquisition cost estimate of $95 for residential customers is higher than the estimated actual expense for Talk America, and it is substantially higher than the $50 goal that Z-Tel management seeks. This is not an "adjustment" in the sense implied by Mr. Wood—if anything, it would be an *upward* adjustment. I would characterize my estimate as a conservative selection of a point estimate within the range of observed values after reviewing the evidence. Mr. Wood's accusations to the contrary are unsupported.

VI. RESPONSE TO ALLEGATIONS MADE ABOUT SPECIFIC PARAMETER ESTIMATES

Q. PLEASE DESCRIBE THE CONTENTS OF THIS SECTION.

A. In this section, I respond to various arguments made about the parameter estimates that I supplied to the BACE model.

A. MARKET SHARE (OR MARKET PENETRATION)

Q. DR. STAIHR CLAMS THAT HIS "STRUCTURED PROCESS" IS NEEDED TO PRODUCE A MARKET SHARE ESTIMATE. (STAIHR 20-21) PLEASE COMMENT ON THIS PROPOSED PROCESS.

A. I concur that any analysis should be structured and rational, and that the research should assemble relevant information and analyze it in a clear logical framework that takes account of theory and past experience. My approach satisfies this criterion. However, Dr. Staihr's approach is unnecessarily complex and does not appear to be designed in a way that reliably would produce a reasonable result.

Dr. Staihr's proposed research agenda posits that CLEC market share is a function of at least (by rough count) 13 variables. Moreover, these 13 variables may themselves be complex functions, or related to other variables. (For example, Dr. Staihr says that one factor is product bundling differentiation, and this can be a function of multiple product characteristics.) Other variables are notoriously difficult to estimate (for example, the existence, and amount, of pent-up demand). Dr. Staihr's argument is that formal estimates of all of these variables are needed to produce an estimate of market share. I therefore do not believe that one can reasonably or reliably apply this process.

Q. DR. STAIHR CLAIMS THAT YOU DO NOT RELY ON A STRUCTURED PROCESS TO ESTIMATE MARKET SHARE. (STAIHR REBUTTAL 22) IS THIS TRUE?

A. No, it is not. The process that I used is structured and, moreover, is appropriate given the state of knowledge about market penetration and the data that are actually available.

Q. PLEASE DESCRIBE THE PROCESS THAT YOU USED TO DETERMINE THE MARKET PENETRATION RATE. (STAIHR REBUTTAL 22)

A. The approach that I used had four main parts. The first was a review of the academic literature that I undertook to determine whether there were any relevant general principles that I should account for in an estimate of an efficient CLEC. I concluded that research generally demonstrated that successful firms increased rapidly toward their "maximum" market share in early years, and that growth tapered off as the firm approached its maximum share. I incorporated this general finding into my analysis.

My second step was to review the success that firms have had in the BellSouth region. As I explained in my earlier testimony, I reviewed hundreds of examples of CLEC entry into BellSouth wire centers and determined that it was not unreasonable to use the general "shape" suggested by the academic literature. I

also examined the total number of lines (and share of lines) of CLECs in Florida and elsewhere in the BellSouth region to determine CLEC successes to date. This analysis provided me with an indication of customer willingness to change providers, "take rates" (i.e., the ability to gain share) of CLECs individually and collectively.

Also, I examined the successes that CLECs have had in other parts of the country, including where competition has been attempted by cable telephony providers. I believe that the experience elsewhere in the country generally is an indicator of customers' willingness to change their service provider. Moreover, such analysis provides an indication of the potential opportunities for an efficient CLEC because it demonstrates what has happened in different market environments, not just what has occurred specifically in Florida. It also demonstrates the potential for penetration in light of different competitive responses by other CLECs and ILECs. In other words, examining performances in other parts of the country helps ensure that there is robustness to my own estimate. In contrast, I believe that Dr. Staihr's proposed methodology is overly narrow on this point. What Dr. Staihr claims is a "market-specific process" (Staihr Rebuttal 29) and is, in my view, a misguided and insular approach that would ignore potentially important information that can be gleaned from other local telephone markets. For example, as I mentioned, cable telephony providers have had success in different areas around the country. This indicates to me that customers generally are willing to change their provider and that this willingness is not unique to any particular market or region. I examined the pricing packages offered on the web sites of

some of these firms and confirmed that the telephony services and features were reasonably available to an efficient CLEC.

I did not limit myself to primary research, as Dr. Staihr's "structured process" seems to recommend. Instead, I also consulted secondary research such as investment analyst reports and other analytical and forecasting reports on the industry's prospects. In formulating my proposal, I also consulted with knowledgeable industry and former CLEC experts on the general factors and issues relevant to CLEC market share, and to the market share proposal itself. I presented my findings and responded to their insights, criticisms, and recommendations.

Thus, while my approach to market share estimation differs from Dr. Staihr's, I believe that my approach (in contrast to his) is designed to actually produce a reasonable, robust, conservative estimate. My approach (conservatively) assumes that the market does not grow. In other words, I presume that any share that the efficient CLEC obtains is a result of success with respect to the ILEC's existing base of customers or from other CLECs, or from acquisitions or mergers with other CLECs, and not from additions to the market size itself. Nor does my market analysis incorporate wireless or other services that Dr. Staihr recognizes have influenced, or could influence, the landline telephone market in the future. (See, e.g., Staihr Rebuttal 35.) I do not presume that the CLEC wins any converts from, e.g., wireless customers.

Second, my analysis is conservative in that it does not incorporate any revenue-enhancing effects that could result from "changes to product characteristics," (Staihr Rebuttal 21) and innovations that a switch-based CLEC might implement.

I will agree with Dr. Staihr on several other points, however. My research process was complex, it was time-consuming, and it was research intensive. It entailed reviewing a substantial amount of existing research and primary data in the BellSouth region and throughout the country. However, unlike Dr. Staihr's ivory tower approach, my own was designed to produce a reasonable estimate of an efficient CLEC's market share, not to set up an impossible set of tasks that might not produce a reasonable result. I believe that the breadth of my research agenda, and its depth, in the sense of including both primary and secondary research, and both qualitative and quantitative research, provides a sound, robust basis for my recommendation.

Q. DR. BRYANT CLAIMS THAT "THE ULTIMATE MARKET SHARE THAT AN INDIVIDUAL CLEC MAY ACHIEVE IS UNKNOWN AND UNKNOWABLE." (BRYANT REBUTTAL 37) PLEASE COMMENT.

A. I agree that the future is unknowable with certainty. However, I disagree with the inferences that Dr. Bryant draws from this unexceptional fact. As I noted earlier, Dr. Bryant recommends that, due to this uncertainty, the Commission draw no conclusion about impairment from the potential deployment analysis. (Bryant Rebuttal 42.) The FCC directed the commissions to assess potential deployment

despite the inherent uncertainty of the future, and I believe it is the Commission's responsibility to do so. Dr. Bryant's advice amounts to an attempt to re-write the rules and it should be ignored.

Dr. Bryant also recommends that because of uncertainty with respect to parameter estimates such as churn, the Commission should perform sensitivities using different parameter values. I have no general objection to the prudent use of sensitivity analyses. However, such an analysis is no substitute for a reasonable initial point estimate. Many of Dr. Bryant's estimates, such as his 5 percent market share estimate, are simply unreasonable for the reasons that I discussed in my rebuttal testimony. It is pointless to perform a sensitivity analysis on unreasonable point estimates to determine whether there is impairment.

Q. DR. STAIHR AND DR. BRYANT CLAIM THAT AN EXAMINATION OF AGGREGATE CLEC MARKET SHARE IN FLORIDA DOES NOT IMPLY THAT EACH CLEC, OR THAT ONE CLEC, COULD ATTAIN THE SAME MARKET PENETRATION. (STAIHR REBUTTAL 22-23, BRYANT REBUTTAL 36-37) PLEASE COMMENT.

A. Drs. Staihr and Bryant are confounding two separate (though related) issues. One is the willingness of customers to leave the ILEC and obtain telephone service from an alternative provider; and the second is the structure of the market (e.g., the number and relative size of competitors). Both factors contribute to the market share of any particular firm. My analysis of aggregate CLEC successes in

Florida (and elsewhere in the BellSouth region) provides information regarding the willingness of customers to change their service provider. We observe today a number of wire centers in Florida (and throughout the BellSouth region) where CLECs in the aggregate already serve 15 percent or more of the lines. This is tangible information about the *willingness of customers* to switch to alternative providers and, in the alternative, the degree of customer loyalty to or lock-in to the incumbent carrier. Whether one, two, or three switch-based CLECs will each obtain 15 percent of the market is the topic of market structure.

Q. DR. ARON, WHAT IS YOUR VIEW OF THE LIKELY MARKET STRUCTURE THAT WOULD PREVAIL IN MARKETS IN WHICH UNBUNDLED LOCAL SWITCHING IS NOT OFFERED AND WHICH YOU HAVE REFLECTED IN YOUR RECOMMENDED MARKET SHARE ASSUMPTIONS?

A. The current market structure, which is highly fragmented with many very small participants, is not likely to prevail in a market with only facilities-based providers. Availability of UNE-P promotes a highly fragmented market, because UNE-P-based carriers need make very little investment in (or commitment to) the market. Because a much greater share of UNE-P CLECs' costs are incremental to the customer, they have much less economies of scale than do facilities-based carriers. While a given local area might support a large number of UNE-P players, I believe a typical urban market would support a much smaller number.

My framework for viewing market structure implies that the market will undergo significant consolidation in the coming years. I believe that in fact this is inevitable if public policy advances the viability of efficient facilities-based competition. Indeed, we are now seeing consolidation in the wireless industry, also a capital-intensive, facilities-based industry. One should not mechanically extrapolate from today's UNE-P market structure to project the market structure – or market shares – that would obtain in a facilities-based market. Doing so would ignore the fundamental efficiencies in cost structures that drive market structure. Facilities-based firms with significant scale economies would, in equilibrium, have non-trivial market shares. My approach begins with the understanding that I have articulated regarding market structure, and applies to it the evidence we have about consumers' willingness to switch carriers.

Q. PLEASE GIVE US AN EXAMPLE OF HOW MARKET STRUCTURE CAN AFFECT THE SHARE ESTIMATES OF DRS. BRYANT AND STAIHR.

A. Dr. Staihr recommends an assumed CLEC market share of 10 percent, based on two analyses. The first considers the long-distance experience. Based on this experience, Dr. Staihr concludes that CLECs will take 65 percent of the total market, but that this will be divided among 7 firms (producing about 9 percent each). Dr. Staihr also considers a situation where competitors take 65 percent of the total market, but that a cable telephony firm takes 23 percent, and the remaining 6 CLECs get 7 percent each. (Staihr Rebuttal 26-29). Dr. Bryant

argues that the aggregate share of the CLECs will be 15 percent, but that it will be shared equally by three CLECs. (Bryant Rebuttal 36-37.) Thus, these witnesses argue that aggregate CLEC share may be on the order of 15 to 65 percent and that it may be divided among 3 to 7 firms. I do not believe that a market structure with numerous firms, especially with small penetration rates, is likely as a long-run equilibrium in light of the scale economy issues I just discussed. I also do not think it likely that a given geographic market typically will support 6 or 7 small CLECs. As I explained, within a given geographic market, I expect market structure to be more consolidated, reflecting the scale economies available to CLECs. Hence I believe my penetration estimate is most consistent with a realistic view of ultimate market structure, but note that Dr. Staihr's expectations of total CLEC share are far more aggressive than my own.

Q. DR. STAIHR CLAIMS THAT IT IS UNCLEAR WHETHER YOUR ANALYSIS OF BELLSOUTH WIRE CENTERS IS LIMITED TO MASS-MARKET CUSTOMERS, AND THAT THIS IMPLIES THAT MASS-MARKET PENETRATION IS "WELL BELOW 15%." (STAIHR REBUTTAL 23-24) PLEASE EXPLAIN.

A. To clarify, I examined mass-market customers. The computations of market penetration include only basic lines (no high-capacity lines, or channelized hi-cap lines), so I believe that the lines largely (if not solely) represent residential and small business lines. I did not have the information to differentiate between business and residential lines (as this is not required for an analysis of the mass

market). I compared the number of these "mass market" lines served by CLECs to the total (CLEC+ILEC) mass-market lines. Dr. Staihr argues that the majority of CLEC lines in Florida serve large business customers. This may be so, but it is irrelevant to the data that I present in my analysis, because I exclude high-capacity lines. Thus, Dr. Staihr claim that my data "suggest a mass-market penetration well below 15%" is incorrect. (Staihr Rebuttal 24.)

Q. PLEASE RESPOND TO THE CLAIM THAT CABLE TELEPHONY IS NOT AN APPROPRIATE INDICATOR OF THE MARKET SHARE THAT CLECS MIGHT ATTAIN. (WOOD REBUTTAL 40, STAIHR REBUTTAL 24-25)

A. Mr. Wood argues that information about cable telephony penetration is not representative of the market share a CLEC might reasonably attain because cable providers do not rely on BellSouth's loops. (Wood Rebuttal 40.) Dr. Staihr argues that the cable telephony penetration is not representative of the share that a CLEC could obtain because, according to the FCC, cable television providers have a "first mover" advantage and economies of scope in offering telephony along with television services.

Both Dr. Staihr and Mr. Wood err in their conclusion because they confuse supply with demand. Mr. Wood rejects the use of cable television because cable telephony providers do not routinely use ILEC loops to provide service. What Mr. Wood really is talking about is the hot cut issue, which is a supply-side

concern having nothing to do with an investigation into customers' willingness to change service providers (except through the supply-side issue of customer dissatisfaction with the changeover process).

Mr. Wood cites to paragraph 446 of the TRO where the FCC is discussing the fact that cable telephony offers competition from a provider that uses both its own switching and its own loop. The FCC does not say (and is wise not to say) that cable telephony is an inappropriate indicator of the *willingness of customers to switch providers,* or that cable telephony is an inappropriate inapt indicator of the market share that a traditional UNE-L-based CLEC might attain in the future.

Dr. Staihr's testimony is similarly confused. In a complete about-face, after his lecture about what a demand-side market share analysis should entail, Dr. Staihr relies only on an FCC discussion about economies of scope (which pertain to the costs of provisioning, and hence the supply of the service) as a reason to view the cable telephony successes with caution. The fact that cable companies may enjoy economies of scope with regard to the provisioning of telephone service does not obviate the inference one can draw regarding the willingness of customers to change their telephone provider (the demand side).

Dr. Staihr also notes that according to the TRO, cable television companies have "unique economic circumstances of first-mover advantages and scope economies, [and therefore] have access to the customer that other competitive carriers lack." (TRO 310.) The FCC says that this "first-mover" advantage stems from

exclusive franchises and a captive market. Both exclusive franchise and captive market, however, pertain to cable *television*, not *telephony*, and so do not apply here. Moreover, the fact that cable company has an ongoing relationship with its existing base of customers is not unique, either. Long-distance service providers such as Sprint have relationships with their customers, too. Long-distance carriers also may be able to use their existing relationships to sell local voice and data (DSL) services to their customers. Thus, neither Dr. Staihr nor Mr. Wood advance any supported argument that would exclude the cable telephony experience as a relevant indicator of the customer willingness to switch service providers.

Q. DOES THE FACT THAT YOU GIVE WEIGHT TO INFORMATION ABOUT CUSTOMER WILLINGNESS-TO-SWITCH GLEANED FROM CABLE TELEPHONY PROVIDERS IMPLY THAT THE BACE MODEL SHOULD HAVE MODELED A CABLE TELEVISION PROVIDER? (STAIHR REBUTTAL 24)

A. No, it does not. The purpose of the BACE model is to investigate whether a particular entry method (e.g., a landline CLEC using its own switching and the ILEC's loops) is economic in a market without access to unbundled local switching. To be conservative, the BACE approach models a CLEC that is entering the market using its own circuit switching and the ILEC's loops. However, this does not invalidate using the relevant knowledge that we gain from the cable industry regarding customers' willingness to switch service providers.

Our approach is a perfectly consistent and reliable way of applying a business case analysis.

Q. DO YOU HAVE ANY OTHER OBSERVATIONS ABOUT THE TESTIMONY PROVIDED BY DR. STAIHR OR MR. WOOD ON CABLE TELEPHONY?

A. Yes. Neither Dr. Staihr nor Mr. Wood dispute that cable telephony is equivalent to traditional local exchange service in overall quality. Neither disputes the fact that cable companies have gained substantial numbers of customers and substantial share where they have offered telephone service. Neither Dr. Staihr nor Mr. Wood disputes the fact that cable companies such as Cox have gained 20 to 30 percent share in those areas where they have offered service, and that Cox itself has gained 19 percent share overall where it offers service and 53 percent of its existing cable TV subscribers. These figures indicate that *customers are willing to shift* in large numbers from the ILEC (or other CLECs) to alternative service providers, in this case a cable telephony provider. Such data indicate that it is possible for CLECs to overcome any brand name or other potential goodwill advantage that the ILEC might have and change their providers in substantial numbers. The cable example is especially apt because the traditional structure of cable TV networks is designed to serve homes (rather than large, enterprise businesses) and so cable telephony's successes are good evidence that customers' willingness to change service providers exists in the mass market.

Q. BUT, IF CABLE COMPANIES HAVE HAD GREAT SUCCESS ATTRACTING CUSTOMERS, DOES THIS NOT "WORK AGAINST" YOU, AS DR. STAIHR ALLEGES, BY LEAVING FEWER CUSTOMERS "LEFT OVER" FOR NON-CABLE BASED PROVIDERS? (STAIHR REBUTTAL 24)

A. No. Dr. Staihr's argument implies that the cable company is guaranteed a 26.2 percent of the market. This is not true. An efficient CLEC may be able to *win customers from the cable company as well as from the ILEC* in markets where cable telephony is being offered. In a market with an efficient, UNE-L-based CLEC, the cable company might obtain substantially less than the current national average of 26.2 percent of the market. In any event, the more successful are the alternative bypass technologies (such as cable and wireless, or alternative switch technologies such as VOIP), the less justified is any unbundled switching policy, as I discussed earlier.

Q. GIVEN YOUR DISCUSSION OF CABLE TELEPHONY, WOULD YOU ALSO SAY THAT THE SUCCESS OF UNE-P-BASED CLECS IN OBTAINING CUSTOMERS LIKEWISE INDICATES CUSTOMER WILLINGNESS TO SWITCH? (WOOD REBUTTAL 39-40)

A. Yes. Again, one should not confuse demand fundamentals (which relate to the customers' willingness to switch providers) with supply fundamentals (which, among other things, relate to the hot cut issue and economies of scope), as Mr.

Wood and Dr. Staihr do. There is no reason, given the evidence on customer willingness to change providers, that switch-based CLECs would not be able to make the kinds of gains that we have seen in UNE-P. For this reason, the ability of CLECs to attain market share in the BellSouth region and elsewhere is useful information, regardless of the (supply-side) provisioning method used by the CLECs.

Q. MR. WOOD ARGUES THAT CLEC SUCCESSES ACROSS THE BELLSOUTH REGION ARE NOT REPRESENTATIVE OF HOW WELL CLECS MIGHT PERFORM IN SPECIFIC MARKETS AND WITH SPECIFIC PRODUCTS. (WOOD REBUTTAL 39-40) PLEASE EXPLAIN WHY YOU BELIEVE THE BELLSOUTH REGION-SPECIFIC DATA ARE SUFFICIENTLY GRANULAR TO INDICATE HOW WELL AN EFFICIENT CLEC MIGHT DO WITH RESPECT TO MARKET PENETRATION.

A. It is reasonable to conclude that an efficient CLEC could learn from what is observed in the marketplace, whether that market is in Florida or elsewhere in the United States.

With regard to Mr. Wood's "specific products" argument, the range of services that we model in BACE is well representative of the range of services that an efficient CLEC would offer. This might not perfectly match the specific business models of particular CLECs, but doing that would be attempting to model specific

CLECs' business plans, contrary to the direction provided by the TRO, as I explained earlier. (TRO 519.)

Q. DOES THIS MEAN THAT AT&T'S 15 PERCENT MARKET SHARE IN NEW YORK IS RELEVANT? (STAIHR REBUTTAL 25)

A. It certainly does.

Q. BUT, DOESN'T AT&T HAVE A "UNIQUE" POSITION IN TELECOMMUNICATIONS AS A RESULT OF ITS BRAND NAME? (STAIHR REBUTTAL 25)

A. AT&T is certainly a well-known firm, but it seems unlikely to me that its brand name is so "unique" that its successes do not provide meaningful evidence of what an efficient CLEC reasonably might accomplish. First, Dr. Staihr's data are out of date. He notes that a decade after the 1984 divestiture, many customers (erroneously) identified AT&T as their local service provider. (Staihr Rebuttal 25.) Of course, it is now *two decades* after divestiture, so it is not clear that Dr. Staihr's data mean anything. A generation of consumers has grown up without ever experiencing Ma Bell or without being able to select their long-distance provider.

Moreover, AT&T's brand name does not appear to have provided substantial advantages in other endeavors. For example, a recent New York Times article

noted that AT&T Wireless's rate of customer additions was below the industry average in the fourth quarter of 2003 and AT&T is seeking to sell that business (Matt Richtel, "AT&T Wireless Says it Wants a Suitor," New York Times January 23, 2004, C1+), so AT&T's brand name has not provided an obvious advantage in the wireless industry. In light of AT&T's struggles in other areas, I think it reasonable to accept that its success in New York is not attributable uniquely to an all-powerful brand name, and that other carriers with attractive offerings could replicate its success. In any event, the FCC specifically instructed us to consider "countervailing advantages" (TRO 84) and the most efficient business model. (TRO 517.) A strong brand name would seem to be one of these advantages (although we did not specifically model AT&T, nor did we seek to model a firm with special name recognition). As a result, Dr. Staihr's attempt to rule out AT&T as a legitimate example of CLEC success of 15 percent market share should be dismissed as simply self-serving.

Q. DR. STAIHR POINTS OUT THAT EVEN THOUGH AT&T ACCOUNTS FOR 15 PERCENT MARKET SHARE IN NEW YORK, 25 OTHER CLECS ACCOUNT FOR ANOTHER 13 PERCENT. HE ARGUES THAT THIS DEMONSTRATES THAT OTHER CLECS WILL BE UNABLE TO ATTAIN 15 PERCENT MARKET SHARE. (STAIHR REBUTTAL 25) PLEASE COMMENT.

A. Dr. Staihr once again confuses the issue of market structure with the issue of market penetration. Dr. Staihr's figures demonstrate only that a substantial

portion—at least 28 percent—of customers have already shown a willingness to change their service provider. It does not demonstrate that there cannot be two switch-based CLECs, each with approximately 15 percent market share, and an ILEC, that compete with one another on a facilities basis.

Q. WHY IS THE ACADEMIC LITERATURE ON MARKET ENTRY RELEVANT TO THE ISSUE OF MARKET PENETRATION, CONTRARY TO THE CLAIMS OF MR. WOOD? (WOOD REBUTTAL 39)

A. The purpose of scientific research is to identify and test generalized principles (which mean principles that may apply beyond the specific data set investigated). Principles that have withstood empirical challenge can provide guidance to researchers and policy makers. Sometimes, as in this instance, the guidance is of a qualitative nature in that it helps establish a general pattern of competitive entry, as I will discuss.

As I explained in my direct testimony, the academic literature provided me with guidance as to a reasonable "shape" of the market penetration path. For example, one might suppose that a firm gained market share in an "S-shaped" curve. That certainly was one of the ideas that I considered early in the process. However, my research indicates that successful firms tended to grow more quickly upon entry than unsuccessful firms when they are young and small, and that the growth rates of these firms tend to decrease as they become older and larger. The growth of

successful firms was more of like the top half of a "C," with fast immediate growth slowing toward an asymptotic level of market share. There is nothing in the telecommunications industry or local exchange industry that suggests to me that an efficient CLEC would not also follow this pattern.

As I noted in my direct testimony (though Mr. Wood failed to note this in his discussion on pages 39 and 40 of his rebuttal testimony), I analyzed data on every wire center in the BellSouth territory and I examined several hundred examples of entry by different CLECs over time. I found that the pattern of entry into wire centers varied, but that generally, entry followed the pattern found by academic researchers in their more formal studies; that is, entry starts with a bang, and then grows at a decreasing rate as the firm matures toward its ultimate market share. This provided me with some assurance that the (qualitative) generalized principle of market entry applied to the local telecommunications industry as well.

I believe that this type of thorough research, which considers the established, researched wisdom of market entry, reviews literally hundreds of pages of actual evidence on this entry in the BellSouth region, considers the implications of entry by telecommunications services providers that is observed in other parts of the country, and derives a conclusion based on this analysis, illustrates that my proposal is reasoned and reasonable.

Q. WILL BELLSOUTH'S "WINBACK" EFFORTS REDUCE THE ESTIMATE OF THE EFFICIENT CLEC'S ULTIMATE MARKET SHARE? (BRYANT REBUTTAL 37)

A. No, it will not reduce it from the 15 percent estimate that I recommend, because this is already accounted for in my estimate. My proposal is based on what we can observe in the marketplace today, such as AT&T in New York and cable television companies where they choose to offer telephone service. It is rational for the ILEC in those areas to offer winback programs and these CLECs still have been successful in gaining substantial share. In other words, absent ILEC winback programs in these areas, I would expect these CLECs would have higher market penetration rates than they already do. Thus, making a downward adjustment to my proposed market share because BellSouth offers winback programs would effectively twice-consider the effect of these programs.

Q. DR. ARON, IS YOUR 15 PERCENT MARKET SHARE RECOMMENDATION CONSERVATIVE IN ANY OTHER WAY? (WOOD REBUTTAL 39)

A. Yes, it is. I assume that the overall market for the services offered by the CLEC does not grow (or shrink) over time. This has an important implication for my 15 percent market share recommendation. A market share of 15 percent 10-years out in a market that does not grow represents approximately the same level of demand (all else the same) as a 12 percent share in a market that grows by just 2 percent

per year. (Indeed, a market that grows at 4 percent per year would produce approximately the same level of CLEC-served demand at a 10 percent share as does the 15 percent share with no overall market growth.)

It is reasonable to believe that the overall demand for voice telecommunications services will increase in the future. (Viktor Shvets, RBOCs: Initiating Coverage, Deutsche Bank Securities Equity Research, November 22, 2002.) Accordingly, my assumption of zero market growth is conservative.

In sum, to be conservative, I have presented a consistent set of assumptions based on a conservative product definition (i.e., I exclude wireless services, and consider only ILEC and CLEC lines and revenues), prices, and penetration rates that assume no growth in the either the number of total customer locations, or in the definition of the market (as CLEC + ILEC lines).

Q. MR. WOOD CLAIMS THAT THE BACE MODEL ASSUMES THAT THE TOTAL MARKET FOR WIRELINE TELECOMMUNICATIONS SERVICES WILL GROW OVER THE TIME HORIZON OF ITS ANALYSIS. (WOOD REBUTTAL 38) IS THIS TRUE?

A. No, as I just described.

B. P-VALUE

Q. DR. ARON, WOULD YOU PLEASE SUMMARIZE THE ISSUE WITH RESPECT TO THE "P-VALUE"?

A. Yes. One of the inputs in the BACE model is the trajectory that is assumed for the CLEC's market share. We assume that the CLEC begins with no customers, and adds them over time and ultimately approaches a "maximum" market share. The "p-value" relates to the speed with which the efficient CLEC is able to gain market share and move toward its "maximum." For residential customers, I recommend a p-value of 0.50, which means that the CLEC gains half of its ultimate share (or 7.5 percent, because we assume a maximum share of 15 percent) by the end of the first year, three-quarters by the end of the second year, and so on. Various parties submit that the p-value of 0.50 for residential customers is overly aggressive. I believe that it is conservative, as it is used in the BACE model.

Q. WHY IS A P-VALUE OF 0.50 FOR RESIDENTIAL CUSTOMERS CONSERVATIVE? (WOOD REBUTTAL 39, STAIHR REBUTTAL 32)

A. First, the BACE approach models a *de novo* CLEC—that is, a CLEC that enters the market without any customers. However, the FCC's requirement that the Commission consider all the CLECs' various advantages would permit us to model a CLEC (such as AT&T or MCI) that already has a substantial number of revenue-generating UNE-P lines and that, over time, these will be migrated to UNE-L lines in those areas where an efficient CLEC is not impaired without

access to the local switching UNE. We opted not to model an efficient CLEC with a base of existing customers, but certainly this illustrates the conservatism of the p-value assumption.

Second, as implemented in BACE, a p-value of 0.50 means that the CLEC obtains half of its ultimate market share at the *end* of the first year. The *average* penetration during the year is 3.75 percent. (Mr. Wood and Dr. Staihr completely misunderstand how the BACE model uses the p-value, and as a result, their arguments are wrong.) The revenue assumption for the first year reflects a 3.75 percent penetration rate, not 7.5 percent. We provided a description of this to AT&T and Sprint in response to discovery. (AT&T's 3rd Set of Requests for Production of Documents No. 47, Sprint's 1st Request for Production of Documents No. 2.)

Finally, it is worth noting that Dr. Bryant's approach uses a p-value of 1.00. In other words, he models a CLEC that obtains its full measure of market share (five percent, in Dr. Bryant's case) on the first day of operations. His average penetration for the first year is 5 percent, which exceeds our assumed average penetration of 3.75 percent.

Q. YOU EARLIER REFERRED TO YOUR REVIEW OF THE ACADEMIC LITERATURE ON MARKET PENETRATION. DR. STAIHR CLAIMS THAT BY ADHERING TO THE APPROACH DESCRIBED IN THE LITERATURE, YOU "STACKED THE DECK" SO THAT CLEC

PENETRATION, AS EXPRESSED BY THE P-VALUE, INCREASES THE LIKELIHOOD OF SUCCESS. (STAIHR REBUTTAL 31) HAVE YOU STACKED THE DECK?

A. No, I have not. Dr. Staihr does not dispute the findings that I described from my review of the academic literature. Dr. Staihr's complaint seems to be that such a pattern contributes to the chances of success for the efficient CLEC that is modeled in the BACE model. This may be so, but simply because the research is instructive does not mean that we should ignore it. The FCC instructed us to consider an efficient firm. I take that to mean (and Dr. Staihr does not seem to dispute my conclusion) that we should model the penetration patterns of successful, rather than unsuccessful firms. It would be foolish to use an entry pattern of unsuccessful firms to model the entry patterns of an efficient CLEC.

Dr. Staihr also argues that market penetration is something "over which the company has little control." (Staihr Rebuttal 31-32.) This is another incorrect statement. If penetration were outside the control of the firm, there would be no reason for the firm to spend money on marketing and customer acquisition. I wonder if Sprint's sales personnel share Dr. Staihr's view of the exogeneity of demand for CLEC services. I believe that the p-value that I have selected is consistent with the customer acquisition cost estimate that I have selected, and that a reduction in one would require a reduction in the other.

Q. PLEASE COMMENT ON DR. STAIHR'S USE OF FCC DATA TO DEMONSTRATE THE PATTERN OF CLEC MASS MARKET PENETRATION OVER TIME. (STAIHR REBUTTAL 32)

A. Dr. Staihr misuses FCC data to suggest that the rate of share gain of an efficient CLEC will be lower than the p-value of 0.50. His analysis is incorrect because it implicitly and erroneously assumes that there is a single national market in local exchange service. Instead, there are multiple local exchange markets and initial entry by CLECs can occur at different times in each market. This will influence the aggregate statistic and can lead to erroneous conclusions about CLEC successes.

An example may clarify how the FCC's data can be subject to the kind of misinterpretation seen in Dr. Staihr's analysis. Suppose there are four markets of equal size and that competitors enter them in succession. In the first year the CLEC obtains 8 percent share in market *A*. In the following year, the CLEC obtains 12 percent in market *A* and 8 percent in market *B*. In the third year, the CLEC obtains 16 percent in market *A*, 12 percent in market *B* and 8 percent in market *C*. Penetration in market *D* remains zero throughout.

Calculating aggregate penetration by treating all four markets as one (analogous to the FCC's methodology) the CLEC's first year share would seem to be 2 percent (8/4), its second year share would seem to be 5 percent ((8+12)/4), and its third year share would seem to be 9 percent ((8+12+16)/4). These aggregated

penetrations do not illuminate what is happening in local markets and demonstrate why the FCC asked the states to conduct a more granular impairment investigation. Thus, an undisciplined interpretation of the FCC's national data presents an incorrect and biased rendering of what is happening in individual local exchange markets.

C. PRICE LEVELS

Q. DR. ARON, PLEASE SUMMARIZE THE ISSUES THAT YOU ADDRESS IN THIS SECTION.

A. In this and the following section, I address criticisms leveled by various CLEC witnesses regarding the prices that I recommended for use in the BACE model. This section discusses criticisms of the prices themselves. The following section discuses issues related to trends in the prices over time. (Consistent with the TRO, my estimates for prices, and costs, are not trended.) The BACE model incorporates prices for service bundles (e.g., aggregations of services consisting of local voice service, vertical features, and long-distance and/or DSL services) and for what I call "*a la carte*" services.

In both cases, the main complaint seems to be that I relied on the use of existing CLEC service prices for bundles and on actual BellSouth billing data for the *a la carte* services. Various theories are advanced for the use of other data and for adjusting these data over time. My main response is that the FCC clearly foresaw

that prices would be a contentious issue. It reasonably determined that rather than bogging down the impairment analysis process in controversy, it would require that the potential deployment analysis use existing prices. Many of these criticisms simply seek to rewrite or ignore the TRO's direction and use prices that are not reflective of prices that are effective in the market today.

Q. MR. WOOD CLAIMS THAT YOU DID NOT SUFFICIENTLY DISAGGREGATE BELLSOUTH'S CURRENT *A LA CARTE* PRICES AND, AS A RESULT, CLEC REVENUES CANNOT BE ESTIMATED WITH ANY DEGREE OF ACCURACY. (WOOD REBUTTAL 25) PLEASE COMMENT.

A. By any objective standard, the BACE model is a highly granular model. It is, in fact, the most granular business case analysis I have ever seen. I believe that Mr. Wood resorts to the (unfounded) criticism that the BACE data lack granularity whenever his imagination flags. In any event, Mr. Wood has absolutely no basis for this claim. In determining the revenues reasonably available to the CLEC for its *a la carte* services sold to mass-market customers, we processed millions of individual BellSouth customer billing records. For residential customers, we consolidated those billing records into five "spend" groups at the wire center level (for businesses, we grouped the records into four business segments that varied by the number of lines served and three spending groups for each business segment). In so doing, we provided abundant granularity on the numbers of lines, the services, and the spending levels that reasonably would be available to an

efficient CLEC. Our methodology produces different, granular average revenue estimates for each product, customer segment, and spend group by state. These estimates are based on the specific mix of customers in each wire center. Each wire center has a different profile of customers delineated by spend categories. Therefore each wire center has a different effective average revenue per residence and each of the four business customers segments. This process addresses the point that Mr. Wood makes without the additional (and pointless) complexity that Mr. Wood seeks.

Q. MR. WOOD CLAIMS THAT YOUR PROCESS OF AGGREGATING CUSTOMERS FAILS TO SEPARATE HIGHER SPENDING THAT RESULTS FROM BEING IN A HIGHER-PRICED RATE GROUP FROM HIGHER SPENDING THAT RESULTS FROM BUYING MORE SERVICES. (WOOD REBUTTAL 30-32) PLEASE COMMENT.

A. Mr. Wood expresses a concern that because Florida has several retail price groups, the BACE model's treatment of customer segmentation is "incorrect" and "biases" the results toward a showing on no impairment. (Wood Rebuttal, p. 32.) Mr. Wood's testimony is unclear and somewhat confused on this point, but his conclusion appears to be without merit.

Mr. Wood's concern seems to pertain to his observation that some customers spend a lot on telecommunications because they buy a lot of services at relatively low prices, while others spend a lot despite buying fewer services because they

pay higher prices. While in principle this is a true statement, it does not lead to any realistic concern with the results of the BACE model. First, as a practical matter, regardless of whether there were any merit to his concern in theory, the fact is that the only BellSouth prices that vary by rate group in Florida are the basic local access line rates. Based on the design of the rate groups, only a relatively few residential customers will pay prices that differ by as much as $3.50 from the highest to the lowest rate group. Instead, most residential customers will face local access line rates that are within $1 of one another. In the context of total spend levels, this difference would have minimal effect on the model and so Mr. Wood's convoluted discussion is actually much ado about nothing.

Further, while Mr. Wood asserts that his observation about the different reasons that customers might be in a high spend category would lead to some bias or systematic inaccuracy in the model, he does not explain what the mechanism leading to such inaccuracy would be, and he certainly does not demonstrate any bias. *Any* model will aggregate and summarize different individual observations into averages or groups in some way, and this will always obscure some individual differences and characteristics. Short of modeling competition for each individual customer, an unreasonable and unrealistic standard, some individual-specific factors will not be accounted for.

Nevertheless, the fact is that in the BACE model, the costs of serving a given customer profile in a wire center are specific to the characteristics of that wire center, and the numbers of customers in each spend quintile are specific to each

wire center. I believe that the level of granularity of the model is extremely high, and any attempt to discredit it or level unsupported claims of purported bias for failure to model still greater granularity should be rejected.

Q. MR. WOOD CLAIMS THAT THE PRICES FOR SERVICE BUNDLES WERE NOT DESCRIBED IN YOUR TESTIMONY. (WOOD REBUTTAL 26-27) PLEASE COMMENT.

A. These prices were provided in response to Sprint's First Request for Production of Documents No. 1, and Staff's 5th Request for Production of documents No. 31 and Interrogatory 82.

Q. DR. STAIHR CLAIMS THAT CLECS MUST COMPETE WITH THE BELLSOUTH WINBACK BUNDLE PRICES, AND THAT THE WINBACK PRICES THEREFORE SHOULD FORM THE BASIS OF THE CLEC'S BUNDLE PRICES. (STAIHR REBUTTAL 33-34) PLEASE COMMENT.

A. This is incorrect. While it is true that BellSouth's winback bundle prices are available in the market today, they are not the relevant price for an efficient CLEC. Rather, *bundle prices offered by the CLECs themselves* in the face of those winback prices are more relevant, because they are offered to customers at large.

Q. PLEASE RESPOND TO DR. STAIHR'S DISCUSSION ABOUT HOW THE 10 PERCENT DISCOUNT FOR *A LA CARTE* SERVICE PRICES IS APPLIED IN THE BACE MODEL. (STAIHR REBUTTAL 34)

A. Dr. Staihr's description on this point is muddled (and incorrect). Let me first describe how the BACE model computes revenues, and it will become clearer how the 10 percent discount applies. The model assigns certain customers to bundles and these customers pay the bundled prices that I developed from actual CLEC service offerings. The rest of the customers buy services *a la carte*, and they pay the BellSouth prevailing prices minus a 10 percent discount on local service, including local usage and vertical features. (The installation charge is also waived.) Therefore, the bundle prices reflect the prevailing observed CLEC prices and the *a la carte* prices are discounted from the prevailing ILEC prices, providing a pricing incentive for a customer to switch.

Q. DOES DR. BRYANT CRITICIZE YOUR REVENUE ESTIMATE FOR RESIDENTIAL CUSTOMERS? (BRYANT REBUTTAL 40-41)

A. No, not directly. Instead he re-runs the BACE model using a monthly revenue estimate of $47.25 for residential customers. He does not comment directly on my revenue estimates.

Q. PLEASE COMMENT ON DR. BRYANT'S USE OF THE $47.25 FOR RESIDENTIAL CUSTOMERS.

A. Although he claims in his testimony that he assumes average revenues of $47.25, Dr. Bryant actually uses $46.50 in his model. In any event, Dr. Bryant's figure is unreasonably low because it does not appear to include the possible revenue that the CLEC, executing the most efficient business plan, can attract from serving customers who will purchase DSL services as well as local and long-distance services. For example, in discovery, MCI claimed that its end-user average (qualifying) revenues were between ***[redacted]*** (MCI Response to BellSouth Interrogatory No. 26, p. MCI-000074). Because any results from the BACE model that use the $47.25 do not reflect the most efficient business plan, they cannot be relied upon for making a determination about impairment.

D. PRICE TRENDS

Q. MR. WOOD CLAIMS THAT PRICES WILL CHANGE IN THE FUTURE BECAUSE AREAS WHERE PRICES ARE HIGH AND COSTS ARE LOW ARE LIKELY TO ATTRACT COMPETITIVE ENTRY. (WOOD REBUTTAL 24, STAIHR 35-36) PLEASE COMMENT.

A. As I mentioned, the FCC directs us to use prices that are based on those currently in the market because there would be no end to the disputes about future price trends. Our approach, which keeps both prices *and costs* constant over the forecast period, is more reasonable, and more consistent with the TRO, than is engaging in insoluble debates about price and cost trends.

Q. BUT, ISN'T IT TRUE THAT PRICES THAT ARE ABOVE COST (AS COMPUTED BY THE FCC'S HCPM MODEL) WILL ATTRACT COMPETITION AND SERVE TO REDUCE PRICES IN THE FUTURE? (STAIHR REBUTTAL 35-36)

A. This is another instance where Dr. Staihr attempts to use the conservatism of the BACE modeling approach against itself. Mr. Nilson makes a somewhat similar claim, arguing that a "basic tenet of economics" is that prices decrease. (Nilson Rebuttal 11.) In so doing, both witnesses inadequately describe the nature of the competitive process. I concur that one outcome of competition can be lower prices when prices are substantially above cost. However, if prices already are below the competitive level, competition will not cause them to decrease further. In fact, competition will undermine any existing cross-subsidies and cause below-cost prices to rise to an economically rational level. Moreover, there is a countervailing factor that these arguments completely overlook, and that is the effect, in a competitive market, of product innovation that entices customers to spend more on existing and new products than had been the case before.

One possible effect of product innovation on the part of the efficient CLEC and general technological progress, were we to incorporate it in the model, would be to contribute toward increased revenue per customer over time. This, in turn, would contribute to an increased net present value of the business case, and possibly more "unimpaired" areas. Out of conservatism, the BACE model does not assume that the efficient CLEC will create innovative new products or that it

will derive increased revenues per customer from newly developed products (except through the upward penetration of DSL in the initial years). Instead, we draw from a fixed portfolio of existing products that are available today to customers.

Dr. Staihr's proposal to trend prices downward over time is unreasonable because it addresses only one effect that can occur as competition increases, and it ignores the countervailing effect that innovation can have in increasing customer spending. However, because there is no way, in my mind, to resolve the issue of whether customers of the efficient CLEC will in the future spend more or less on telecommunications services as a result of product innovation and price competition, I conclude that there is no reason to diverge from the FCC's requirement that we base prices on existing prices and not adjust them (or adjust spending per customer) upward or downward in an attempt to reflect the various factors that influence customer spending. It is more principled to determine spending based on existing prices rather than try to project which factors will dominate among the countervailing influences on spending per customer.

In any event, I will also note that no firm conclusions can be drawn from Dr. Staihr's use of the FCC's High Cost Proxy Model ("HCPM"). The HCPM is a forward-looking incremental cost model developed by the FCC to identify high cost areas for purposes of universal service fundings. The model is designed to identify areas that are *relatively* high cost, not to identify all of the costs themselves. Accordingly, the FCC has stated that the HCPM should not be used

for determining or evaluating prices. (See, e.g. Memorandum and Order CC Docket No. 00-217, January 19, 2001, p. 41.)

Q. PLEASE COMMENT ON DR. STAIHR'S RECOMMENDATION THAT PRICES SHOULD BE REDUCED BY 1.5 PERCENT PER YEAR TO REFLECT GAINS IN PRODUCTIVITY. (STAIHR REBUTTAL 37)

A. This is yet another example where Dr. Staihr fails to follow his own advice of using a "structured" analysis. Dr. Staihr claims that such a reduction is consistent with productivity that "normally [would] be passed through to end-users in a competitive market." (Staihr Rebuttal 37.) However, these same productivity gains will also reduce costs. (Indeed, productivity enhancements would only lead to price decreases *if* they reduce costs.) Dr. Staihr's recommendation therefore is biased: he would have us reduce prices to reflect productivity; he says nothing about reducing costs to reflect that same productivity. Rather than engage in fruitless debates about future productivity rates for the efficient CLEC, our approach is to follow the TRO and use prices that are based on currently prevailing prices. Our cost analysis likewise is based on existing, standard technologies and is not trended.

Q. MR. WOOD CLAIMS THAT IT IS "NONSENSICAL" TO COMBINE CONSTANT PRICES WITH A 10-YEAR MODEL. HE CLAIMS THAT CONSTANT PRICES IMPLIES A SHORT-TERM TIME HORIZON FOR THE ANALYSIS. (WOOD REBUTTAL 27) PLEASE COMMENT.

A. This is nonsense. First, as I indicated, there really is no "short term" modeling approach for a going-concern business. Mr. Wood fails to understand what a business case entails. A going concern generates a residual, or terminal value, which represents the discounted net value of the firm for the years beyond the explicitly modeled period. The firm's total value is the sum of the explicitly-modeled part and this terminal value. A shorter explicitly-modeled time horizon does not increase the certainty of the estimates; it simply pushes the uncertainty into the terminal value estimate. Any reduction in the number of years that are explicitly modeled requires an offsetting adjustment on the terminal value for the simple reason that value is neither created nor destroyed simply by the number of years that one chooses to explicitly model.

Second, there is no economic reason (and Mr. Wood has provided no such reason) that a constant price assumption implies that a shorter-term explicit model should be used. As I indicated, the total value of the firm should not change simply because the number of explicitly-modeled years is reduced.

The fact that Mr. Wood failed to express his views on the interaction of explicitly-modeled years and the terminal value leads me to conclude that, possibly, he is uninformed of the role that the terminal value plays in a business case analysis. There is no credible economic theory or process that would change the NPV of a project or going concern simply by lopping off some of the years where value is created.

Q. MR. WOOD CLAIMS THAT INTERSTATE TOLL PRICES HAVE DECREASED BY 5.1 PERCENT PER YEAR DURING THE 10-YEAR PERIOD FOLLOWING DIVESTITURE. (WOOD REBUTTAL 27) IS THIS USEFUL INFORMATION FOR THE POSSIBLE PATH OF LOCAL SERVICE PRICES?

A. Absolutely not. Dr. Staihr makes this same, incorrect argument as well. (Staihr Rebuttal 37-38.) Many will recall that over the past decades, access charge reform changed the way common line costs were recovered, and that this reduced toll costs and prices. Access reform entailed the movement from a per-minute-of-use charge levied on long-distance carriers to a monthly recurring end user common line charge ("EUCL") directly paid by local service end users (as well as a flat-rate charge charged to the carriers). Access charge reform was a regulatory exercise that removed cost recovery from long-distance service variable costs. According to the FCC, from 1984 to 1994, interstate switched access charges decreased by nearly 9 percent per year. Access charges account for a substantial portion of long-distance costs (by one estimate about 40 percent of AT&T's consumer long-distance division's costs), so the access charge decreases made a substantial contribution to overall cost and price decreases. Neither Dr. Staihr nor Mr. Wood appear to consider access reform, and so their claims about long-distance pricing are inapplicable indicators of what might occur for local exchange services.

In sum, there is no probative value to the quantitative historical trend of long-distance prices, as presented by Mr. Wood, relative to the future price path of local exchange services at issue in this proceeding. The fact that Mr. Wood finds that NPVs are "significantly reduced" if a 5.1 percent price decrease is applied over the 10-year horizon of the BACE model should come as no surprise. (Wood Rebuttal 29.) However, Mr. Wood's number is based on an inapplicable comparison and has not been shown to apply to local exchange service. Moreover, while Mr. Wood seeks to reduce prices, he does not make any corresponding adjustment for costs that reasonably might decrease over the 10-year time horizon.

Q. DO THE DECREASES IN WIRELESS PRICES PROVIDE A USEFUL BENCHMARK AS TO WHAT MIGHT OCCUR WITH LANDLINE TELEPHONE PRICES IN THE FUTURE? (STAIHR REBUTTAL 37-38)

A. No. Unlike landline residential service prices, wireless prices were not regulated during the 1994 to 2002 period that Dr. Staihr investigates. There is no reason why the price trends of services that started at an unregulated, potentially supra-competitive level and fall over time should tell us anything meaningful about price trends of services that have been highly regulated for many years, and which, in some instances, may be below the competitive level. Moreover, fundamental changes in wireless technology occurred during that time (particularly, the transition from analog to digital service) that affected the cost of

providing wireless services, and we have not modeled any such changes in wireline technology in the BACE model.

E. SERVICES OFFERED

Q. MR. WOOD ARGUES THAT THE RANGE OF SERVICES CONSIDERED IN THE BACE MODEL SHOULD BE WHAT THE CLEC SEEKS TO OFFER, NOT WHAT BELLSOUTH THINKS CLECS SHOULD OFFER. (WOOD REBUTTAL 10, 46-47) PLEASE COMMENT.

A. At pages 46 and 47 of his rebuttal testimony, Mr. Wood claims that it is inappropriate to consider "non-switched services" (or donuts) that might be used "in order to help pay for the switch." I take it that Mr. Wood is referring to DSL service, which is a non-switched service that can be provided over the same loop that provides switched voice services. The TRO itself provides clear guidance as to what services, including data, should be considered potential revenues in a potential deployment analysis. "The state must also consider the revenues a competitor is likely to obtain from using its facilities for providing *data* and long distance services and from serving business customers." (TRO 519, emphasis added.)

In any event, a simple example will show the error of Mr. Wood's argument. Exhibit DJA-09 illustrates that a CLEC may find it uneconomic to offer either voice service or DSL service alone, but may find that it is economic (i.e., the

CLEC can earn zero economic profits) if it offers both. The reason is that there may be *economies of scope* in offering switched and unswitched services. As shown in my example, these economies are the result of the common use of the local loop.

The example shows that the profitability of both services benefits from the existence of, and the CLEC's recognition of, scope economies. An efficient CLEC will recognize instances where economies of scope exist, and it will take advantage of them. There is no reason to artificially crimp the potential deployment analysis by failing to recognize the scale and scope economies and any other advantage available to an efficient CLEC. Mr. Wood pejoratively scoffs at the notion that the CLEC should engage in a fundraiser by selling donuts on a street corner to help pay its switching costs. Of course, this absurd example illustrates an instance where there are no economies of scope (one presumes) between providing telecommunications services and providing donuts.

Mr. Wood plays lightly with the Commission's time by creating a misleading example and by failing to address the genuine issue of economies of scope that should be considered when evaluating the profit opportunities open to an efficient CLEC. My simple example demonstrates the power that such economies can have. Economies of scope can provide a way of changing the results of a business case from one that appears to have no promise in *either* voice or DSL service, to one that appears to offer an economic return if *both* are offered. This is the issue

that this Commission should consider, and not examples that treat this proceeding as a farce.

F. CHURN

Q. PLEASE COMMENT ON DR. BRYANT'S CLAIM THAT ANY INPUT TO THE CLEC MODEL (REGARDING CHURN) THAT RELIES EXCLUSIVELY ON THE ACTUAL EXPERIENCE OF UNE-P FIRMS WILL BE UNDERSTATED. (BRYANT REBUTTAL 38)

A. Dr. Bryant claims that churn based on the experience of UNE-P-based carriers will be understated for the same reasons that he provided in his discussion of market share. These reasons were (1) BellSouth winback programs; (2) CLEC service prices; (3) CLEC service quality; (4) the availability of hot cuts; (5) the ability of the CLEC to bring new services to market; (6) the costs of those new services; and (7) the ability or inability of the CLEC to offer broadband using the ILEC's new infrastructure capabilities. (Bryant Rebuttal 37.) However, Dr. Bryant actually engages in mere hand waving because he does not discuss these factors at all as they relate to churn, and he certainly does not explain why *all* of these factors would lead to an understatement of churn that is based on the experience of UNE-P providers. A closer examination shows that this claim has no basis.

For example, there is no reason to believe that ILECs' winback offers affect a switch-based CLEC any differently than it affects a UNE-P-based CLEC (and Dr. Bryant fails to explain why it would). Indeed, this would conflict with Dr. Bryant's argument in his direct testimony that a switch-based CLEC would have the incentive to reduce its price below that of a UNE-P-based CLEC in order to retain customers. (Bryant Direct 81-82.) The theory is flatly inconsistent with his discussion on churn.

It also appears that a number of the other factors cited by Dr. Bryant may be associated with *lower*, not *higher*, churn for a switched-based CLEC than might be observed with UNE-P providers. For example, a switch-based CLEC has more control of its own service quality than does UNE-P CLEC simply because it has a reduced reliance on the ILEC network. The switch-based CLEC also has the incentive and ability to manage its switching resources so as to reduce costs, perhaps by investing in a newer generation of technology. (Although the BACE model considers a CLEC that uses traditional circuit switching technology, a real-world CLEC may elect to use more advanced packet switches, if these are less costly.) Finally, a switch-based CLEC can implement new products without working through a third party (i.e., the ILEC) to do so. In sum, a switch-based CLEC has more control of quality, better ability to manage costs, and an enhanced ability to offer new services than does the UNE-P-based CLEC, which reasonably would suggest lower, not higher churn.

Q. MR. WOOD ARGUES THAT YOUR USE OF AN "INDUSTRY-WIDE CHURN RATE" REFLECTS THE EXPERIENCE OF ILECS (AS WELL AS CLECS) AND IS THEREFORE BIASED LOW BECAUSE THE ILEC BASE OF CUSTOMERS IS UNLIKELY TO CHANGE PROVIDERS. (WOOD REBUTTAL 44) PLEASE COMMENT.

A. Mr. Wood's argument is misleading because he fails to tell the whole story. Mr. Wood cites to page 34 of my direct testimony as using an "industry-wide churn rate." A casual reading of that paragraph shows that I am discussing the results of a Morgan Stanley survey of *business customers*. Thus, Mr. Wood's (unsupported) conclusion that my proposed churn rates are understated because of "the presence of a base of [ILEC-served] customers who are unlikely to change providers in response to competitive alternatives," (Wood Rebuttal 44.) fails to note that these are *business customers* that he is talking about.

This is an important omission because business customers are unlikely to have an irrational bias against changing providers. Businesses can be expected to make a rational evaluation of a CLEC's service offering, and it is safe to assume that they generally are among the more savvy telecommunications services end-users. Businesses have the incentive, especially in this economy, to aggressively manage their costs and resource use. Any churn rate related to business customers is not biased either way by including the ILEC experience with its business customers. Moreover, the *efficient* CLEC should be able to reduce its churn rate to that of the

ILEC for business customers through, e.g., term contracts, superior service, and the like.

Q. DO YOU HAVE ANY COMMENTS REGARDING MR. WOOD'S DISCUSSION OF YOUR ESTIMATE FOR "CHURN"?

A. Yes. My recommended churn rate for residential customers is 4 percent, which is the same rate that Z-Tel experienced, according to investment analysts, and it is also the same rate that Z-Tel told the FCC that it experienced. (TRO 471.) Moreover, according to the FCC, Z-Tel claims that "carriers in a competitive market cannot expect to keep any particular customer for more than 18-24 months," (TRO 471) which implies a monthly churn rate of 2.9 to 3.9 percent. As I noted in my direct testimony, an investment analyst estimates that AT&T's own local experience is on the order of 4.6 percent. It is entirely disingenuous to suggest that an efficient CLEC cannot attain a 4 percent churn rate for its residential customers.

Q. MR. WOOD CLAIMS THAT RELIANCE ON WIRELESS CHURN RATES IS "MISPLACED" BECAUSE THE WIRELESS INDUSTRY HAS (TO THIS POINT) HAD NO NUMBER PORTABILITY AND BECAUSE IT USES TERM CONTRACTS. (WOOD REBUTTAL 44) PLEASE COMMENT.

A. I specifically examined the issue of number portability in my direct testimony (although Mr. Wood does not acknowledge this in his rebuttal testimony). On page 31 of my direct testimony, I explained that analysts at Banc of America Securities held the view (with which I agree) that wireless churn was indicative of local churn; though local churn may be higher due to number portability. Wireless churn is on the order of 2.6 percent. I recommend a residential churn rate of 4 percent, or some 54 percent higher than the wireless churn rate. This is in line with the 4.6 churn rate that Banc of America estimates for AT&T's own local services (which may not be an efficient CLEC). It is also in line with the estimate of a Morgan Stanley investment analyst report that I noted on that same page (page 31) of my direct testimony. Finally, I noted in my testimony that at least one analyst estimates that wireless number portability will increase wireless churn rates by about 50 percent, which will put them at about 4 percent, or, in other words, about the same as my estimate for an efficient CLEC serving its residential customers.

The efficient CLEC can reduce churn by introducing attractive, useful new services, pricing plans, billing options, and the like that the ILEC does not offer. Thus, churn is at least in part a management issue—it is a cost that a carrier actively must try to manage. I find it very disingenuous, and smacking of a defeatist self-pitying attitude to argue, as Mr. Wood does, that the ILECs "effectively dictate CLEC churn rates" going forward. (Wood Rebuttal 44.)

G. SALES COSTS

Q. MR. WOOD CLAIMS THAT THERE IS A MISMATCH BETWEEN CUSTOMER ACQUISITION COSTS, WHICH APPLY TO A NARROW RANGE OF SERVICES, AND THE BROAD RANGE OF CUSTOMER SERVICES THAT THE MODELED CLEC IS SAID TO OFFER. (WOOD REBUTTAL 49) PLEASE COMMENT.

A. I disagree. First, this argument cannot apply to business customers, because my recommendation for customer acquisition costs is expressed as a multiple of first-month's revenues. Thus, the broader or more expensive the services, the higher is the implied customer acquisition cost. For residential customers, however, I propose a flat $95 per customer location. My recommendation of residential acquisition costs of $95 is sufficient to accommodate the entire portfolio of services. First, my parameter value is based on the experience of existing UNE-P-based firms such as Z-Tel (which has a target of $50) and Talk America (whose actual costs are estimated to be $80). My parameter value of $95 is substantially higher than either. Moreover, as I explained in my direct testimony, Hazlett and Havenner describe why existing UNE-P-based firms that operate in areas that legitimately are unimpaired have the incentive to inefficiently increase their customer acquisition costs. Therefore it may be the case that Talk America's customer acquisition costs are inefficiently high.

Moreover, I can demonstrate that my proposal is sufficient to accommodate customers who order DSL as well as voice services. Consider the example that I show in Exhibit DJA-10. This exhibit shows that customer acquisition costs, based on the Z-Tel and Talk America figures, are on the order of $50 to $80. I compute an incremental customer acquisition cost associated with DSL from data provided by Dr. Bryant. For those customers who obtain *both* voice and DSL service from the efficient CLEC, customer acquisition costs should be on the order of $150 to $180. In the BACE model, this represents approximately 15 percent of a CLEC's customers. The other 85 percent obtain voice services only. Thus, the weighted average customer acquisition cost for the portfolio of services should be on the order of $64 to $95 for the average customer, yet the BACE model applies $95 to *every* customer.

Q. PLEASE RESPOND TO DR. BRYANT'S ADDITIONAL CRITICISMS OF YOUR CUSTOMER ACQUISITION COSTS. (BRYANT REBUTTAL 38-39)

A. Dr. Bryant makes several claims. He says that my customer acquisition costs are based on the Z-Tel experience. (Bryant Rebuttal 38.) This is only partly true. I considered customer acquisition costs for Z-Tel, Talk America, and AT&T as shown in Exhibit DJA-06, all of which are wireline, local exchange providers. (Moreover, this applies only to residential acquisition costs.)

Dr. Bryant then claims that his sources range from $80 to $400. He says that these are from the "same types of sources" that I used. (Bryant Rebuttal 39.) That is not true. According to Dr. Bryant, the $400 estimate is for a *wireless provider*. I did not consult wireless providers to create my estimate because the differences between the wireline and wireless industries on this particular dimension invalidate any simplistic comparison of customer acquisition costs. As should be well known, wireless providers often underwrite the cost of the handset. Neither Dr. Bryant nor Dr. Gabel appears to make any adjustment for that. This invalidates any simple, direct use of wireless providers as indicators of customer acquisition costs for an efficient wireline CLEC. Moreover, as I indicated, wireless churn is on the order of 2.6 percent per month, which is substantially less than the 4 percent for residential customers that the BACE model uses. Accordingly, wireless providers reasonably can afford to spend more on customer acquisition, since their average customer stays with them half-again as long as does the efficient CLEC's customer (i.e., 27 months versus 17 months).

The one item of Dr. Bryant's that corresponds to some of my data is the claim that Z-Tel's customer acquisition costs are on the order of $80. This is reasonably consistent with the estimate that I obtained for Z-Tel of $60-70, with a management goal of $50. (See Exhibit DJA-06) I will note that this is about the same as the Talk America experience, and it is about 15 percent less than my recommendation. But, Dr. Bryant is recommending $130. *None* of the CLEC data that Dr. Bryant considers (Dr. Gabel's or my own) provides him with any legitimate support for his $130 customer acquisition cost. It is only by

misapplying the wireless experience that he is able to "justify" his recommendation.

Q. DR. BRYANT CLAIMS THAT CUSTOMER ACQUISITION COSTS ARE "UNKNOWABLE" IN A POST UNE-P MARKET. (BRYANT REBUTTAL 39) PLEASE RESPOND.

A. As I noted earlier in this testimony, complete and absolute certainty is not required to make a reasoned and reasonable estimate of customer acquisition cost, or any other variable required for the potential deployment analysis. Dr. Bryant returns to this argument to advocate running "scenarios" where the customer acquisition costs in a post-UNE-P market substantially exceed those for UNE-P-based firms. (Bryant Rebuttal 39.) In making this argument Dr. Bryant does not try to rebut, nor does he even mention, the Hazlett and Havenner discussion. Because he does not address this, he cannot legitimately claim that customer acquisition costs for a switch-based CLEC will "substantially exceed" those of UNE-P-based firms.

Moreover, the CLECs themselves do not appear to support Dr. Bryant's claim. MCI submitted to the FCC an *ex parte* study that purported to compare the incremental cost of the change from serving residences via UNE-P to UNE-L. The study excluded marketing and customer service costs, which indicates that the modelers did not see fit to change them (i.e., increase them for a UNE-L provider).

Q. PLEASE COMMENT ON MR. DICKERSON'S CLAIM THAT THERE SHOULD BE MORE GRANULARITY IN THE SALES EXPENSE THAT YOU UTILIZE. (DICKERSON REBUTTAL 19-22)

A. Certainly Mr. Dickerson cannot be referring to the sales expense that I propose for business customers. Business customer sales expense is computed as a percent of customer location revenues. As a result, our analysis provides sales expenses at the same granularity as revenues.

I disagree that there needs to be any additional granularity for residential customers. Dr. Bryant's approach does not consider any additional granularity in customer acquisition costs, for example. Moreover, my recommendation is at the same level of granularity that is used by investment analysts who seek to make recommendations about potential investments. The BACE model is likewise designed to determine the value of switch-based entry in a market and determine whether investors would be disposed to providing the capital needed for such entry. Because of the similarities in the issues that are being addressed in the BACE model and by investment analysts, it is reasonable to use the same level of granularity in BACE as is used by these analysts in their valuation models.

Moreover, Mr. Dickerson's own analysis illustrates precisely why granularity for its own sake does not guarantee reasonableness. Mr. Dickerson claims to have performed a detailed analysis of Sprint's "customer sales costs." He concludes

that these costs are on the order of ***[redacted]***, or some ***[redacted]*** the *existing* customer acquisition costs of firms such as Z-Tel and Talk America. They are nearly ***[redacted]*** the amount recommended by Dr. Bryant, and nearly ***[redacted]*** that noted by analysts as pertaining to AT&T. Mr. Dickerson does not even attempt to reconcile his results with any of these figures, perhaps erroneously concluding that because they were developed on a "granular" basis that this alone verifies their merit. Nor does Mr. Dickerson indicate how these extreme results can be reconciled with the requirement that we model an efficient CLEC executing the *most efficient* business model. Mr. Dickerson's figures are of no value.

Q. MR. DICKERSON LISTS A NUMBER OF ITEMS SUCH AS ORDER MANAGEMENT, THIRD-PARTY VERIFICATION, AND ORDER PROCESSING THAT HE CLAIMS SHOULD BE INCLUDED AS CUSTOMER ACQUISITION COSTS. (DICKERSON REBUTTAL 21-22) DOES YOUR PROPOSED ESTIMATE INCLUDE THESE?

A. My recommendation is sufficiently conservative that all of the costs associated with customer acquisition (and for G&A expenses) for an efficient CLEC are adequately accounted for in the NPV business case. I have already described the derivation of my customer acquisition cost figure and described why it is conservative. I will address G&A expenses in the following section. The main point is that Mr. Dickerson has demonstrated that the "bottom up" approach is no guarantee for a reasonable estimate of customer acquisition cost, and that my own

is very much a mainstream, if not a conservative estimate. I will demonstrate that the costs that I have included for G&A likewise are generous.

Q. MR. DICKERSON SAYS THAT YOUR CUSTOMER ACQUISITION COST ESTIMATE EXCLUDES TELEVISION ADVERTISING. (DICKERSON REBUTTAL 21) PLEASE RESPOND.

A. Mr. Dickerson is being disingenuous. As I noted in a footnote of my exhibit, one of the figures (related to Z-Tel's management target of customer acquisition costs of $50) may exclude television advertising. However, the other estimates are not qualified in any way. For example, analysts estimated Talk America's customer acquisition costs at $80, and this is made without any qualification. My own estimate is $95, which is 90 percent greater than the Z-Tel management goal and about 20 to 35 percent greater than the Talk America amounts, which, as I mentioned, are not qualified regarding television (or any other) advertising. I would also note that general brand advertising, including brand advertising or television, is included in my G&A category. To the extent the analysts or carriers are including television advertising in their estimates of customer acquisition costs, I may be double-counting them.

H. G&A

Q. DR. ARON, YOU RECOMMEND THAT G&A EXPENSES BE MODELED AS A PERCENTAGE OF REVENUE, AS DETERMINED FROM AN

ANALYSIS OF ILEC DATA. PLEASE DESCRIBE WHY SUCH AN ANALYSIS SHOULD APPLY TO THE G&A COSTS OF AN EFFICIENT CLEC. (WOOD REBUTTAL 49-50)

A. There are two important countervailing advantages that suggest that the G&A expenses associated with an efficient CLEC can reasonably be equal to or even less than those of ILECs. First, as I have noted, the CLEC that we have elected to model is a new entrant into the market. This provides us with a very conservative starting point because, in reality, CLECs are not new entrants, they have an existing base of operations and some, such as AT&T and MCI, are substantial firms in their own right. These firms have the ability to serve multiple markets and to adjust their G&A resources accordingly. It is reasonable that they should be able to at least meet the traditional cost structure of the ILEC. Thus, an evaluation of an estimate of G&A expenses should keep in mind the reality that the efficient CLEC reasonably could be modeled as part of a much larger firm, such as AT&T or MCI, and that these larger firms should be able to efficiently adjust the resources that they devote to G&A in the various markets that they serve. I would also note that my analyses included large and small ILECs, not only the four major ILECs.

From an entirely different perspective, there are countervailing advantages that are open to a smaller CLEC. A smaller, efficient CLEC that does not bear the regulatory burdens of an ILEC may be able to implement a more streamlined organization than the ILECs traditionally have had. Thus, providing the efficient

CLEC with G&A expenses that have the same percent of revenue as the ILEC's is reasonable.

In addition to these countervailing advantages, I will also add that the method of analysis that I used to determine the appropriate ratio for the efficient CLEC was based on the accounts from the ILEC data that CLECs normally include in their own G&A expenses. In this way, I ensured that there was comparability between the type of G&A expenses that were being measured and their applicability for the efficient CLEC.

Mr. Dickerson claims that my estimate is wanting because it does not assume non-scalability (i.e., economies of scale). (Dickerson Rebuttal 15.) However, I noted that the academic literature did not support the notion of scale economies in G&A, so, rather than make an unsupported claim (as Mr. Dickerson does), I tested whether G&A expenses exhibited scale economies using statistical techniques on data from both large and smaller ILECs. My empirical analysis did not indicate a statistically significant, positive intercept on the regression of revenues and G&A expenses (an indicator of scale economies). As a result, in my view, it is unreasonable to model an "efficient" CLEC by assuming, against both theory and hard evidence, that the CLEC will have higher overheads than will the incumbents.

Q. MR. DICKERSON CLAIMS THAT YOU OFFER A "MEAGER DISCUSSION" IN SUPPORT OF YOUR G&A RECOMMENDATION. (DICKERSON REBUTTAL 13-14) PLEASE RESPOND.

A. I provided a lengthy and detailed discussion of my results in response to Sprint's interrogatories. The academic literature was provided to Mr. Dickerson in response to Sprint 1st Request for Production of Documents No. 25. My analysis of empirical research was described and provided to Mr. Dickerson in the response to Sprint 1st Request for Production of Documents Nos. 17, 18, 19, and 25. All in all, I produced scores of pages of supporting and explanatory documents on this issue.

I. CREAM SKIMMING

Q. PLEASE RESPOND TO MR. WOOD'S DISCUSSION ON CREAM SKIMMING. (WOOD REBUTTAL 33-35)

A. Mr. Wood devotes considerable attention to the issue of cream skimming. Remarkably, he claims that CLECs do not engage in cream skimming. He tries to draw a meaningless distinction between what he would call cream skimming (which he says refers to the results of, e.g., marketing programs to draw the most profitable customers) and customer self-selection, which, as I will describe, is simply another way of implementing cream skimming. In any event, in a separate docket in Texas, one of AT&T's witnesses, Phillip L. Gaddy, admitted the

obvious, that cream skimming (or what Mr. Gaddy referred to as "cherry picking") is "simple business common sense." (Gaddy Rebuttal Testimony before the Public Utility Commission of Texas, Docket No. 28600, January 5, 2004, p. 20.)

On page 34 of his rebuttal testimony, Mr. Wood presents a discussion of marketing activity that he claims is not cream skimming. He argues that a disproportionate number of the more profitable long-distance customers "self-selected" themselves and left AT&T, because they could obtain greater savings elsewhere. (Wood Rebuttal 34.) This admission succinctly describes the use of pricing plans to skim the cream. Pricing plans are a very common, powerful, and efficient way to cream skim. Indeed, if Mr. Wood had more carefully read my direct testimony he would have seen that in discussing the issue of "countervailing advantages" that are available to CLECs, I described precisely the situation that Mr. Wood observed in the long-distance businesses:

> The ability to target attractive customers selectively is one such advantage that CLECs have exploited in reality and is highlighted in the TRO (. . .). For example, suppose a CLEC determines that it is only profitable to sell to customers who spend at least $60 on local service, features, and long-distance service. The CLEC would then enter the market with a $60 service bundle so that, by self-selection, most of the customers acquired would be profitable. (Aron Direct 20.)

These price plans skim the cream because they are meant to discourage customers that spend substantially less than $60 on local service, features, and long-distance services from subscribing with the CLEC. In other words, the CLEC in my example did not seek to "identify" customers in the normally-understood sense of that term (e.g., actively calling them or looking for them), nor did it create a "marketing plan" in the sense of hailing high-spending customers. The CLEC simply designed its prices to attract high-profit customers (those that spend at least $60) and discourage low-profit customers (those that spend far less than $60) and let the customers skim themselves. This is cream skimming, and Mr. Wood admits to this strategy. Mr. Wood apparently seeks to draw some type of distinction between marketing to higher-spending customers and customers "self-selecting," based on the design of the offer's price, as if there were some type of meaningful difference between the two. For purposes of the BACE model, there is not.

Q. DO ANY OF THE OTHER WITNESSES CONFIRM THAT AN EFFICIENT CLEC CAN TARGET CUSTOMERS?

A. Yes. Dr. Staihr claims that CLECs "can and do tailor their product offerings," and that they do so in such a way as to "attempt to attract the more profitable customers throughout the entire market." (Staihr Rebuttal 18.) And, as I noted, AT&T has hardly been a model of consistency on this topic, admitting it in one proceeding and denying it in another.

Q. HOW CAN MR. WOOD ARGUE THAT CLECS THAT SELF-PROVISION SWITCHES DO NOT HAVE AN INCENTIVE TO CREAM SKIM? (WOOD REBUTTAL 35-36)

A. The argument is incorrect. Mr. Wood argues that a CLEC has the incentive to "obtain all customers served by [a] wire center." (Wood Rebuttal 35.) Mr. Wood also claims that a CLEC will seek to serve as many customers as it can as quickly as possible. Both of these reasons are nonsense.

Quite plainly, a CLEC has absolutely no incentive to serve customers that do not provide the CLEC with a positive contribution over their expected lifetime of service. Moreover, the prices of packages that I observed marketed on web sites indicates that the CLECs offered bundles on the order of $50 rather than bare-bones local service. The higher-priced bundled packages may be offered to everyone, but the packages are *specifically designed to dissuade* those who only wish to purchase bare-bones local service, and instead they are specifically designed to appeal to those who spend substantially more. (They may also attract those who, on average, currently may spend somewhat less than the offered price, but want the assurance and safety of a flat rate, or value the additional services more than their incremental price.)

Q. BUT, IS IT NOT TRUE, AS MR. WOOD ARGUES, THAT A LOW-SPENDING CUSTOMER IS BETTER THAN NO CUSTOMER AT ALL? (WOOD REBUTTAL 37.)

A. Not necessarily. If it costs $50 to acquire a new customer, but that customer contributes only $40 in margin (i.e., revenues less variable costs) over his or her tenure with the CLEC, then it is more costly to the CLEC to obtain that customer than to have no customer at all. Such a customer does not help the CLEC contribute to the recovery of large fixed costs; instead, that customer becomes a cash drain on the firm and contributes negative value (or NPV).

J. BAD DEBT

Q. PLEASE COMMENT ON MR. DICKERSON'S BAD DEBT ASSUMPTION. (DICKERSON REBUTTAL 24)

A. Mr. Dickerson simply claims that his bad debt assumptions represent the experiences of Sprint's Mass Market CLEC ventures to date. (Dickerson Rebuttal 24) That may be so, but he presents absolutely no evidence that the huge bad debt rates that he recommends are efficient or that this would reasonably represent the rate for an efficient CLEC.

Managing bad debt is important because failure to receive payment for service exerts a double whammy: it is both a loss of revenues that falls to the bottom line,

and it implies that the CLEC incurred costs to provide service that was never paid for. Thus, it is very important for firms to manage bad debt, and it is unreasonable to consider as part of an "impairment" analysis the fact that a CLEC might fail to properly manage this very important cost with reasonable efficiency.

I arrived at my recommendation (of 2.75 percent of revenues) by examining the bad debt experience of the ILECs, including BellSouth, and several of the CLECs. I found that ILEC bad debt is substantially lower than that of the actual CLECs. I believe that actual CLEC performance in the recent economy does not reflect what an *efficient* CLEC would be capable of in a normal economy.

To determine a reasonable bad debt-to-revenue ratio, I examined the performance of ILECs over time and across the industry. ILECs may be representative because they serve a broad category of customers. I obtained revenue and bad debt data for the ILECs from the ARMIS 43-01 database for the periods 1990 through 2002. I computed uncollectible rates (i.e., uncollectibles divided by operating revenue) for total operations and for both the interstate and intrastate segments that comprise the total by company study area. I observed that the RBOC uncollectibles varied during this 13-year period, and, in particular, uncollectibles (relative to revenue) increased in 2001 and 2002 for each RBOC. I reviewed the SEC Form 10-K discussions on bad debt and found that the increase was said to be due to CLEC bankruptcies (and in particular, the WorldCom bankruptcy) and also to the slower economy. One might reasonably expect bad debt to be counter-cyclical (i.e., bad debt increases as a proportion of revenue as the economy

weakens), but it is unreasonable to assume that the slow economy of 2000-2002 will endure throughout the next 10 years. Moreover, it is likewise inappropriate to develop a bad debt parameter estimate on the basis of the effects from the massive WorldCom bankruptcy. The relevant bad debt pertains to the retail market, not the ILECs' wholesale markets.

Additionally, the CLECs that I examined had uncollectible percentages that ranged from 2 to 5 percent over the last 6 years. The CLECs also showed much more volatility than the ILECs did. To account for this volatility, I add a premium to the ILEC uncollectible base rate, and determine that a reasonable long-term rate would be 2.75 percent.

K. DSL CROSS-PENETRATION

Q. MR. BRADBURY CLAIMS THAT YOUR PENETRATION RATES FOR DSL FOR RESIDENCES AND FOR SMALL ("SOHO") BUSINESSES ARE TOO HIGH. (BRADBURY REBUTTAL 27.) PLEASE COMMENT.

A. My assumption of a 15 percent residential penetration rate for DSL and 25 percent penetration for SOHO customers for the efficient CLEC is well within the mainstream expectations for broadband penetration. First, the 15 percent residential penetration (and the 25 percent SOHO penetration) is an "input" to the BACE process. The model computes the 15 percent (or 25 percent) penetration *only on DSL compliant loops*. Thus, actual, effective penetration is less than 15

(or 25) percent. In other words, if only 75 percent of the residential loops in a wire center can support DSL, the actual (or "output") penetration rate for residential DSL would be about 11 percent (i.e., 75 percent x 15 percent).

Moreover, Mr. Bradbury's only evidence supports his claim that my estimates are too high is his observation that BellSouth's "current penetration rate" for its retail FastAcces Service is approximately 6 percent. Even Mr. Bradbury's data appear too low. Mr. Bradbury does not state when that particular penetration rate was computed, but I will note that it is some 25 percent lower than the 8 percent penetration rate for DSL that the Florida Commission's Office of Market Monitoring and Strategic Analysis reports for BellSouth. ("Annual Report on Competition: Telecommunications Markets in Florida as of June 30, 2003," Florida Public Service Commission—Office of Market Monitoring and Strategic Analysis, p. 41.)

The Commission's study also provides data that show a compound average growth rate for DSL of approximately 120 percent per year between December 2000 and December 2002 (Annual Report 39.) and that DSL accounted for only 40 percent, in round numbers, of total broadband connections (cable and other accounted for the balance) (Annual Report 39.) Such growth strongly indicates that the use of current penetration figures is not a reasonable way to estimate future DSL penetration. Indeed, a study by Cahners In-Stat suggests that DSL revenues will increase by 54 percent per year through 2005. (Cahners In-Stat, "U.S. Residential DSL Market Continues to Grow," October 2001, p. 2.) It also

indicates that CLECs have the potential to compete for cable modem customers, where the serviceable properties overlap.

The growth potential applies to small businesses as well. As long ago as 1999, firms with 1-4 telephone lines, 47.8 percent had access to the Internet through dial up or high-speed means. (U.S. Small Business DSL Services Market Assessment and Forecast, 1998-2003, International Data Corporation, October 1, 1999, p. 12) This represents an opportunity for CLECs to market broadband services. BellSouth proprietary data regarding DSL penetration for its smaller business customers, which I reviewed, showed that as of August 2003, there was penetration ***[redacted]***

Finally, Mr. Bradbury ignores the fact that the efficient CLEC, executing the most efficient business model, can target customers who are more likely to want broadband along with their voice service. This permits the efficient CLEC to increase the proportion of *its* customers who have DSL even beyond the overall market penetration rate. Such targeting appears to be occurring with real-world CLECs. According to computations that I made based on DSL penetration data from Cahners In-Stat and overall line penetration data (for approximately the same period of 2001) from the FCC, CLECs (including IXCs) served about 15 percent of DSL lines, while according to the FCC, CLECs accounted for about 9 percent of total lines. This indicates an above-average propensity for CLEC voice

customers to subscribe to DSL. Thus, the penetration rates that I recommend for residences and SOHO (which do not increase above 15 percent for residences, or above 25 percent for SOHO customers) are conservative and consistent with these observations.

L. CLEC PURCHASING POWER

Q. MR. DICKERSON CLAIMS THAT A CLEC MAY NOT HAVE THE SAME PURCHASING POWER AS BELLSOUTH, AND SO WOULD PAY $1.25 FOR EVERY $1.00 THAT BELLSOUTH WOULD PAY FOR EQUIPMENT. (DICKERSON REBUTTAL 18) PLEASE COMMENT.

A. Mr. Dickerson's adjustment is bogus because Mr. Dickerson does not account for any countervailing advantages that might be available to an efficient CLEC. For example, the efficient CLEC may be part of a much larger organization, such as an AT&T, MCI, or Sprint. Certainly, Mr. Dickerson provides no evidence, other than his personal claims, that a CLEC (including, presumably, CLECs as large as Sprint or AT&T) would pay 25 percent more to its vendors than does BellSouth. In addition, CLECs may be able to use newer, lower cost technologies. The FCC requires that the CLEC use the *most efficient* network architecture available. I will let others discuss the nature of new technologies that are currently available to CLECs, but I will note that to be conservative, we did not model new technologies. Nevertheless, a real-world CLEC may have these technologies and this would argue for a lower cost multiplier. Finally, the fact is that ILECs have

vastly cut back their equipment purchases. Vendors are hurting from this drop in demand for their products and would suggest that they would be particularly eager, in this environment, to compete for new sources of demand. The new sources of demand would be the CLECs. All of these represent countervailing advantages that Mr. Dickerson totally ignores. I believe it most reasonable to simply acknowledge that there are challenges and countervailing advantages to being a CLEC, rather than artificially inflating the efficient CLEC's costs through the purchasing multiplier.

Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

BELLSOUTH TELECOMMUNICATIONS, INC.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

SUPPLEMENTAL TESTIMONY OF

DR. DEBRA J. ARON

FEBRUARY 23, 2004

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Debra J. Aron.

Q. ARE YOU THE SAME DEBRA J. ARON WHO FILED DIRECT, REBUTTAL, AND SURREBUTTAL TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHY ARE YOU FILING SUPPLEMENTAL TESTIMONY?

A. My supplemental testimony rebuts the arguments made by Sprint's witnesses Dickerson and Londerholm filed on February 20, 2004 regarding certain inputs in the BACE model; specifically, OSS expenses and G&A assets.

Q. DID YOU PROVIDE THESE INPUTS TO THE BACE MODEL?

A. Yes, I did.

Q. DO YOU HAVE ANY PRELIMINARY COMMENTS ON SPRINT'S TESTIMONY REGARDING THESE INPUTS?

A. Yes. Sprint is incorrect in its criticisms, and I will respond to each specific criticism below. But I would like to also point out that these two inputs are very minor items in the overall model. Based on my knowledge of the model, neither of these inputs is key to the results, and either could be off by a significant factor and the results – the list of markets in which CLECs are unimpaired – would be unchanged. Sprint's testimony on these inputs strikes me as more of a diversion than substantive.

Q. PLEASE COMMENT ON MR. DICKERSON AND MS. LONDERHOLM'S CLAIM THAT THE OSS EXPENSES ARE "SEVERELY UNDERSTATED." (DICKERSON AND LONDERHOLM SUPPLEMENTAL TESTIMONY, 12.)

A. Given the parameter values for both OSS and G&A that I recommend, if anything, the BACE model over-accounts for OSS expenses. First, I have indicated in my earlier testimony, I developed the G&A expenses from a statistical evaluation of the ILEC experience. ILECs incur significant OSS costs related to loops and transport, which are already accounted for in the price of UNE-L, and for private line and special access services that the modeled CLEC does not offer, and I did not remove any of these (or any other) OSS-related expenses from the data that I used in my analysis. Accordingly, one should recognize that this alone accounts for OSS expenses, in particular, those expenses incurred on an ongoing basis to administer the OSS system. Second, we provide an up-front amount for the construction of an OSS system for the modeled CLEC.

The up-front amount was provided in an MCI *ex parte* to the FCC in the Triennial Review proceeding, which claimed that it required a $30 million one-time system-wide investment for the OSS system. The purpose of MCI's *ex parte* was to support MCI's claims of impairment in the TRO proceeding. The system was assumed to have a 7-year life. (WorldCom's January 8, 2003 *ex parte* in UNE Triennial Review CC Docket No. 01-338 Attachment A page 3.) We adopted the $30 million/7-year life assumption for use in the BACE model. However, this does not imply that the CLEC necessarily has to recover the costs of that OSS system from one market, or even from one state. MCI operates in virtually every state in

the US, and it one might reasonably assume that an efficient facilities-based CLEC might do so as well.

We assume that the CLEC that is being modeled will eventually have a national footprint, but that it does not enter every market at once. Instead, it spreads its entry over ten years to enter selected markets in all states. We implement this ten-year entry assumption by recognizing that, on average, the CLEC will enter a particular market five years after the OSS system is put into place. We do this by adding the "carrying cost" of the initial investment to the $30 million. (This means we install the OSS system in the year "-4" (or, in other words, 5 years before year 1) and then accrete this initial investment by the cost of capital for five years. In other words, after starting with MCI's $30 million estimate, we actually used a present value of approximately $50 million for the OSS system). I then computed the cost of replacing the OSS system in years 3 and 10, to reflect the 7-year life assumption. Because the BACE model does not provide for a way to model year "-4," I recomputed this particular pattern of cash flows so that, on a net present value basis, I got the same NPV from the expenditure of cash in years 1, and 7 (along with the appropriate terminal value). This total cost is then recovered proportionately from each state.

Q. SPRINT CLAIMS THAT ITS OWN OSS COSTS ARE SUBSTANTIALLY HIGHER THAN THE AMOUNTS DERIVED IN THIS MANNER.

(DICKERSON AND LONDERHOLM SUPPLEMENTAL TESTIMONY, 11.) PLEASE COMMENT.

A. Mr. Dickerson and Ms. Londerholm claim that Sprint has incurred more in software OSS costs than what MCI told the FCC would be representative of what a CLEC would incur to offer UNE-L services. However, these costs do not seem to be adjusted to remove right-to-use switching fees (which we capture elsewhere in the BACE model) and any of the information systems costs related to loop and transport, which would be captured by the UNE-L price for the switch-based CLEC in the BACE model. Mr. Dickerson and Ms. Londerholm also note that they considered the expensed software enhancements recorded in 2003. (Dickerson and Londerholm Supplemental Testimony 11.) Those expenses already are included in my G&A expenses, and are not appropriately double-counted in this portion of BACE. I would not necessarily conclude that MCI's estimate is representative of the costs that an efficient carrier could attain. However, MCI claims that they are tailored for a UNE-L provider, rather than a full facilities-based provider such as Sprint.

Q. MR. DICKERSON AND MS. LONDERHOLM ALSO CLAIM THAT THE CAPITAL EXPENDITURES RELATED TO G&A LIKEWISE ARE UNDERSTATED. (DICKERSON AND LONDERHOLM SUPPLEMENTAL

TESTIMONY 12-13.) DO YOU HAVE ANY OBSERVATIONS ON THEIR ANALYSIS?

A. Yes. Mr. Dickerson and Ms. Londerholm use Sprint - Florida as the benchmark for evaluating the Network and General support Assets for the CLEC in the BACE model. As I noted, Sprint is a facilities-based provider. As I understand that Sprint - Florida is basically the United Telephone of Florida, Central of Florida (See www.fcc.gov/wcb/armis/carrier_filing_ history/COSA_History/ucfl.htm). These companies have, and must support, outside plant (loops and transport) that the switch-based CLEC modeled in BACE would lease as UNEs. It is inappropriate to include the portion of Network and General Support Assets related to loops and transport that do not apply to a switch-based CLEC or the assets that are related to the plethora of private line and special access services that Sprint-Florida offers to its large customers, but that our CLEC does not. Mr. Dickerson and Ms. Londerholm do not say that they made any adjustment to the Sprint – Florida data to account for outside plant, and therefore there one cannot use their results to make any reasoned judgment about the Network and General Support Assets related to the efficient, switch-based CLEC.

Q. HOW DID YOU COMPUTE THIS CAPEX?

A. I computed this amount by dividing SG&A expenses (adjusted to reflect CLEC accounting practices, as I described in my Surrebuttal testimony) by total expenses, except for depreciation expense. (I included sales "S" with G&A, because sales may require some capital, as well.) This produced a ratio of 65.5 percent, based on an average of RBOCs (excluding Qwest, whose data was unavailable), as I will discuss below. I used this expense ratio to estimate the amount of capital that is related to SG&A (under the assumption that expenses generally follow investment and so the ratio of SG&A expenses to total expenses would be comparable to the ratio of SG&A-related capex to total capex). To derive the dollar amount of capital spending related to G&A, I multiplied this ratio by the amount of booked land and support plant additions for 2002 (summary account 2110, which includes accounts 2111-2114 and accounts 2121-2124) for the RBOCs (except for Qwest, which had not filed ARMIS when the computations were made). This produced a dollar amount of SG&A plant additions, which I then scaled by dividing by revenues. I obtained a ratio of 1.68 percent, which is the entry in the table.

Q. WHY IS THIS A REASONABLE APPROACH?

A. This approach is reasonable because it reflects the relative amount of capex that is made by carriers actually in the market, but it applies that ratio to the amount of total capital that would be invested by a UNE-L based CLEC. Hence, it is

consistent with the network investments appropriate to the business case being modeled.

Q. DOES THIS COMPLETE YOUR SUPPLEMENTAL TESTIMONY?

A. Yes.

Errata for Debra J. Aron Direct Testimony filed 12/4/2003
Docket No. 030851-TP

1. On page 6, line 6, change "13" to "12."
2. On page 6, line 7, change "18" to "19."
3. On page 6, line 8, change "10" to "9."
4. On page 6 line 9, change "10" to "9."
5. On page 41, line 13, change "ten" to "nine."
6. Replace Revised Exhibit DJA-02 with Second Revised Exhibit DJA-02.
7. Replace Exhibit DJA-08 with Revised Exhibit DJA-08.

BELLSOUTH TELECOMMUNICATIONS, INC.
FLORIDA DOCKET NO. 030851-TP
DIRECT TESTIMONY OF DR. DEBRA J. ARON
ERRATA

Page 1 Line 5-6	Evanston office of LECG, ~~LLC~~,
Page 1 Line 9	LECG~~, LLC~~.
Page 22 Line 6-9	further subdivided into three "terciles" by spend. In each geographic market, we then count up the number of customers that are in each segment and spend level in that geographic market. This creates a profile of the spend characteristics of that market. ~~Each geographic market (that is, UNE zones subdivided by CEAs as discussed in Dr. Pleatsikas's testimony) is then allocated the appropriate number of customers from each segment to reflect the actual economic profile of that market.~~
Page 24 Line 7	I recommend the use of a rate of climb
Page 34 Line 15	Kaufman Brothers, L.P., April 30, 2003, p. ~~1~~.3)

Exhibit DJA-06

~~CUSTOMER ACQUISITION ("SALES") COSTS OF AT&T AND OF CLECS THAT MARKET TO MASS-MARKET CUSTOMERS~~		
	~~Source~~	
~~Z-Tel (Management target)~~	~~(1)~~	~~$50~~
~~Z-Tel (Actual)~~	~~(1)~~	~~$60 – $70~~
~~Talk America (Estimate of actual experience)~~	~~(2)~~	~~$80~~
~~AT&T (Estimate of actual experience)~~	~~(3)~~	~~$125~~

~~Sources:~~
~~(1) James J. Linnehan, "Z-Tel Technologies, Inc.: Still Chugging Along," Thomas Weisel Partners Merchant Banking, November 8, 2001, p. 3. (This figure excludes television advertising.)~~
~~(2) Vik Grover, "Raising Numbers Again," Kaufman Bros. Equity Research (KBRO Kaufman Bros. L.P.), April 30, 2003, p. 1. See, also, Josephine Shea, "Talk America Holdings, Inc." Morgan Joseph High Yield Research, May 27, 2003, p. 1.~~
~~(3) David W. Barden, "AT&T Corporation: A Case for Consumer Services," Banc of America Securities – United States Equity Research, April 30, 2003, p. 20.~~

CUSTOMER ACQUISITION ("SALES") COSTS OF AT&T AND OF CLPS THAT MARKET TO MASS-MARKET CUSTOMERS		
	Source	
Z-Tel (Management target)	(1) (2)	$50
Z-Tel (Actual 2001 Q2)	(2)	$60 - $70
Z-Tel (Actual 2001 Q3)	(1)	$100 $120
Z-Tel (Actual 2001 Q4)	(3)	$60
Talk America (Estimate of actual experience)	(4)	$80
AT&T (Estimate of actual experience)	(5)	$125

Sources:
(1) James J. Linnehan, "Z-Tel Technologies, Inc – Market Perform.: Still Chugging Along," Thomas Weisel Partners Merchant Banking, November 8, 2001, p. 3. (This figure excludes television advertising.)
(2) James J. Linnehan, "Z-Tel Technologies, Inc. – Market Perform," Thomas Weisel Partners Merchant Banking, August 13, 2001 p. 3.
(3) Gregory Smith, CEO and Chairman of Z-Tel, Transcript of Z-Tel Fourth Quarter 2001 Earnings Results conference call by Fair Disclosure Financial Network, February 28, 2002.
(4) Vik Grover, "Raising Numbers Again," Kaufman Bros. Equity Research (KBRO Kaufman Bros. L.P.), April 30, 2003, p. 1. See, also, Josephine Shea, "Talk America Holdings, Inc." Morgan Joseph High Yield Research, May 27, 2003, p. 1.
(5) David W. Barden, "AT&T Corporation: A Case for Consumer Services," Banc of America Securities—United States Equity Research, April 30, 2003, p. 20.

Page 41, Line 7 — Aron Exhibit No. DJA-2 lists the ~~ten~~ nine geographic markets in Florida in which the

Page 41, Line 19 — provide access to unbundled local switching in those ~~ten~~nine geographic markets. To

(Please note that in a previous errata we had noted this on page 41, line 13.)

BELLSOUTH TELECOMMUNICATIONS, INC.
FLORIDA DOCKET NO. 030851-TP
REBUTTAL TESTIMONY OF DR. DEBRA J. ARON
ERRATA

Page 4, line 13-14	the Act contains a "statutory mandate of equal treatment ~~of~~ for all three options.'"
Page 9, line 4	Q. WHAT DO YOU MEAN WHEN YOU SAY THAT DR. BRYANT'S
Page 7, line 22	Thus, ~~finding~~ a finding of no
Page 11, line 17	(TRO fn. 15865)).
Page 11, line 20	switch to serve only the ~~enterprise~~ consumer and small business
Page 20, line 13	am unable to account for the discrepancy between ~~the~~ Mr. Bryant's testimony and
Page 23, line 22-23	From ~~73~~ 74 observations of CLECs and ILECs, I determined that the median ratio of bad debt to revenues was about ~~2.8~~ 2.9 percent.
Page 31, line 13	is rejected as "unreasonable"

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 030851-TP
SURREBUTTAL TESTIMONY OF DR. DEBRA J. ARON
ERRATA

Page, line	Errata
25, 5	into the BACE model. Certainly, having undergone bankruptcy (and its ~~affect~~ effect on
34, 14	players, I believe a typical urban market would support a much smaller number~~.~~ of UNE-L players.
37, 21	*switch providers*, or that cable telephony is an inappropriate ~~inapt~~ indicator of the
38, 14	here. Moreover, the fact that a cable company has an ongoing relationship with its
39, 18	Yes. Neither Dr. Staihr nor Mr. Wood disputes that cable telephony is equivalent
40, 17	percent share of the market. This is not true. An efficient CLEC maybe able to *win*
63, 19	that NPVs are "signficicantly reduced" if a 5.1 percent annual price decrease is applied
69, 18	~~I noted in my direct testimony, a~~ An investment analyst estimates that AT&T's own
77, 9	would also note that general brand advertising, including brand advertising o~~f~~n
87, 5	"U.S. Residential DSL Market Continues to Grow," October 2001, p. 2) ~~It also~~
87, 6	~~indicates that~~ CLECs have the potential to compete for cable modem customers,

MS. MAYS: Thank you, Mr. Chair. The next BellSouth witness, we would like to have the testimony of Milton McElroy admitted into the record. He has rebuttal and surrebuttal testimony, and he has an errata, and we would ask that those be admitted. We would ask that his exhibits be collectively identified as composite Exhibit 65.

CHAIRMAN BAEZ: Show the rebuttal and surrebuttal testimony of Witness McElroy, including errata, without objection entered into the record as though read. And show the accompanying exhibits to Witness McElroy identified, identified as composite 65.

(Exhibit 65 marked for identification.)

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF MILTON MCELROY JR.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

JANUARY 7, 2004

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH").

A. My name is Milton McElroy Jr. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375. My title is Director – Interconnection Services.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE WITH BELLSOUTH.

I have over fifteen years experience in the telecommunications industry. My experience includes various engineering, operations and staff assignments at BellSouth. I earned a Bachelor of Science degree from Clemson University in Civil Engineering in 1988 and a Master's degree in Business Administration from Emory University in 2001. Additionally, I am a registered Professional Engineer in Alabama, North Carolina and South Carolina.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address Florida Issue #3 and to demonstrate that BellSouth's Bulk Migration Process of Unbundled Network Element Platform (UNE-P) service to unbundled loop (UNE-L) service is both seamless and effective. To corroborate this fact, BellSouth engaged PricewaterhouseCoopers (PwC) to provide an attestation on the effectiveness of BellSouth's batch process. PwC's work was twofold: first, PwC observed a test of the Bulk Migration Process using a pseudo Competitive Local Exchange Carrier (CLEC); second, PwC observed a number of live UNE-L migrations or hot cuts in several states. The test corroborates the testimony of BellSouth's witness, Mr. Ken Ainsworth, that BellSouth provides a proven, seamless, high quality individual hot cut process to handle the UNE-L volumes that would likely result if BellSouth were to obtain full relief from unbundled circuit switching; and that BellSouth provides a batch hot cut process that offers additional ordering and provisioning efficiencies to enhance the same proven, seamless, quality migrations that are currently associated with individual hot cuts. This process will sufficiently support the batch conversion of a CLEC's embedded UNE-P customer base to UNE-L services.

Q. WHY DID BELLSOUTH ENGAGE PwC TO TEST ITS BULK MIGRATION PROCESS?

A. BellSouth introduced its batch migration process to the CLEC community in March 2003. Despite their expressed interest in having such a process, not a

single CLEC took advantage of it in the months following its introduction. Therefore, BellSouth had no significant commercial data with which to demonstrate the efficiency and viability of the bulk migration process other than the extensive performance data demonstrating the effectiveness of its individual hot cut process. For this reason, BellSouth engaged PwC to perform an independent third party test. BellSouth selected PwC because of the Commission's familiarity with PwC's work resulting from the regionality testing PwC conducted as part of BellSouth's 271-approval process. This Commission, along with the FCC, relied upon PwC's objective and professional findings as part of its 271 decision.

Q. WHAT TYPE OF TEST DID PWC CONDUCT?

A. After discussions with PwC about the testing concept, BellSouth engaged the firm to conduct an attestation examination whereby PwC would examine two BellSouth assertions concerning its Bulk Migration Process. PwC conducted the examination in accordance with "attestation standards" established by the American Institute of Certified Public Accountants (AICPA). An "attestation engagement" occurs when a practitioner, such as PwC, is engaged to issue a written statement as to whether or not the written assertion of another party, such as BellSouth, is reliable. Under the AICPA attestation standards, a statement resulting from such an examination is the highest level of assurance that can be provided on an assertion and, if positive, results in an opinion by the practitioner, PwC, that the original assertions have been found to be fairly and accurately stated in all material respects. To put this in more simple terms applicable to this

test, BellSouth made two claims (assertions) and PwC validated the claims with the opinion that they express in their report (Report of Independent Accountants).

Q. WHAT WERE BELLSOUTH'S ASSERTIONS?

A. BellSouth's assertions as well as the PwC opinions can be found in Attachment MM1, BellSouth Telecommunications Inc.'s Report on the BellSouth Bulk Migration and Regional Tests, December 22, 2003. This attachment contains a collection of reports as well as a description of the Bulk Migration Test. The outline of the report package can be found on the Table of Contents page. The outline of the report is as follows:

I. **Report of Independent Accountants for BellSouth Telecommunication's Bulk Migration Process**—this report was issued by PwC after they observed the bulk migration test associated with BellSouth's first assertion. They concluded and opined that the Bulk Migration Process would enable a CLEC to bulk migrate its customer base from UNE-P to UNE-L. PwC found a few deviations which can be seen on the following page of the report titled Attachment A and which will be discussed later.

II. **Management Assertions on BellSouth Telecommunication's Bulk Migration Process**—this report is BellSouth's first assertion. PwC validated this assertion with their Report of Independent Accountants in section I. The same list of deviations is provided in Attachment B of the report to the BellSouth Assertion on Bulk Migrations.

III. **Report of Independent Accountants for BellSouth Telecommunication's Hot Cut Process**—PwC issued this report after the firm observed hot cuts across the BellSouth region for the second BellSouth assertion. They concluded and opined that the hot cut provisioning process is the same when using the Bulk Migration Process or when using the single order migration process across the BellSouth region. PwC found a few deviations and which can be seen in Attachment C of the report and which will be discussed later.

IV. **Management Assertions on BellSouth Telecommunication's Hot Cut Process**—this report is BellSouth's second assertion. PwC validated this

assertion with their Report of Independent Accountants in section III. The same list of deviations is provided in Attachment D of the report to the BellSouth Assertion on the Regional Test.

Supplementary Information

V. Executive Overview
   A. Overview of Reports
   B. Objective of Supplementary Test Information

VI. Bulk Migration and Regional Test

VII. Glossary of Terms

Sections V, VI, and VII of the report provide an overview of the assertions and a description of the test that was conducted in Florida along with a description of the live hot cut testing across the BellSouth region.

BellSouth made two assertions. First, BellSouth asserted that its Bulk Migration Process enables a CLEC to migrate multiple end-users from UNE-P service to UNE-L service. In order to facilitate the test, BellSouth created a pseudo-CLEC. Use of the pseudo-CLEC is an established methodology that has been utilized in other process tests. The pseudo-CLEC was established and operated similar to the methodology engaged during the 271 Third Party Tests that were conducted in Florida and Georgia. The pseudo-CLEC submitted multiple bulk order requests following the written procedures provided to the CLECs on the website. Details about BellSouth's batch hot cut process can be found on-line at http://www.interconnection.bellsouth.com/guides/unedocs/BulkManpkg.pdf.

The PwC examination of the Bulk Migration Process included a review of all the process steps. They began with a review of the project notification that would be submitted by the CLEC, and then reviewed the associated activities of the BellSouth Project Manager. Once all the preordering type of activities was

completed, PwC reviewed the activities associated with the ordering process. They observed the pseudo CLEC submissions and the activities associated with BellSouth's ordering systems and the Local Carrier Service Center (LCSC). Next, PwC reviewed the traditional provisioning processes including those of BellSouth's Customer Wholesale Interconnection Network Services Center (CWINS) as well as BellSouth Central Office and Field Technicians. The review of these processes for BellSouth's first assertion was very comprehensive as evidenced by the quantity of time and number of individuals utilized by PwC in testing.

Second, BellSouth asserted that the Bulk Migration Process requires central office and field technicians to physically perform the Hot Cut Process. This Hot Cut Process is the very same process used for non-bulk or individual hot cuts in BellSouth's nine state-region. In spite of the multiple hot cut offerings, the act of performing a hot cut remains a simple, straightforward task – and one that BellSouth performs at high volumes with a high degree of accuracy and speed. Therefore, BellSouth made the assertion that the Hot Cut Process is used for both bulk hot cuts as well as individual hot cuts across the region served by BellSouth. PwC validated the process used across BellSouth's region by observing Central Office and Field forces using the same hot cut process described in BellSouth's second assertion in Attachment MM1.

Q. WHAT DID PwC USE AS CRITERIA FOR DETERMINING DEVIATIONS AS THEY VALIDATED THE TWO BELLSOUTH ASSERTIONS?

A. PwC expresses their threshold for deviation reporting in the affidavit of Mr. Paul M. Gaynor of PwC, which can be seen in Attachment MM2. The affidavit was prepared to provide additional detail for the types of testing procedures used by PwC during the attestation examinations. It also provides criteria for the threshold testing beginning with paragraph 10 on page 6 of Attachment MM2. Their threshold or criteria transcends into three categories:

1. Adherence to each process step in excess of 95% of the time.
2. Any impact to customer service that exceeded 15 minutes.
3. Any observation that actually met the first two criteria, but PwC determined that the action (i.e.: a particular process step) was critical, thus it should be reported anyway.

These categories of criteria will be further explored as each deviation is described and addressed.

BellSouth's First Assertion

Q. HOW DID BELLSOUTH ESTABLISH THE PSEUDO- CLEC FOR THE FIRST ASSERTION OF THE TEST?

A. BellSouth created the pseudo-CLEC by establishing approximately 750 UNE-P accounts in three wire centers in Florida for the test. Florida was chosen as the

test location because it has the highest number of embedded UNE-P customers and it was projected to be the first state to experience extensive CLEC utilization of the Bulk Migration Process. BellSouth designed the test bed to mirror actual facility distribution and the makeup of existing UNE-P accounts. BellSouth wanted to ensure that the outside plant facilities assigned to the test bed circuits would mirror the actual distribution of facilities within the state. An evaluation of Florida's existing facility usage revealed that approximately 50% of circuits were served by copper facilities, 14% were served by Universal Digital Loop Carrier (UDLC) and 36% were served by Integrated Digital Loop Carrier (IDLC). BellSouth wanted its test bed to reflect the actual make-up of existing UNE-P accounts in terms of service type or class of service. BellSouth obtained and analyzed the data associated with establishment of UNE-P service for actual customers. The data indicated that the test bed should consist of 85% residential accounts, 10% business, 3% coin, and 2% remote call forwarding (RCF). The latter class of service was further broken down into residential and business RCF products. These classes of service are consistent with the UNE-P requirements listed on page 9 of the Bulk Migration Process CLEC Information Package that can be found on-line at http://www.interconnection.bellsouth.com/guides/unedocs/BulkManpkg.pdf.

Next, BellSouth simulated a CLEC switch by wiring from the originating equipment (OE) block on the BellSouth frame in each central office to the CLEC Connecting Facility Assignment (CFA) block to establish dial tone for the pseudo-CLEC switch. This methodology was employed for accounts containing telephone numbers (TNs) served by copper and UDLC facilities. IDLC facilities

do not have a physical appearance on the BellSouth frame so a second set of TNs was established and wired as described above. This second set of TNs was mapped to the TNs served by IDLC to enable all normal conversion activities to occur. This approach also allowed for the conversion from IDLC to copper or UDLC facilities during the test.

There was one step in the provisioning process that BellSouth was not able to complete. Because the CLEC switch was simulated, BellSouth could not send any messages to the Network Portability Administration Center (NPAC) which cause the number port to occur. In other words, BellSouth could not actually move the UNE-P TN from the BellSouth switch to the CLEC switch because in the simulated environment, there was no CLEC switch. The absence of this step did not materially impact the testing of BellSouth's bulk migration process since the CLEC itself initiates and largely controls the routing change associated with moving the circuit from BellSouth's switch to its own. All other BellSouth and CLEC ordering and provisioning procedural steps were followed, completed, and observed by PwC during the course of the test.

Q. HOW MANY AND WHAT TYPES OF BULK MIGRATION HOT CUTS DID BELLSOUTH PERFORM TO CONFIRM THE FIRST ASSERTION OF THE TEST?

A. BellSouth reviewed its existing base of UNE-L accounts to determine the actual class of service make-up. The analysis indicated that approximately 87% of actual UNE-L migrations were for Service Level One (SL1) voice grade loops

while 7% of the UNE-L migrations were for Service Level Two (SL2) voice grade loops. The remaining 6% were distributed across the other designed and non-designed UNE-L classes of service. This data, combined with the list of classes of service to which UNE-Ps may migrate, guided BellSouth in issuing migration orders that were distributed based on the embedded base yet covered all "migration-permissible" loop types. A list of loop types to which UNE-Ps may be migrated is found on page 9 of the Bulk Migration Process CLEC Information Package. The test included both central office and field cuts. As previously indicated, since 85% of the embedded base of UNE-P accounts consists of residential classes of service, most of the hot cuts were ordered as non-coordinated. The test was structured and conducted as follows:

- Day 1 of Testing on December 2, 2003—West Hollywood Central Office (total of 125 Hot Cuts)
  The first day of testing was based upon four Bulk Migration Project Notifications or BOPIs. These four BOPIs accounted for 124 migrations using the bulk migration process and an additional migration was conducted via the submission of single LSRs. The end result was that there were a total of 125 hot cuts on the first day of testing.

- Day 2 of Testing on December 4, 2003—Arch Creek Central Office (total of 125 Hot Cuts)
  The second day of testing was based upon 6 BOPIs. These 6 BOPIs accounted for 119 bulk migrations, and 6 single migrations were included to reach the test target of 125 hot cuts.

- Day 3 of Testing on December 5, 2003—Perrine Central Office (total of 125 Hot Cuts)
  The third day of testing was based upon 3 BOPIs. These 3 BOPIs accounted for 108 bulk migrations and 17 single migrations were included to reach the test target of 125 hot cuts.

- Day 4 of Testing on December 11, 2003—West Hollywood, Arch Creek and Perrine Central Offices (total of 383 Hot Cuts)
  The fourth day of testing was based upon a total of 5 BOPIs for West Hollywood, 3 BOPIs for Arch Creek, and 7 BOPIs for Perrine.

> The 5 BOPIs in West Hollywood accounted for a 125 bulk migrations. Additionally, there were 2 single migrations in West Hollywood for a total of 127 hot cuts. The 3 BOPIs in Arch Creek accounted for 126 bulk migrations, and there were also 5 single migrations in Arch Creek for a total of 131 hot cuts. The 7 BOPIs in Perrine accounted for 122 bulk migrations and 3 additional single migrations, which resulted in a total of 125 hot cuts.

The target number of bulk migrations for each of the first three test dates was 125, while the fourth date was designed to test simultaneous provisioning in all three central offices. The end result was that BellSouth completed a total of over 375 migrations on the fourth date. Therefore, over 750 hot cut migrations occurred across the four days of testing with 724 of those resulting from bulk migration service requests. Coincidentally, since the inception of the test, BellSouth has had the opportunity to migrate more than 125 UNE-P accounts for an actual large CLEC that operates in Florida. The Rebuttal Testimony of Mr. Ken Ainsworth will further address the outcomes of this effort.

Q. PLEASE DISCUSS THE FINDINGS FROM THE TEST ON THE FIRST ASSERTION.

A. PwC validated Bellsouth's first assertion by observing Bulk Migration hot cuts. The details of PwC's findings can be found in their Report of Independent Accountants in Attachment MM1. In summary, PwC observed a total of 724 bulk hot cuts during the four days of bulk migration testing. In PwC's Report of Independent Accounts for the first assertion, they provided a positive confirmation of BellSouth's first assertion with the qualification of some deviations. These deviations require further review and explanation; however, it is important to keep the deviations and their impact in an appropriate context.

PwC observed 724 bulk hot cuts during the four test days. The following paragraphs provide an explanation of the deviations found in testing BellSouth's first assertion and its impact to the customer:

First Assertion, Deviation 1—this deviation resulted when the BellSouth technician could not ANAC the BellSouth dial tone prior to the cut for 3 of the 724 bulk migrations. After investigating and resolving the issue, which took approximately 40 minutes for each dial tone, the technician was able to restore the dial tone through the BellSouth switch. The hot cut was then successfully completed. Although both BellSouth and CLECs strive for perfection, occasionally there may be an issue with the dial tone from either switch on the day of the hot cut. Therefore, it is imperative that BellSouth have procedures in place to resolve these types of issues. These three cuts demonstrate that BellSouth does have the procedures and ability to resolve issues, and complete successful migrations. PwC listed this as a category 2 deviation where customer service was impacted for over 15 minutes.

First Assertion, Deviation 2—this deviation resulted after PwC observed 3 of the 724 bulk migrations that took longer then 15 minutes. There was one hot cut that took 20 minutes while two other hot cuts took approximately 40 minutes. In these cases, the BellSouth field technician encountered and resolved an issue involving an electronic cross-connect in a remote terminal. This situation extended the hot cut's completion time by a few minutes. PwC listed this as a category 2 deviation where customer service was impacted for over 15 minutes.

First Assertion, Deviation 3—there were 2 of the 724 bulk migrations where BellSouth technicians failed to successfully complete hot cuts. In the first case, BellSouth performed the migration prior to the due date so the end user customer would have been able to make calls, but not receive calls. The second case resulted from the migration not being performed on the due date. In this case, the end user customer could have potentially lost service. BellSouth has a thorough process that provides for contingencies to ensure that the risk of interruption of service to the customer is minimized, but occasionally failures do occur as demonstrated in the test. PwC listed this as a category 2 deviation where customer service was impacted for over 15 minutes.

These first three deviations constitute PwC findings for the impact to customer service that exceeded 15 minutes. There were a total of 8 instances during the 724 bulk migrations. This genesis of this 15 minute benchmark is the SQM measure on the timeliness of coordinated conversions where this Commission has established a benchmark of 95% within 15 minutes. Thus, BellSouth's performance during the test translates to 98.9% which exceeds the Commissions benchmark.

First Assertion, Deviation 4—this deviation resulted when BellSouth field technicians were completing IDLC conversions in a field remote terminal. The technician was unable to ANAC the BellSouth dial tone for 19 lines. This issue or deviation was an artifact of the test resulting from the two TNs needed for all IDLC served UNE-Ps. In live customer conversions, only one TN is involved, thus this situation would not have occurred. This deviation did not have any

negative impact to the migration; the 19 hot cuts were still successfully completed within the allotted 15 minute time period. PwC listed this as a category 3 deviation where the issue would not be considered reportable via the first two threshold categories, but PwC elected to report the issue as a deviation to ensure that it was visible to the reader.

First Assertion, Deviation 5—this deviation resulted when the central office technician did not completely follow the process for one of the 724 bulk hot cuts. In this case, the technician found that the BellSouth jumper wire had the wrong TN, but the CLEC jumper wire had the correct TN. The technician should have contacted the CWINS center which would have contacted the CLEC to confirm the TN and to get the CLEC's permission to proceed with the cut. These contacts did not occur. In the end, the hot cut was successfully made with the correct TN, but the deviation was noted due to a process step miss. PwC listed this as a category 3 deviation where the issue would not be considered reportable via the first two threshold categories, but PwC elected to report the issue as a deviation to ensure that it was visible to the reader.

First Assertion, Deviation 6—this deviation resulted when PwC observed a total of 6 instances in which BellSouth technicians missed a hot cut process step. More specifically, on Day 2 of the test, PwC observed that the BellSouth technician neglected to test the CLEC dial tone prior to performing the hot cut for 6 telephone numbers. These were certainly process step omissions; however, the process contains several safeguards to ensure that the hot cuts are successfully executed. That was the case on these 6 observations; these

inadvertent step omissions did not negatively impact the ultimate success of all 6 of the conversions. PwC listed this as a category 3 deviation where the issue would not be considered reportable via the first two threshold categories, but PwC elected to report the issue as a deviation to ensure that it was visible to the reader.

First Assertion, Deviation 7—this deviation resulted when a minor system issue was identified during the test while submitting bulk LSRs. The issue is not considered material since no CLEC has actually bulk ordered the associated products. The Bulk Migration test included an evaluation of the electronic LSR submission process. Using this process, the pseudo- CLEC successfully submitted LSRs resulting in BellSouth's ordering systems generating 724 bulk migrations. There are two circumstances under which a bulk LSR can not be submitted into BellSouth's ordering systems. The first circumstance involves the bulk migration to a UNE-L service known as a non-designed 2-Wire Unbundled Copper Loop or UCL-ND. The second circumstance involves the bulk migration of Remote Call Forwarding UNE-P services. BellSouth can in fact perform migrations for both of these service types via single migration, however the Universal Service Order Codes (USOCs) associated with these products cannot be submitted on bulk LSRs. If a CLEC needed to order the migration of either of these products, it would simply submit single LSRs. It should be emphasized that these two products constitute less than 2% of the service types within BellSouth's embedded base services. Therefore, this particular issue would have minimal impact on CLEC customers and is not material to BellSouth's overall ability to successfully perform bulk migrations of services commonly used by CLECs.

BellSouth has targeted the UCL-ND issue correction to occur in Release 15.0 in March of 2004, while the RCF issue is currently under investigation. RCF is a unique product that does not have an actual loop in the service. BellSouth is considering the removal of this product from the Bulk Migration Process since it is targeted for the migration of services that involve loops. Once again, it is important to put the magnitude of this system issue into context particularly since no CLECs have attempted to bulk order migrate these two service types. PwC listed this as a category 1 deviation where adherence to the process did not occur at least 95% of the time. If you consider the embedded base of these products and the fact that no CLEC has ever ordered the products via the Bulk Migration Process, clearly there is no material impact to operational CLECs.

First Assertion, Deviation 8—this deviation resulted due to poor performance observed on the first day of testing with BellSouth's Enhanced Delivery Initiative (ENDI) system. For non-coordinated hot cuts, this system sends an electronic notification (commonly called a "go ahead") to inform the CLEC that BellSouth has completed the hot cut. This notification is the signal for the CLEC to begin their porting process with NPAC. BellSouth witness, Mr. Ken Ainsworth, provides a detailed description of this system in his testimony. During the first day of testing, ENDI experienced an issue with a corrupt downstream server. There were two servers that should have been submitting the notices to the pseudo CLEC. The corrupted server was not sending messages, thus the failure occurred and the deviation was noted. BellSouth corrected the server problem on December 3, 2003. As is evidenced by PwC's observations, the system was fixed and no failures were observed on the second and third days of testing.

There was one notice for a two line service order that was not submitted on day four of testing. This failure resulted from an issue of completing the work order step in ENDI which prevented the notice from being submitted. The problem was identified and corrected as evidenced by the test results on the second, third and fourth days of testing. PwC listed this as a category 1 deviation where adherence to the process did not occur at least 95% of the time. When considering the first day of testing, BellSouth failed to return 47 of the 124 bulk migration notifications. However, once the server problem was corrected, BellSouth successfully submitted 119 notices on the second day, 108 notices on the third day and 371 notices on the fourth day of testing. In other words, BellSouth's performance was 99.7% after the issue was resolved from the first day of testing.

After considering the materiality of the deviations noted by PwC in their report, it is clear that BellSouth's first assertion has been validated. PwC ultimately found that this test validated the sufficiency of BellSouth's Bulk Migration Process and the results provide quantifiable proof that BellSouth's process is effective in allowing CLECs to migrate large numbers of their customers from UNE-P to a variety of UNE-L services.

To further support this finding, BellSouth would note that its hot cut process was also tested by KPMG (now known as BearingPoint) most recently during the Florida Third Party Test. KPMG first conducted a detailed review of BellSouth's methods and procedures documents that governed hot cuts. Next, like PwC, KPMG then physically observed BellSouth technicians as they performed actual

hot cuts. Their finding was the same as PwC's; namely, that BellSouth technicians provisioned the hot cuts in accordance with documented methods and procedures. KPMG took their analysis a step further by also assessing BellSouth's performance from a Service Quality Measurements (SQM) perspective. There were test points or evaluation criteria used to determine how well BellSouth met the SQM objectives for hot cut completions. KPMG gave a satisfactory rating to each of the evaluation criteria, a clear endorsement of BellSouth's documented hot cut process and its ability to successfully follow it. In addition to the findings of PwC and KPMG, both this Commission and the Federal Communications Commission (FCC) likewise confirmed the effectiveness of BellSouth's hot cut process during BellSouth's Section 271 Application approval process. Finally, this Commission, along with eight other state commissions and the FCC, have each independently found that BellSouth's hot cut process is nondiscriminatory, timely, accurate, and effective.

BellSouth's Second Assertion

Q. WHY DID BELLSOUTH MAKE THE SECOND ASSERTION?

A. BellSouth made the second assertion to provide proof that the Bulk Migration process applies ubiquitously across the BellSouth region.

Q. DOES PwC'S CONFIRMATION OF THE SECOND ASSERTION PROVIDE PROOF THAT THE PROVISIONING PORTION OF BELLSOUTH'S HOT CUT PROCESSES ARE THE SAME REGION-WIDE?

A. Yes. In order to verify the validity of the second assertion, PwC observed live hot cuts across the region served by BellSouth. PwC employed sampling techniques as described beginning in paragraph 34 of Attachment MM2 to determine the sample size of observations needed for the BellSouth region. PwC was able to observe sufficient order volume in seven of the states served by BellSouth. They were unable to obtain sufficient volume in Alabama or Kentucky, although that does not alter the fact that the same hot cut process is utilized across all nine states. Beginning in paragraph 39 of Attachment MM2, PwC described the processes that they observed. They concluded that these same processes were in use across all the states in the BellSouth region. Based upon these observations, PwC's testing leads to the conclusion that the same UNE-L hot cut process applies in each of BellSouth's states. Thus Bulk Migration Process and its proven success in enabling a CLEC to migrate customers in a bulk fashion is applicable to all the states within the BellSouth region.

Q. DID PwC LIST ANY DEVIATIONS DURING THEIR EVALUATION OF THE REGIONALITY ASSERTION?

A. Yes, similar to the first assertion, PwC did identify and list a few items that it titled deviations. Again, it is important to look at the total context of their live hot cut testing to put their observations in perspective. PwC observed 96 live hot cut service orders for a total of 179 migrations to test BellSouth's regionality assertion. Out of 179 hot cuts, it is important to note that all 179 hot cuts were successfully completed.

In Attachment C to their Report of Independent Accountants for the second assertion which is contained in Attachment MM1, PwC listed the deviations that they observed. The first six deviations are the same deviations cited for the first assertion. PwC elected to place deviations to the actual hot cut process itself in both reports. The deviation explanations will not be repeated. The following paragraphs provide an explanation of the deviations directly associated with the second assertion and its impact to the customer:

Second Assertion, Deviation 7—this deviation resulted from simple process step omission that ultimately had no direct impact on the success of the hot cut. PwC found a total of 9 occasions in which BellSouth technicians inadvertently omitted either a CLEC or BellSouth pre-hot cut verification step. It is important to note that the observed process step omissions were not a regionality issue; they were simply issues of BellSouth technicians not completely following the same hot cut process that is used across the BellSouth region. In spite of the omitted step, all 9 hot cuts resulted in successful conversions. PwC listed this as a category 1 deviation where adherence to the process did not occur at least 95% of the time.

Second assertion, Deviation 8—this deviation resulted when there was no BellSouth dial tone on the day of the cut for one of the 179 hot cuts. In this case, instead of attempting to restore dial tone on the BellSouth side of the cut, the technician elected to go ahead with the hot cut. The cut was successfully made, and the CLEC accepted the migration when contacted by the CWINS center. As stated previously, no dial tone conditions infrequently occur; however, when it does, BellSouth has procedures in place to resolve these types of issues and

complete a successful migration. PwC listed this as a category 1 deviation where adherence to the process did not occur at least 95% of the time.

Second Assertion, Deviation 9—this deviation was noted after an attempt to resolve a CLEC issue on one of the 179 hot cuts. When the BellSouth technician began the hot cut process on the due date, there was no CLEC dial tone so the technician correctly put the order in a missed appointment status that returns the responsibility back to the CLEC to resolve the missing dial tone issue. On the next day, there was an additional hot cut being observed by the same PwC tester. While the PwC tester was in the central office, the BellSouth technician checked on the hot cut from the previous day. The CLEC had corrected their dial tone problem, so the technician completed the hot cut. However, the technician should not have made the cut since the service order was still in a missed appointment status, thus the hot cut process was not correctly followed so this observation was listed as a deviation. To further complicate the story, the CLEC had actually ported the TN on the day prior to the due date of the hot cut. The bottom line is that the customer could make calls, but could not receive any calls for two days and it would have been longer if the BellSouth technician had not violated the process and completed the hot cut. PwC listed this as a category 2 deviation where customer service was impacted for over 15 minutes.

At the end of this testing period 100% of the hot cuts were successfully completed which can be attributed to the numerous checks and balances that BellSouth has intentionally built into the hot cut process. Because of the existence of multiple crosschecks, the omission of one step, as observed by

PwC, does not typically derail the actual conversion. Similarly, in these instances, there was no material impact to the CLEC customer. Again, based upon the Bulk Migration Test as well as live hot cut observations, PwC confirmed that BellSouth uses the same hot cut process for individual and bulk hot cuts. They further confirmed that this same process is used ubiquitously across the BellSouth region.

Q. WOULD YOU SUMMARIZE YOUR TESTIMONY?

A. Yes. Through the testing conducted by PwC, BellSouth has demonstrated that its Bulk Migration Process of UNE-P service to UNE-L service is both seamless and effective. PwC observed some 724 hot cuts utilizing the Bulk Migration Process and some 179 live hot cuts in several states. The test corroborates the testimony of BellSouth's witness, Mr. Ken Ainsworth, that BellSouth provides a proven, seamless, high quality individual hot cut process to handle the UNE-L volumes that would likely result if BellSouth were to obtain full relief from unbundled circuit switching; and that BellSouth provides a batch hot cut process that offers additional ordering and provisioning efficiencies to enhance the same proven, seamless, quality migrations that are currently associated with individual hot cuts. This process will sufficiently support the batch conversion of a CLEC's embedded UNE-P customer base to UNE-L services.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BELLSOUTH TELECOMMUNICATIONS, INC.

SURREBUTTAL TESTIMONY OF MILTON MCELROY JR.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

January 28, 2004

Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. AND YOUR BUSINESS ADDRESS.

A. My name is Milton McElroy Jr. My title is Director – Interconnection Services. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375.

Q. ARE YOU THE SAME MILTON MCELROY JR. WHO PREVIOUSLY FILED REBUTTAL TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to certain issues raised in the testimony of Mark David Van de Water of AT&T Communications of the Southern States, LLC ("AT&T"), Sherry Lichtenberg of MCI WorldCom Communications, Inc. and MCIMetro Access Transmission Services, Inc. ("MCI"), and Michael Gallagher on behalf of Florida Digital Network ("FDN"). The issues to which I will respond are related to batch migrations. My testimony is divided into two

sections. In the first section of my testimony, I will respond to issues associated with testing of the batch migration process. In the second section, I will discuss BellSouth's Mass Migration process. Throughout this testimony, I will use the terms "batch" and "bulk" interchangeably when referring to the process of migrating Unbundled Network Element Platform ("UNE-P") service to Unbundled Loop ("UNE-L") service in batches.

I. Testing of the Batch Migration Process

Q. ON PAGE 9 OF HER TESTIMONY, MS. LICHTENBERG CRITICIZES THE ENTIRE BATCH ORDERING PROCESS AND CLAIMS "THIS PROCESS DID NOT EXIST AND THEREFORE WAS NOT TESTED DURING THE 271 PROCEEDINGS AND BELLSOUTH HAS NOT PROVIDED DOCUMENTATION ON HOW THE PROCESS WILL WORK." PLEASE ADDRESS.

A. BellSouth's Batch migration process was not tested during the 271 proceedings because it did not exist. Since that time, however, BellSouth engaged PwC, an independent auditor, to test BellSouth's process. I provided the successful results of the audit with my Rebuttal Testimony.

With respect to documentation, Ms. Lichtenberg is incorrect when she states that BellSouth has not provided documentation on how the process will work. In fact, the UNE-P to UNE-L Bulk Migration CLEC Information package was introduced to the Competitive Local Exchange Carrier ("CLEC") community on March 26, 2003. This document can be found on-line at

http://www.interconnection.bellsouth.com/guides/unedocs/BulkManpkg.pdf. The document provides the requirements, options, submission/flow process, notification process and intervals associated with the batch process. If Ms. Lichtenberg is not familiar with that documentation, it is because she has never looked at the documentation.

Q. ON PAGES 18-19 OF HIS TESTIMONY, MR. VAN DE WATER ARGUES THAT PRE- AND POST-IMPLEMENTATION TESTING OF BELLSOUTH'S BATCH PROCESS IS NECESSARY. DO YOU AGREE?

A. To the extent that AT&T advocates pre-implementation testing, the time for that has passed as BellSouth implemented this process in March 2003. Since its implementation, however, BellSouth has tested the process by engaging PwC to conduct an independent audit of the process. PwC's work was twofold: first, PwC observed a test of the Bulk Migration Process using a pseudo CLEC; and second, PwC observed a number of live UNE-L migrations or hot cuts in several states. A full recount of the test, the test results and an affidavit by Mr. Paul Gaynor of PwC can be seen in my earlier testimony in this proceeding.

Moreover, BellSouth has a proven record of its ability to successfully migrate end user customers from a BellSouth switch to a CLEC switch. This is evidenced by the extent of the commercial activity of hot cuts across the BellSouth region as described in Mr. Ainsworth's testimony.

II. BellSouth's Mass Migration Process

Q. CERTAIN CLECS (GALLAGHER, AT 3-4 R; VAN DE WATER, AT 2 R, 8-9 R) CRITICIZE BELLSOUTH'S BATCH HOT CUT PROCESS FOR BEING ONLY A BATCH ORDERING PROCESS AND FOR NOT SUFFICIENTLY REDUCING THE NON-RECURRING COSTS. PLEASE RESPOND.

A. As described in the testimony of Ken Ainsworth, BellSouth's Batch Hot Cut Process complies with the requirements of the *Triennial Review Order* and allows for the seamless and efficient migration of UNE-P service to UNE-L service such that CLECs are not impaired without access to unbundled switching.

That being said, BellSouth will adopt a third hot cut process to address alleged CLEC concerns about batch provisioning and non-recurring costs at such time as it receives unbundled switching relief in UNE Zones cut by Component Economic Areas. The third process is known as the Mass Migration Conversion Process.

With the advent of the Mass Migration Conversion Process, BellSouth will offer three migration options to CLECs:

1. Individual Conversions
2. Batch Migration Process as described in the testimony of Mr. Ken Ainsworth
3. Mass Migration Conversions.

Exhibit MM-3, attached hereto, provides process overview and flows for the Mass Migration Conversion Process.

Q. PLEASE GENERALLY DESCRIBE THE MASS MIGRATION CONVERSION PROCESS.

A. While BellSouth disagrees with the CLEC criticism that it's Batch Process is not a batch provisioning process, BellSouth, in a further effort to meet CLEC needs, has developed the Mass Migration Conversion Process. Generally, the Mass Migration Conversion Process allows a CLEC to submit a spreadsheet of telephone numbers and some other minimal information to BellSouth for conversion. Once the CLEC submits the spreadsheet, BellSouth performs all the other tasks associated with the cut including order submission and number porting. BellSouth gains efficiencies through this process by eliminating the coordination between BellSouth and the CLEC and by batching the provisioning orders and eliminating duplicative dispatches.

The gains in efficiencies result in lower costs to the CLECs. Not only do the CLECs avoid the costs associated with the hot cuts from their side of the network, but they pay a reduced non-recurring charge for the cuts themselves. In addition, BellSouth will provide the CLEC with the UNE-L rate when the conversion process begins with the service order creation. The immediate access to the lower rate should make the CLEC indifferent as to when the end-user's loop is actually cut from BellSouth's switch to the CLEC's switch.

Q. CAN YOU PROVIDE MORE SPECIFICITY ABOUT THE PROCESS?

A. Certainly. A Mass Migration request allows a CLEC to submit a spreadsheet for the purpose of migrating large numbers of non-complex UNE-P service to UNE-L with LNP (Local Number Portability). Approximately 70% of the embedded base of UNE-P service within the BellSouth region is residential class of service. The majority of the remaining embedded base of business class of service is non-complex. The Mass Migration process has been established for simple large scale residential and small business embedded base mass conversions. The intent is for this process to provide the flexibility by applying the "80% rule" (i.e., the simple UNE-P conversions). In keeping with this principle, the following "simple" UNE-L services will be eligible for Mass Migrations:

- 2 Wire Unbundled Voice Loop – Service Level 1 ("SL1")
- 2 Wire Unbundled Voice Loop – Service Level 2 ("SL2")
- 2 Wire Unbundled Copper Loop – Non-Designed (UCL-ND)

To utilize this process, a planning phase will be conducted with the CLEC prior to the submission of its first mass migration spreadsheet. The purpose of the planning meeting is to ensure that the CLEC switch is operational and ready for the Telephone Numbers ("TNs") to be translated. Additionally, this phase will allow for negotiations of dates based on the volume level of conversions for the mass migration batch conversions and to confirm that the CLEC is aware of the information that is required on the spreadsheet.

Next, the CLEC submits a spreadsheet with pertinent information for the telephone numbers that the CLEC wants to migrate. BellSouth then internally project manages and completes all migration activities for preordering, ordering and provisioning including all Local Number Porting ("LNP") activity. From a CLEC perspective, the Mass Migration Process will allow for seamless pre-ordering, ordering and provisioning batch migrations. In contrast to the Batch Process, the Mass Migration Process shifts the "control" of the conversion activities back to BellSouth. This "control" allows for even greater efficiencies that can be passed along to CLECs with even higher Non-Recurring Charge ("NRC") discounts.

Again, the intent of the Mass Migration Conversion Process is to provide an option for a CLEC to provide minimal information to BellSouth and for BellSouth to handle all conversion activities. This will allow BellSouth to have more autonomy with the timing of conversions so as to balance its workforce with the workload.

Q. ON PAGE 14 OF HIS TESTIMONY, MR. GALLAGHER INDICATES THAT WHILE FDN DOES NOT SUPPORT BELLSOUTH'S PROPOSED 10% DISCOUNT TO CERTAIN NRCs FOR ITS BATCH PROCESS, FDN BELIEVES THAT VERIZON'S "BATCH PRICING STRUCTURE IS A FIRST STEP IN THE RIGHT DIRECTION." PLEASE COMMENT.

A. Due to the efficiencies in force and load balancing that BellSouth will gain in the Mass Migration Process, this process will be offered to CLECs at higher level of discount for the NRC. The discount structure can be seen in the following table.

Number of TNs to Migrate	Geographic Area	Targeted Migration Time Period	Pricing Targeted UNE-L NRC Reductions
500 to 2000	UNE Zones cut by Component Economic Areas	Negotiated period based on actual migration volume, but not expected to exceed 60 Days	15%
> 2000	UNE Zones cut by Component Economic Areas	Negotiated period based on actual migration volume, but not expected to exceed 180 Days	25%

To address concerns that CLECs may have with the timing of mass migration conversions, BellSouth will offer to bill the CLEC at the UNE-L recurring charge price instead of the UNE-P price during the mass migration conversion period. Said another way, once a CLEC submits to BellSouth a list of telephone numbers which triggers initiation of service orders, the CLEC will enjoy the UNE-L recurring rate rather than the UNE-P recurring rate. BellSouth will also initiate the non-recurring rate for each TN conversion (minus the discount) on the same date as the UNE-P to UNE-L recurring charge change. Normally, BellSouth's billing systems are constructed to bill on the actual conversion dates when service orders are completed. In the case of the Mass Migration process, however, the pricing changes previously described will be effected through billing

adjustments and credits once the individual telephone numbers are migrated to the CLEC's switch and the service orders are completed.

To summarize, BellSouth has developed yet another efficient batch process option to speed the conversion from UNE-P to UNE-L as required by the TRO. The Mass Migration Conversion Process has been developed with a specific purpose – to convert large numbers of CLEC UNE-P facilities to CLEC switching with minimal CLEC involvement in the individual cutovers. To that end, the Mass Migration process is designed for UNE Zones cut by Component Economic Areas where relief from UNE-P is granted.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

538

MILTON'S ERRATTA SHEET
McELROY

REBUTTAL P. 1 LINES 11 AND 12

REPLACE "675 WEST PEACHTREE ST, ATLANTA, GEORGIA 30375"

WITH "575 MOROSGO DRIVE, ATLANTA, GEORGIA 30324"

ALSO MY SURREBUTTAL

P. 1 ~~LINES~~ LINE 11

SAME CHANGE

MS. MAYS: Thank you, Mr. Chair. The next witness would be Dr. Chris Pleatsikas. He has direct, rebuttal and surrebuttal testimony. He also has an errata. We would ask that all of that be admitted into the record as though read. We would ask that his exhibits be identified as composite Exhibit 66.

CHAIRMAN BAEZ: Without objection, show the direct, rebuttal, and he had surrebuttal, too?

MS. CHRISTENSEN: Chris Pleatsikas.

CHAIRMAN BAEZ: Yes.

MS. MAYS: He has direct, rebuttal and surrebuttal.

CHAIRMAN BAEZ: And surrebuttal. Correct. The testimony of Dr. Chris Pleatsikas entered into the record as though read, and show the accompanying exhibits to that testimony identified as Composite 66.

(Exhibit 66 marked for identification.)

BELLSOUTH TELECOMMUNICATIONS, INC.

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

DIRECT TESTIMONY OF

DR. CHRISTOPHER JON PLEATSIKAS

Q. PLEASE STATE YOUR NAME AND POSITION.

A. My name is Christopher Jon Pleatsikas. I am a Principal at LECG, Inc. My business address is 2000 Powell Street, Suite 600, Emeryville, California 94608.

Q. PLEASE DESCRIBE LECG.

A. LECG is an economics and finance consulting firm that provides economic expertise in litigation, regulatory proceedings, and business strategy. Our firm comprises more than 550 economists from academe and business, and has 25 offices in six countries. LECG's practice areas include antitrust analysis, intellectual property, and securities litigation, in addition to specialties in the telecommunications, gas, electric, and health care industries.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL QUALIFICATIONS.

A. I have a B.A. from the University of Pennsylvania, as well as an M.S. in Natural Resources from the University of Vermont and an M.A. and a Ph.D. in Regional

Economic Analysis from the University of Pennsylvania. I have taught economics at both the University of Pennsylvania and the University of Maryland. My particular areas of expertise are industrial organization, competition policy, and microeconomics. I have extensive experience, both in the U.S. and abroad, in damages analysis, antitrust litigation, and in other litigation and strategic consulting assignments concerning a number of industries including telecommunications and a wide variety of other network industries. I have testified and submitted testimony before a number of courts and administrative agencies both in the U.S. and abroad.

Prior to joining LECG I was a Principal at Putnam Hayes & Bartlett. I have also been a Manager in the Economic Analysis Unit at Price Waterhouse. I have authored and co-authored a number of papers. My most recent papers include a book chapter and a journal article on analyzing market definition and market power issues in high technology industries and a journal article comparing the merger guidelines in the United States, Australia and New Zealand. My professional qualifications are detailed in my curriculum vitae, which is submitted as Pleatsikas Exhibit No. CJP-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Section 51.319(d)(2)(i) of the Rules promulgated by the Federal Communications Commission ("FCC") in connection with its Triennial Review Order ("TRO") requires commissions to define the "relevant geographic area" that they will use as their geographic unit of analysis in determining whether competitive local exchange carriers ("CLECs") are impaired without unbundled access to an incumbent local exchange carrier's ("ILEC's") local circuit switching to serve mass-market customers. The

purpose of my testimony is to provide the appropriate, economically sound definition of these "geographic areas" for this Commission's use in this proceeding. I am specifically addressing Issues 1 and 2 in the issues list for this proceeding.

Q. WHAT IS THE ROLE OF THE GEOGRAPHIC MARKET DEFINITION IN AN IMPAIRMENT ANALYSIS?

A. The FCC requires that, having defined "the markets in which they will evaluate impairment by determining the relevant geographic area to include in each market," a state commission must apply the impairment analysis required for unbundled local switching for mass-market customers "on a granular basis to each identifiable market" (TRO, ¶495).

That is, having decided how to define the geographic markets, the Commission must determine whether CLECs are impaired or not impaired at the level of these geographic markets—no determination of impairment at a different geographic scale should be made. Further, the same geographic area must be used for both the "triggers" analysis and the "potential deployment" analysis that this Commission must perform.

Q. DOES THE FCC PROVIDE GUIDANCE REGARDING THE DEFINITION OF THE APPROPRIATE GEOGRAPHIC AREAS TO BE USED IN A STATE COMMISSION'S IMPAIRMENT ANALYSIS?

A. Yes, it does. Section 51.319(d)(2)(i) provides that direction, stating:

> Market definition. 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 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.

Q. DR. PLEATSIKAS, GIVING APPROPRIATE CONSIDERATION TO THE FCC'S DIRECTION, CAN YOU PROVIDE THE DEFINITION OF THE GEOGRAPHIC MARKET THAT YOU BELIEVE THE COMMISSION SHOULD APPLY IN THESE PROCEEDINGS?

A. Yes. Based on my considerations of the factors that the FCC has outlined, I recommend that the Commission define as the relevant geographic markets in Florida the UNE rate zones ("UNE Zones") that this Commission has defined previously, subdivided into Component Economic Areas ("CEA") as defined by the Bureau of Economic Analysis, a part of the United States Department of Commerce. I have attached as Pleatsikas

Exhibit No. CJP-2 a map that displays the 31 markets that exist in Florida as a result of using this definition.

Q. WHY ARE THE COMMISSION'S UNE ZONES THE APPROPRIATE STARTING POINT FOR THE DEFINITION OF THE GEOGRAPHIC AREA?

A. The FCC's discussion in its TRO suggested that state commissions might "consider how UNE loop rates vary across the state" in determining the geographic markets, and that UNE zones may therefore be a useful part of the market definition to use in this proceeding (TRO, ¶496).

Moreover, using UNE Zones as the basis for market definition is directly responsive to the TRO's Rule that I cited. UNE Zones reflect the "locations of mass-market customers actually being served by competitors." I understand that CLECs in Florida serve the greatest number of customers in the more urban UNE Zones 1 and 2 than in the more rural UNE Zone 3. UNE Zones also take into account the "variation in factors affecting competitors' ability to target and serve specific markets profitably," because loop rates are determined by UNE Zone, with higher UNE loop rates in areas that are more costly to serve. This variation in costs is an important factor in determining where a CLEC may be able to serve customers profitably because, although each CLEC will have to consider a number of company-specific factors in deciding where to offer services with its own switch, most CLECs will have to consider the cost of the unbundled loops used to connect end users to the CLECs' switches. Use of UNE Zones is therefore directly responsive to the TRO's guidance to "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...." (TRO, ¶ 495).

In Florida, as in most other states, the Commission has divided the state into three separate zones, with different unbundled loop rates in each zone. The price of a loop is a factor a CLEC considers when determining where it will provide mass-market service using its own switch. This is the behavior we have seen with CLECs using UNE-P, whose rates also vary by UNE Zone. For example, according to one investment analyst, AT&T takes a targeted approach to market entry and enters only those areas where its UNE-P costs are at a 45 percent (or greater) discount to retail prices.

Q. WHY SHOULD UNE ZONES BE FURTHER SUBDIVIDED TO DEFINE THE RELEVANT GEOGRAPHIC MARKETS IN FLORIDA?

A. The TRO repeatedly indicates the determination of impairment be "granular," i.e., that the geographic areas chosen must be smaller than a state and should "attempt to distinguish among markets where different findings of impairment are likely" (TRO, ¶495). In Florida, for example, there are local telephone subscribers located in UNE Zone 1 in Miami, and there are local telephone subscribers located in UNE Zone 1 in Jacksonville. Even though all of these customers are in the same UNE Zone, and therefore a competitor would face the same UNE loop prices in both places, the two areas are so geographically distant that the costs of transport could impact the ability to consider these two distant locations to be a single market. That is not to say that UNE Zones 1 in Miami and Jacksonville might not be a single market for some CLECs, but to be granular in the assessment of impairment, it is necessary to further divide the UNE

zones to account for other types of costs that separate Miami and Jacksonville into distinct geographic markets. Having considered several alternatives, I find that superimposing the Component Economic Areas (CEAs) on top of the UNE Zones addresses issues such as this in an economically reasonable manner. I would note that CEA boundaries follow county lines, and zones follow wire center boundaries. As a result, sometimes a CEA boundary will split a wire center service area. In these instances, the entire wire center is associated with the CEA in which the majority of the wire center area falls. You can see an example of this by looking at Pleatsikas Exhibit No. CJP-2 and particularly at the Orlando CEA. You will see that the Orlando CEA Zone 2 market area actually extends across the CEA boundary into the Daytona Beach CEA.

Q. WHAT IS A CEA?

A. A CEA is one of 348 geographic areas defined by the U.S. government's Bureau of Economic Analysis ("Bureau"). Each CEA comprises adjacent counties that are economically related, and collectively the 348 CEAs cover the entire United States. The Bureau devised CEAs to define granular, economically meaningful geographic areas that could be used, for example, by "government agencies [that] often use relatively small areas for design of their program regulations or implementation of their licensing programs," or by "businesses [that] need such detail for determining plant locations and for defining sales and marketing territories." CEAs have, for example, been used by the FCC for its geographical licensing schemes and used by the Bureau as the basis for its local economic projections.

Q. HOW ARE CEAS DETERMINED?

A. The Bureau has described the process that it used to determine CEAs in the following manner. The Bureau first identified "economic nodes," which are metropolitan (or similar) areas that serve as "centers of economic activity." The Bureau then assigned to each node those counties that were "[the] most closely related." Thus, each CEA consists of a single economic node and the surrounding counties that are economically related to the node. Of the nodes, nationwide, 90 percent are in metropolitan areas, and 10 percent are in non-metropolitan areas. The resulting CEAs are continuous and cover the entire country.

CEAs were created to be economically meaningful in that they separate various parts of a state into different geographic markets based on economic factors (such as commuting patterns and newspaper readership). Using the CEA creates a geographic area with a community of interest. For example, because CEAs reflect newspaper circulation and commuting patterns, a CLEC could choose to market in one CEA but not in another, e.g., through print advertising and billboards. In short, my definition of the appropriate "geographic area" takes one concept that is relevant for this proceeding, namely the UNE Zones, and subdivides those zones by another relevant geographic delimiter, the CEA, to produce a set of granular, economically-meaningful markets consistent with the TRO's guidance.

Q. ARE THERE OTHER DEFINITIONS OF THE RELEVANT GEOGRAPHIC MARKET THAT THE COMMISSION COULD CONSIDER?

A. The answer is yes, in part. I believe that any definition that is not based on UNE Zones would be inappropriate. However, once the decision to use UNE Zones is made, there are other ways to subdivide the UNE Zones that the Commission could consider. I have considered those that appear relevant, and have determined that UNE Zones subdivided by CEAs is the most reasonable basis for defining geographic market for the present purposes.

Q. COULDN'T THE COMMISSION SUBDIVIDE THE UNE ZONES BY METROPOLITAN STATISTICAL AREAS ("MSAS")?

A. Yes it could. However, unlike CEAs, MSAs do not cover an entire state. For example, of the 3,151 counties in the U.S., only 836 are part of an MSA. In contrast, all counties are associated with a relevant CEA. Accordingly, if the Commission chose to use MSAs (along with UNE Zones), parts of Florida would be excluded from consideration in any impairment test.

Q. YOU HAVE DISCUSSED USING UNE ZONES SUBDIVIDED BY CEAS OR MSAS. WHAT ABOUT USING SMALLER GEOGRAPHIC AREAS SUCH AS WIRE CENTERS?

A. My conclusion is that using wire centers would be inconsistent with economic principles and with the tenets established in the TRO. The FCC in its order said that the

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" (TRO, ¶495). The FCC also required state commissions to take into consideration the locations of mass-market customers actually being served by competitors. A wire center level definition of the geographic market does not satisfy either of these criteria and is therefore inappropriate.

To elaborate, CLECs today are not limiting the customers they serve from a single switch to those located in a single wire center. Rather, they are casting their nets as wide as economically feasible to take advantage of economies of scale. This observation is consistent with actions the CLECs have taken to design and implement their networks independent of the existing incumbent local exchange carrier's network and wire centers. To use the language of the TRO, the ability to design a network to take advantages of the relative economics of switching, loops and transport is one of the "countervailing advantages" that a new entrant may have (TRO at ¶84).

Q. WHAT SUPPORT DO YOU HAVE FOR THE PROPOSITION THAT CLECS HAVE NOT BUILT THEIR NETWORKS TO SERVE CUSTOMERS BASED ON WHERE THE CUSTOMERS ARE LOCATED IN RELATION TO THE INCUMBENT LOCAL EXCHANGE COMPANY'S WIRE CENTERS?

A. I understand that the BellSouth witness discussing the "triggers" test has analyzed the markets where CLEC switches and CLEC customers are located and has found that the CLECs are serving customers in wire centers other than where their switches are located. In addition, the CLECs have been very clear that they are not designing their

networks based on BellSouth's hierarchy of wire centers. For example, in the transcript of an arbitration between AT&T and BellSouth in Florida (Docket No. 000731-TP), the prefiled testimony of David L. Talbott, a witness for AT&T notes that AT&T deploys its switches consistent with the "costs and efficiencies of today's technologies." Mr. Talbott stated in his prefiled testimony that AT&T has deployed fewer switches and more transport on the end user side of the switch (Transcript Vol. 1, page 94). The witness was very clear that AT&T did not intend to replicate BellSouth's wire center-based architecture. AT&T also indicated in that proceeding that, even though it did not have as many switches as BellSouth, its switches were capable of serving every customer in BellSouth's geographic footprint.

Wire centers have been defined in terms of BellSouth's switch locations and the customers served by those switches. AT&T has chosen another approach, which is to serve customers in a wider geographic area with a single switch, as have any number of other CLECs. Therefore, the wire center concept has no meaning with regard to market definition, and specifically no economic meaning in terms of how CLECs provision services to their end users. The geographic scope of the service offered is limited by the CLEC's ability to economically serve those customers using the CLECs' network design, not by the location or span of BellSouth's wire centers.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF DR. CHRISTOPHER JON PLEATSIKAS

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

JANUARY 7, 2004

I. INTRODUCTION

Q. ARE YOU THE SAME CHRISTOPHER JON PLEATSIKAS WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to the economic arguments regarding market definition made by Dr. Mark T. Bryant on behalf of MCI, Dr. Brian K. Staihr on behalf of Sprint, and Mr. Joseph Gillan on behalf of the Florida Competitive Carriers Association ("FCCA").

II. RESPONSE TO DR. BRYANT

Q. PLEASE DESCRIBE DR. BRYANT'S MARKET DEFINITION RECOMMENDATION.

A. In his direct testimony, Dr. Bryant concludes that each customer location represents a unique market. (Bryant Direct 40, 42) Dr. Bryant notes that for administrative convenience, the Commission may aggregate these "individual markets" to the wire center level. (Bryant Direct 43)

Q. IS EACH CUSTOMER LOCATION A UNIQUE MARKET?

A. No. In his direct testimony, Dr. Bryant based his proposed market definition merely on the observation that a customer wants landline telephone service at his or her location, and his assertion that having telephone service available at another (even nearby) location is not a substitute. (Bryant Direct 40) This is neither an accurate characterization of the demand for telecommunications services nor does it comply with the FCC's requirement, and basic economics, that a market definition consider whether a firm serving only one area could take advantage of the available scale and scope economies that might be available by serving a wider market. (TRO fn. 1536)

Dr. Bryant's observation that customers want telephone service in their own homes or businesses and that service to other locations is an inadequate substitute, is an observation focused solely on demand-side substitutability,

whereas markets should be defined with reference to both demand-side and supply-side substitutability. That is, you have to look at the market definition not solely from the viewpoint of the person receiving the service, but from the viewpoint of the person providing the service. Moreover, even ignoring supply-side substitutability, as a general economic proposition in terms of the demand for telecommunications services, advances in technology have undermined the validity and applicability of Dr. Bryant's views on demand-side substitutability, including for the purpose of defining geographic markets. For example, the provision and use of telecommunications services via wireless (i.e., mobile) technology demonstrates that, for some end users in at least some circumstances, the customers' premises is not the only geographic location at which customers desire or accept delivery of telecommunications services.

In discussing the issue of market definition, the FCC recognizes the importance of supply considerations, that is, looking at the market definition from the viewpoint of the supplier of the service. The FCC specifically instructs state commissions on this issue:

> We make clear that state commissions cannot define a market as encompassing an entire state and that they 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. (TRO fn. 1536)

Dr. Bryant's direct testimony on proposed market definition does not consider the FCC's requirement that the market definition incorporate relevant supply considerations, and as a result his definition fails to meet the FCC's expectations that "one would expect a broader market definition for switching than for loops or transport." (TRO fn. 1536)

Q. PLEASE COMMENT ON DR. BRYANT'S ARGUMENT THAT "A MARKET DEFINITION THAT IGNORED LOCATION SPECIFICITY WOULD FLY IN THE FACE OF THE ENTIRE FOUNDATION OF ANTITRUST AND REGULATORY ECONOMICS." (BRYANT DIRECT 42)

A. I agree that location specificity can be an important aspect of a product or service. However, location specificity in demand, by itself, is insufficient to imply that each individual location is a separate market. As I described, location specificity in demand for (landline) telecommunications services is related to a particular existing delivery technology as much as, or possibly more than, customer demand. In any event, location specificity is not unique to telecommunications services. There are other products that provide location specific services, but, like telecommunications, one cannot infer from this alone that each location is a separate market.

To illustrate how Dr. Bryant ignores the supply side of the definition of a market, consider "house painting." House painting is location specific in demand because, using Dr. Bryant's characterization, having the service "delivered" to a

neighbor's house is not an adequate substitute for having your own house painted. Yet, each individual home does not constitute a separate market because most firms that provide house painting services (other than an atypical and idiosyncratic "firm," such as a teenager who wants only to paint a parent's or neighbor's house) would not organize themselves so as to serve only one particular home. As the FCC instructs, available scale and/or scope economies (e.g., that can be captured through ladders, scaffolding, and other capital supplies or advertising one's services in the Yellow Pages), among other factors affecting supply substitutability, imply that the geographic market for house painting is larger than a single-house location.

Q. DOES DR. BRYANT CONCLUDE THAT CUSTOMER LOCATIONS ARE MARKETS?

A. No, in his direct testimony, Dr. Bryant confusingly suggests that although customer locations are apparently "the relevant geographical market for local telecommunications services" (p. 43), there are several "factors that support a market definition at the wire-center level" (p. 45) and so it is "most practical to conduct impairment analysis at the wire-center level" (p.46). In short, Dr. Bryant seemingly cannot decide whether he prefers customer locations or wire-centers as a market definition. In my opinion, neither of these definitions meets the guidance in the TRO.

Q. YOU HAVE DEMONSTRATED THAT CUSTOMER LOCATIONS ARE NOT MARKETS. IS DR. BRYANT'S WIRE CENTER AGGREGATION ANY MORE REASONABLE?

A. No, his aggregation is not reasonable because it does not sufficiently consider substitutability in supply. That is, it fails to consider whether efficient competitors using self-provisioned (or third-party) switching to provide service in certain wire centers could, within a sufficiently short period of time, render supracompetitive pricing by the incumbent in another, proximate wire center unprofitable (i.e., because a sufficient number of the incumbent's customers would switch to one of the competitors in response to such pricing). If these competitors could do so, then the relevant geographic market *must be larger than the individual wire center.* In fact, the scale and scope economies available to efficient entrants (TRO fn. 1536) are generally not consistent with the existence of narrow geographic markets defined along wire center boundaries. These scale and scope economies, which exist in part because of similarities in certain costs and demand and other economic characteristics shared by groupings of proximate wire centers, facilitate competition across broader geographic areas than individual wire centers.

Wire centers were organized years ago to efficiently permit the ILEC to serve all customer locations using the technology of the day. With (1) the continued growth of competition, and with each competitor (and the ILEC) serving fewer than the total number of customer lines in a wire center; (2) technological change that permits carriers economically to serve multiple wire centers using a single

switch rather than replicate the traditional network; and (3) the use by at least some CLECs of mass media advertising to attract customers (e.g., Z-Tel), single wire centers do not adequately reflect substitutability in supply and therefore are not markets.

Q. DO COLLOCATION COSTS BY THEMSELVES DEFINE A MARKET?

A. No. Collocation costs can influence where a CLEC may seek to offer service in a market, but they do not, by themselves, determine the geographic scope of the market. As I noted earlier, the geographic scope of a market is defined by considering *both* demand and supply substitutability.

That is, the issue for market definition in the context of this proceeding is whether, given demand and supply substitutability, an efficient competitor serving one part of an area reasonably could serve another part, recognizing that in so doing it could incur additional costs such as additional collocation costs in the event that it is not already collocated. Dr. Bryant contends that CLECs make such decisions on a wire center-by-wire center basis because costs vary across wire centers. (Bryant Direct 43) However, most CLECs that provided information on this point stated, contrary to Dr. Bryant's assertion, that they do not make entry decisions at the wire center level. (FCCA Response to BellSouth Interrogatory 1-18) Moreover, while it is true that certain costs vary across different wire centers, the "zoning" concept for UNE prices is intended to address, at least in part, this specific issue by identifying wire centers with similar cost characteristics. More importantly, when the wire centers in a geographic area share certain cost and

other economic characteristics, an efficient CLEC that operates in one part of the market (e.g., serves customers in one wire center) would generally be able to increase its profit (e.g., because it could spread the recovery of joint and common overhead costs across more customers) by extending its services to customers in other nearby areas (i.e., whose loops are in other similarly situated wire centers). In other words, if providing service in one wire center is likely to be profitable, then providing service in another proximate wire center that has similar costs and shares other economic commonalities is likely to be profitable as well. As I noted, providing service in new areas of this overall market may require an outlay for additional collocation cost, but this is merely one of the costs of doing business—it is not the sole determinant of market definition.

Dr. Bryant has not demonstrated either that efficient CLECs make entry decisions in the manner he asserts or that demand and supply substitutability would generally result in geographic markets confined to wire center boundaries. To the contrary, the ability of CLECs to capture economies of scope and scale across a wider area because aggregations of wire centers share certain cost and other economic characteristics is inconsistent with Dr. Bryant's assertions. In deriving my market definition as the intersection of UNE Zones and Component Economic Areas I specifically considered factors relating to both homogeneity in certain costs and economic commonality, both of which affect supply substitutability.

Q. DID ANY CLECS SUPPORT A CLAIM TO CONSIDER ENTRY DECISIONS ON A WIRE CENTER-BY-WIRE CENTER BASIS?

A. No. In its response to BellSouth's first set of interrogatories, the FCCA notes that 2 of 9 CLECs that the FCCA interviewed claimed to make decisions to "enter a market at the wire-center level." (FCCA Response to BellSouth Interrogatory 1-18) However, when given the opportunity to identify the factors that influence its market entry decisions, one of those two CLECs, MCI, listed ILEC retail prices, ILEC access charges, and ILEC UNE-P/UNE pricing—none of which is determined solely at the level of the wire center. Indeed, ILEC retail prices, ILEC access charges, and ILEC UNE-P/UNE pricing extend across multiple wire centers. The other CLEC that claimed to make entry decisions at the wire center level, Network Telephone, stated that it would not enter additional wire centers due to the regulatory climate and an unfavorable capital market. (FCCA Response to BellSouth Interrogatory 1-19) Neither of these factors is affected by developments at the level of wire center boundaries.

Q. DR. BRYANT MAINTAINS THAT CLECS WILL NOT OFFER SERVICE IN A PARTICULAR WIRE CENTER IF THEY DO NOT BELIEVE THAT THE WIRE CENTER WILL "CONTRIBUTE TO THE BOTTOM LINE." (BRYANT DIRECT 48-49) IF TRUE, DOES THIS IMPLY THAT EACH WIRE CENTER REPRESENTS A DIFFERENT MARKET?

A. No, Dr. Bryant's perspective is too simplistic in that it ignores both the import of the concept of substitutability in supply and the manner by which firms evaluate

and exploit business opportunities. For example, if a firm were to analyze the profitability of entry into a single wire center in isolation from the opportunities available in contiguous and/or proximate wire centers, it might find that entry was likely to be unprofitable given all of the costs associated with entry. By contrast, if at least some such costs (such as switching, marketing and administrative costs) could be amortized over multiple wire centers, entry might be highly profitable over a broader area. Of course, firms use the latter method for evaluating opportunities – by assessing financial and economic viability over reasonably-sized geographic (and product) spaces, not by artificially confining themselves to providing services within arbitrarily defined narrow areas (such as individual wire center boundaries) that have no relevance to their business models. Thus, the rational CLEC selects the geographic area – which likely includes several wire centers – that maximizes its profits. Insofar as there are economies of scale and scope that are captured by serving multiple wire centers, the rational CLEC will ultimately enter and serve an area that spans that broader geography.

Wire centers that have the similar cost and revenue characteristics can be grouped together because either (1) the efficient CLEC that decides to enter one wire center due to its perceived profitability would be willing (and able) economically to enter another nearby wire center with similar cost characteristics and market prospects and/or (2) the efficient CLEC may initially decide to enter multiple wire centers (either sequentially or simultaneously) if it believes that serving the combination of wire centers is likely to be profitable even if serving any of the wire centers individually (in isolation) would not be profitable. Because a CLEC can use some of its assets (e.g., the switch) to serve customers in a broader area,

economies of scale and scope associated with those assets are relevant to determining the market definition.

Indeed, this is precisely the relevance of my proposal for defining a market as the intersection of the UNE Zones in BellSouth's territory with the relevant Component Economic Area ("CEA"). The UNE Zone/CEA intersection identifies those relatively compact areas that are economically related and where costs are relatively homogeneous. These areas are reasonably likely to correspond to the market area considered by the CLEC in deciding whether to enter.

Q. IS THE ACTUAL COVERAGE OF FACILITIES-BASED CLECS AN INDICATOR OF THE GEOGRAPHIC MARKET AREA?

A. In the case of telecommunications, no, due to the impact that widespread availability of UNE-P has on facilities deployment. The extent of coverage offered by a service provider can be one indicator of the geographic scope of the market. However, as is noted by FCC Chairman Michael Powell in his Separate Statement to the TRO, the situation is different in telecommunications because there may be an incentive in at least some circumstances for CLECs to use UNE-P rather than self-provided or third-party switching even in instances where there is no impairment. Mr. Powell contends that the availability of UNE-P entices CLECs to use that method of service even when they economically could serve customers using UNE-L. As Dr. Aron describes, this can occur because UNE-P provides the promise of higher profits than UNE-L and/or the use of UNE-P

permits CLECs to offer service without making risky, irreversible investments in switching infrastructure.

As a result, if we observe a CLEC that offers mass-market service from its own switch to customers in a relatively compact, economically meaningful, area (such as a UNE Zone within a CEA) that is served by multiple wire centers, we can conclude that the relevant geographic market is broader than a single wire center. However, we cannot necessarily conclude that we have observed the full scope of the UNE-L marketplace just from the current deployment of UNE-L (i.e., because the real-world CLEC's business plan may be influenced by the availability of UNE-P). For this reason, it is more appropriate to consider aggregations of wire centers, such as the UNE Zone/CEA method that I propose. This approach identifies relatively (geographically) compact areas that are economically related and where costs are relatively homogeneous. If an efficient CLEC economically can offer service in one part of the area without access to the unbundled element, it may well be able to offer service in any other part of that area, even if, in the real world, this capability is being obscured by CLECs' choice of UNE-P rather than self-provisioning of switching.

Furthermore, the evidence provided by BellSouth witness Pam Tipton demonstrates that CLEC switches generally provide service across multiple wire centers. Moreover, as Z-Tel's witness Michael Reith testifies, that firm advertises in media such as television, radio, and print that cross wire center boundaries. As a matter of economics, this evidence is inconsistent with Dr. Bryant's proposed market definition.

Q. DR. BRYANT CLAIMS THAT THE CONNECTICUT DEPARTMENT OF PUBLIC UTILITY CONTROL ALREADY HAS DETERMINED THAT THE WIRE CENTER IS THE APPROPRIATE UNIT OF ANALYSIS. (BRYANT DIRECT 49) PLEASE COMMENT.

A. As I understand it, the CDPUC in its procedural order stated that it would collect data at the wire center level, but that it has not yet made a substantive determination with regard to market definition. For example, in response to a petition for clarification and reconsideration filed by Southern New England Telephone Company, the CDPUC affirmed that it will use the wire center as the basis for collecting data and for its preliminary analysis. However, in that response, the CDPUC acknowledged that it had not made a final determination about market definition by concluding, "Nevertheless, such designation [of wire centers for purposes of collecting data] does not prevent the Department from utilizing other market measurement points if they are necessary or beneficial to its efforts in defining the extent of competitive participation in the local exchange market."

Q. DR. BRYANT CLAIMS THAT WIRE CENTERS ARE NATURAL GEOGRAPHIC BOUNDARIES BECAUSE COSTS VARY WIDELY ACROSS WIRE CENTERS. (BRYANT DIRECT 29) PLEASE COMMENT.

A. Even though costs may vary across wire centers, this does not necessarily imply that wire centers are relevant markets. The reason that the one does not imply the

other is, as I noted earlier, that an efficient CLEC would not seek to enter only one particular wire center without also evaluating whether it would be more profitable (due to economies of scale or scope) to enter a broader group of wire centers that have comparable (but not necessarily exactly the same) costs and are economically related. Generally, if we observe CLEC entry in one wire center, we can infer that efficient CLEC can enter other nearby, similarly situated, wire centers. Indeed, as I discussed, there may be cases where it would not be economical to enter only one wire center *without* also (ultimately) entering others, due to the existence of certain joint and/or common costs that are relevant to providing service to multiple individual wire centers.

As I noted, UNE Rate Zones are intended distinguish between "significant cost variations." (FCC First Report and Order at ¶¶ 760, 765) The FCC also noted that the state commission should consider separating zones with high and low UNE loop rates for purposes of assessing impairment. (TRO fn. 1538) Moreover, I also understand that this Commission has grouped wire centers into UNE Rate Zones that have similar cost characteristics. It follows that Dr. Bryant's contention that it is "not possible [to] draw conclusions about one wire center from an analysis of another wire center" (Bryant Direct 86) is unsupported by this Commission's own conclusions with regard to UNE Zones. (Florida Order PSC-01-1181-FOF-TP, May 2001) In fact, the opposite is the case: it is reasonable for the purpose of defining a geographic market to draw inferences about the ability of an efficient CLEC to serve in one area of a UNE Zone/CEA from observations of CLEC service in other areas of that UNE Zone/CEA.

Q. PLEASE COMMENT ON DR. BRYANT'S ASSERTION THAT IT IS LESS COSTLY FOR A CLEC TO SERVE NEW CUSTOMERS IN A WIRE CENTER WHERE THE CLEC ALREADY IS COLLOCATED THAN IT IS TO SERVE NEW CUSTOMERS IN A WIRE CENTER WHERE THE CLEC HAS NOT YET ESTABLISHED COLLOCATION. (BRYANT DIRECT 29)

A. Even if this assertion is true, it is not necessarily directly relevant to market definition. To understand this, consider the following observation. A publishing firm may find that it is less costly (and more profitable) to sell cookbooks to customers that already subscribe to the firm's homeowner's magazine than to new customers (i.e., people to whom the firm currently sell no products). This may occur for several reasons – e.g., the firm understands the tastes and needs of current subscribers, the current subscribers have developed a level of trust in and/or a preference for the firm's products, and/or it is relatively less expensive to market the cookbook to current subscribers (for example, through an advertising insert that could be included in the magazine at relatively low incremental cost). As a result, the firm's costs of sales may be much lower (and the firm's success rate as measured by sales per contact much higher) to its existing magazine subscribers than to new customers. Nevertheless, this does not imply that new customers are in a separate relevant market for cookbooks. A cost differential of the sort described by Dr. Bryant does not, by itself, determine the extent of the market.

Indeed, it is reasonable to infer that a CLEC that has established collocation in one wire center could establish collocation in a nearby wire center that has similar costs (e.g., the same loop rates) and that shares a close economic relationship with the collocated wire center. Moreover, it is possible that the CLEC could increase its overall profitability by collocating in the other wire center and take advantage of scale and scope economies available from serving this wider area. After all, collocation costs are not the only costs that are relevant to determining market area.

As I noted, the competitive entry decision occurs at the *market* level (which generally would span several wire centers) even if a particular CLEC may elect not to enter a *particular* wire center (immediately or ever). Accordingly, and in contrast to Dr. Bryant's proposal, a reasonable way of determining whether a particular wire center should be included in a more broadly defined market area depends on whether that wire center's relevant economic/financial characteristics are reasonably homogeneous with those of other proximate wire centers. If they are, then the wire center should generally be included in that broader market area. The UNE Rate Zone concept helps ensure that network-related costs (e.g., the price of a loop) are comparable within any geographic market. Using these zones in conjunction with CEAs to define geographic markets helps ensure that these areas are relatively compact and share certain economic characteristics.

III. RESPONSE TO DR. STAIHR

Q. PLEASE DESCRIBE DR. STAIHR'S RECOMMENDATION WITH REGARD TO GEOGRAPHIC MARKET DEFINITION.

A. Dr. Staihr recommends the use of metropolitan areas ("metropolitan statistical areas" or "MSAs") as the relevant geographic market. (Staihr Direct 4) As I noted in my direct testimony, MSAs do not collectively cover all of the geography in a state. CEAs do so. Thus, under Dr. Staihr's proposal there would be areas where impairment could not be evaluated. However, and critically, Dr. Staihr also seeks to imply, as Dr. Bryant did (see my previous answer), that plans by CLECs to serve only some customers in a market somehow necessarily has implications for defining the geographic scope of a market. (Staihr Direct 14-15).

Q. WHAT ARE THE PROBLEMS WITH DR. STAIHR'S RECOMMENDATION?

A. Dr. Staihr is concerned that a CLEC may be cherry picking by serving only part of the market. I have already noted that the target customer base of any particular firm bears no necessary relationship to defining a geographic market.

In fact, one reasonably might expect at least some (and perhaps all) CLECs to focus their network resources (to the extent that they deploy them at all) on particular customer types or geographic areas, rather than serve (or even to

attempt to serve) all customers in a market. In other words, even when a market is defined properly, real-world CLECs may have incentives to target the areas (and/or customer types) where they serve mass-market customers using their own switches, and, as FCC Chairman Powell, Dr. Aron, and I have noted, they also may have incentives to refrain altogether from deploying their own switching when UNE-P is available. Thus, Dr. Staihr's implication that the extent and/or magnitude of current UNE-L service is necessarily determinative for market definition purposes is not supportable as a matter of economics.

On the other hand, dividing CEAs by UNE Rate Zones helps ensure that one has identified areas that are economically related and that are relatively homogeneous in cost. If a CLEC serves one part of that market area using its own (or a third party's) switching, one can generally infer that the CLEC, if efficient, economically could serve another part. Thus, one can accomplish the objective of defining economically meaningful geographic markets by utilizing a market definition that helps ensure that the area being considered is relatively homogeneous in terms of costs and other economic factors.

IV. RESPONSE TO MR. GILLAN

Q. PLEASE DESCRIBE MR. GILLAN'S DEFINITION OF GEOGRAPHIC MARKET.

A. Mr. Gillan claims that he does not propose a geographic market definition. (Gillan Direct 23) However, Mr. Gillan also contends that the Commission should define its geographic area in a "manner that permits [the Commission] to recognize the unique competitive signature of UNE-P, so that it may test other entry strategies to see whether they could produce the same level of competitive choice." (Gillan Direct 29) In other words, Mr. Gillan contends that the geographic market, however defined, should permit a competitive entry strategy that would replicate the same geographic pattern of market penetration that has occurred for CLECs with the use of UNE-P.

Q. PLEASE COMMENT ON MR. GILLAN'S "COMPETITIVE SIGNATURE" APPROACH TO MARKET DEFINITION.

A. I understand that Mr. Ruscilli points out that Mr. Gillan's proposal is nothing more than an attempt to define the market as the entire state, a definition that is explicitly ruled out in the TRO (¶495). From a market definition perspective, I will note that one does not define markets merely by evaluating the competitive entry strategies of individual firms. I will also note that, when provided the opportunity in the FCCA Response to BellSouth Interrogatory 1-09, Mr. Gillan identified no treatises, articles or literature addressing the "competitive signature"

approach to market definition and specifically stated that his opinion relied upon no such treatises, articles or literature.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BELLSOUTH TELECOMMUNICATIONS, INC.

SURREBUTTAL TESTIMONY OF CHRISTOPHER J. PLEATSIKAS

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030851-TP

January 28, 2003

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Christopher J. Pleatsikas.

Q. ARE YOU THE SAME CHRISTOPHER J. PLEATSIKAS WHO FILED DIRECT AND REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. I respond to comments regarding market definition made by Dr. Staihr (on behalf of Sprint), Dr. Bryant (on behalf of MCI), Dr. Johnson (on behalf of the Citizens of the State of Florida), Mr. Gillan (on behalf of FCCA), Mr. Bradbury (on behalf of AT&T), and Mr. Nilson (on behalf of Supra).

Q. PLEASE PROVIDE YOUR OVERALL VIEW OF THE COMMENTS MADE BY THESE PARTIES.

A. I have several general observations regarding the comments and recommendations made by these parties. First, the various CLEC recommendations are inconsistent with one another in terms of geographic area. Dr. Bryant claims that each individual customer represents the appropriate economic market, although, he contends, a wire center would be administratively simpler. Mr. Gillan recommends that the entire service footprint, or else the LATA should be considered a market. Mr. Gillan disparages the use of UNE Rate Zone/CEAs as "gratuitously granular," yet Mr. Nilson, like Dr. Bryant, recommends the even more granular existing wire centers. (I note that Mr. Nilson says "retail rate centers" in summarizing his position on page 4 of his rebuttal testimony, but specifically recommends the use of "wire centers" at page 25, so I conclude that he actually intends to define the market at the "wire center" level.) In addition, Dr. Johnson, on behalf of the Citizens of the State of Florida, recommends wire centers or *ad hoc* aggregations of wire centers that have "reasonably homogeneous [demand] characteristics." Mr. Bradbury appears to advocate the wire center definition as well.

Second, there is inconsistency in their basic approach to market definition. Most of these witnesses are willing to commit to a geographic market definition prior to conducting their impairment analyses. However, Dr. Johnson appears to support the view that markets could be defined after the impairment analysis has been conducted.

Third, none of the witnesses who propose a wire center definition has provided a compelling economic rationale to explain why a wire center should be the relevant geographic market in this instance. While there is no question that certain data are available by wire center, this does not constitute an economic rationale for defining a market, particularly when, as is intuitively obvious, data are as readily available for aggregations of wire centers. In addition, the FCC's guidance on this issue is inconsistent with the view that individual wire centers would generally be appropriate relevant markets. That is, no witness proposing wire centers as markets has explained how, absent any further market-based analysis, and as a general economic proposition, such a definition can be reconciled with the TRO's clear guidance that "[S]tates 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." (TRO 495 (emphasis added))

Fourth, some witnesses have responded to the UNE Rate Zone/CEA definition by separately criticizing the relevance of CEAs and of UNE Zones. In my opinion, these criticisms are misguided, because these concepts are not used *separately* to determine a relevant market. Instead, both concepts are used together to provide an economically reasonable definition of the market. Thus, any criticisms that CEAs or, alternatively, UNE Zones, by themselves, are too "large," too "vast," or too "heterogeneous" [in demand] are not relevant to my analysis.

Finally, in my opinion, there is an undercurrent in the testimony of many of the CLEC witnesses (as well as the State's witness) that, unless all issues relating to the ability of a CLEC to compete profitably in each and every wire center are definitively resolved, markets must be defined according to the smallest possible geography. In this manner, their testimony appears to seek to turn the impairment analysis on its head. In other words, they contend that one should conduct the impairment analysis at the wire center level first, then (possibly) decide, on the basis of those results, the extent of the geographic market. This is inconsistent with sound economic analysis and clearly at odds with the direction in the TRO that "State commissions *must first define the markets in which they will evaluate impairment* by determining the relevant geographic area to include in each market." (TRO 495 (emphasis added))

II. RESPONSE TO DR. STAIHR

Q. WHAT DOES DR. STAIHR RECOMMEND AS THE APPROPRIATE GEOGRAPHIC MARKET DEFINITION? (STAIHR REBUTTAL 2-3)

A. Dr. Staihr recommends the use of MSAs. Dr. Staihr contends that MSAs represent an aggregation of customers in urban areas and that this might be a relevant market. For those areas not covered by MSAs, Dr. Staihr recommends using RSAs.

Q. PLEASE COMMENT.

A. The main problem with his proposal is, contrary to Dr. Staihr's assertions, MSAs often contain some rural areas. Thus, while most of the population in an MSA resides in urban and suburban areas, because MSAs are defined (outside of New England) along county boundaries, MSAs are not strictly confined to urban and suburban populations. There are several instances where the more rural UNE Zone 3 crosses into an MSA (using 1999 MSA definitions), including (but not limited to) Panama City, Pensacola, Gainesville, Jacksonville, Daytona Beach, Orlando, West Palm Beach, and Miami – Ft. Lauderdale.

Furthermore, it is my view that cost differences associated with serving customers in different UNE Zones (e.g., UNE Zone 3, due to its lower density and higher loop costs than UNE Zones 1 and 2) could lead to differences in the substitutability in supply. The geographic market definition should reflect these differences. The use of MSAs, without subdividing MSAs by UNE Rate Zones, does not reflect these differences and therefore can lead to an inappropriate definition of the market.

I believe that the main distinction between my approach and Dr. Staihr's proposal centers on the geographic concept used in conjunction with UNE Rate Zones to develop the relevant market. Dr. Staihr proposes MSAs, without reference to UNE Rate Zones, and I propose UNE Rate Zones with reference to CEAs. Dr. Staihr contends that a reference to UNE Rate Zones is not required if MSAs are used because MSAs already represent more urban areas. In doing so, however, he

ignores the fact that some parts of at least some MSAs are either rural in character or have very low population densities.

Q. DR. STAIHR CLAIMS THAT UNE ZONES 1 AND 2 ARE RELATIVELY URBAN AND CAN BE COMBINED INTO A SINGLE GEOGRAPHIC MARKET. (STAIHR REBUTTAL 3) DO YOU AGREE WITH THIS CLAIM?

A. No, the distinctions between UNE Rate Zone loop rates counsel against such consolidation. My rationale for using the *intersection* of the areas defined by UNE Rate Zones and CEAs (or MSAs) is based on an attempt to recognize a reasonable amount of granularity in reflecting differences in cost factors (resulting from, *inter alia*, differences in line density) that affect supply-side substitutability, while maintaining a balance with other factors that would suggest a wider relevant geographic market area. While it may turn out that any impairment analysis will show that an efficient CLEC is unimpaired in both UNE Zones 1 and 2 in some (or even all) MSAs, I do not believe that this is relevant for determining that these Zones in some (or all) CEAs are part of the same relevant market.

Q. DR. STAIHR CLAIMS THAT SUBDIVIDING CEAS BY UNE RATE ZONES "NEGATES" THE COMMUNITY OF INTEREST ASPECT OF CEAS. (STAIHR REBUTTAL 4) PLEASE COMMENT.

A. A geographic market is not necessarily determined solely by whether an area possesses a community of interest in the sense, for example, of being in the same media market. While the scope of the media market, for example, can be one determinant of the market's geographic scope, it need not be the only one. As I have indicated, the willingness of a supplier that offers service in one part of an area to also offer it in another part (i.e., the substitutability in supply) is an important aspect of market definition, and this is generally determined by factors other than mass-market advertising, such as differences in provisioning costs. Accounting for these differences enhances the definition of the market by considering *both* those community of interest factors considered by the BEA in establishing CEAs and other factors that may influence the willingness of an efficient CLEC to supply service in a geographic area.

III. RESPONSE TO DR. BRYANT

Q. DR. BRYANT CLAIMS THAT A CEA IS OVERLY "BROAD." (BRYANT REBUTTAL 3) DO YOU PROPOSE USING A CEA AS THE RELEVANT MARKET DEFINITION?

A. No, I do not. Dr. Byant contends that "[I]f a market as broad as a CEA is defined, differences in profitability in wire centers will be obscured, and the impairment analysis will thus fail to capture any areas where the CLECs cannot profitably provide services." (Bryant Rebuttal 3) There are two problems with this statement. First, it is irrelevant, because I did not propose the CEA as an

appropriate geographic market – rather, I proposed the intersection of CEAs and UNE Zones, which is a smaller area than the CEA as a whole. Second, Dr. Bryant seems to imply that there is an additional test in the TRO that CLECs must be able to profitably provide service to all customers within the geographical area. The FCC's explicit *Errata* to the Order clarified that the TRO does *not* require that, for the purposes of the switching triggers, self-provisioning competitors must be ready and willing to serve all retail customers in the market.

Q. DR. BRYANT CONTENDS THAT THE USE OF WIRE CENTERS PROVIDES MORE ACCURACY REGARDING THE ABILITY OF CLECS TO OFFER SERVICE. (BRYANT REBUTTAL 6) PLEASE COMMENT.

A. In my opinion, Dr. Bryant's reasoning is faulty on this point. The economies of scale and scope available to CLECs in providing switch-based services are not, in general, consistent with defining markets based on individual wire centers. Therefore, by defining markets in this manner, the analysis would simultaneously become more complex and less accurate (as the market definition would obscure supply-side substitutability). Defining markets in this manner could also be more time consuming and costly. Disagreement would inevitably arise as at least some parties would attempt to compensate for the overly-narrow market definition by citing factors that reflected supply-side substitutability over a broader area, particularly factors associated with the scope and scale economies that would be available to efficient CLECs.

Q. DR. BRYANT CONTENDS THAT THERE ARE COSTS THAT ARE NOT CAPTURED BY THE UNE RATE ZONE/CEA CONCEPT, AND THAT THESE COSTS SHOULD AFFECT THE MARKET DEFINITION. (BRYANT REBUTTAL 3) PLEASE RESPOND.

A. Dr. Bryant lists a number of features that may vary across areas within the same geographic market, such as the number of addressable lines, the number of lines that are accessible by DSL or that are served by DLC, the relative number of business and residential lines, and customer demographics. While I do not seek to comment on all of the technical issues here, I will state that it is normally the case that economic markets are not, and need not be, homogeneous in all respects.

Moreover, not all of Dr. Bryant's items necessarily have to do with market definition. Some of his factors appear to have more to do with market structure. For example, an area with a large number of customer lines (or a large number of lines accessible by DSL) may allow *more firms* to economically enter than would an area with a smaller number of lines (that is, the larger market may allow more firms to achieve minimum efficient scale), but this variation would not necessarily be a factor in determining the geographic contours of the market

The UNE Rate Zone concept, as I understand it, is designed to capture the variation in the cost of the loops. To the extent that other costs or revenues vary systematically with UNE Rate Zone, they will also be accounted for, at least in part. More importantly, from the perspective of supply-side substitutability,

BellSouth's witness Wayne Gray has stated that some of the most important wire center-related cost factors for an efficient CLEC to consider in deciding whether to offer switched-based mass-market services are (1) loop costs, (2) transport costs and (3) collocation costs. The UNE Zone concept, of course, captures the variation in loop costs directly. Furthermore, Mr. Gray has also stated that transport costs exhibit economies of scale and average per customer collocation costs in a wire center decline as the number of customers served from that wire center increase.

Finally, certain cost factors are not noted in Dr. Bryant's list of factors. For example, he does not include the costs of marketing and advertising, which tend to support wider areas than wire centers as relevant economic markets.

My recommendation to define the market as the intersection of the UNE Rate Zone and the CEA is a reasonable "middle ground" attempt to balance both the community-of-interest aspect as well as some of the network-oriented cost factors that can influence substitutability in supply. Dr. Bryant's definition appears to focus on some network-oriented factors that relate more to market structure than demand- or supply-substitutability, virtually ignoring such "community-of-interest" factors as mass-market marketing and advertising costs. In contrast, Dr. Staihr's proposal does just the opposite. I would submit that by accounting for both types of factors the UNE Rate Zone/CEA concept provides the Commission with a reasonable approach to market definition.

IV. RESPONSE TO DR. JOHNSON

Q. PLEASE SUMMARIZE YOUR GENERAL REBUTTAL POINTS REGARDING DR. JOHNSON'S TESTIMONY.

A. In my opinion there are three primary problems with Dr. Johnson's approach to market definition. First, his *ad hoc* and *ex post* "clustering" approach to market definition appears to delay the market definition stage of the analysis until after the impairment analysis has been completed, which is inconsistent with the guidance provided in the TRO cited above that "State commissions *must first define* the markets in which they will evaluate impairment by determining the relevant geographical area to include in each market." (TRO 495 (emphasis added))

Dr. Johnson appears to favor conducting the impairment analysis first, relying on a wire center-by-wire center analysis. Based on the results of this evaluation, Dr. Johnson would apparently group or cluster wire centers together in circumstances where switch-based CLECs could compete and where the demand characteristics of customers were "homogeneous." This *ex post* approach to market definition ignores the reason one defines markets prior to evaluating competitive effects/competitive feasibility – that is, such evaluations only make sense if they are conducted based on reasonably well-defined markets. Otherwise, as I have pointed out in my Rebuttal testimony, one runs the risk that the conclusions reached will be incorrect (e.g., because one is focused on an area that, by itself – for example, because economies of scale and scope are ignored or underestimated –

cannot support competitive entry, but, as part of a larger area, would experience competitive entry).

Second, Dr. Johnson has added a requirement to defining markets – homogeneity in demand characteristics – that is both too vague to apply and, more importantly, unsupportable as an economic determinant of market definition. In fact, markets need not be homogeneous in terms of demand characteristics either within or across geographies, and economics does not recognize this factor as a determinant of market definition.

Finally, the *ex post* approach introduces a third problem. It is logically impossible to implement Dr. Johnson's proposal because it presupposes some unspecified definition of the market without making that definition explicit. One cannot conclude anything about impairment *until* we determine the size and shape of the relevant "market." Further, an unspecified definition that is not clarified except *ex post* invites regulatory gaming. I think for these reasons, sound economic analysis and FCC requirements dictate that markets must be defined prior to conducting an impairment analysis.

Q. PLEASE COMMENT ON DR. JOHNSON'S CLAIM THAT MARKET DEFINITION SHOULD BE BASED ON THE "START SMALL AND BUILD UP PRINCIPLE." (JOHNSON REBUTTAL 13.)

A. While the general principle he cites is valid, in my opinion Dr. Johnson has misinterpreted the meaning of this principle and the manner by which this principle is applied by the DOJ/FTC Horizontal Merger Guidelines in at least two respects. First, the Guidelines do not require that one start the market definition process using the smallest possible geographic area. If this were correct, one might (unnecessarily) begin the process of defining any telecommunications market at the level of the individual customer, as Dr. Bryant suggests, or by defining a local grocery market at the level of the few blocks surrounding an individual grocery store. In reality, a sound economic approach to economic market definition incorporates known, relevant information in proposing an initial market definition for analysis. Thus, as the FCC suggests, one should consider the economies of scale and scope available to CLECs before one proposes a market definition. (Note that the Horizontal Merger Guidelines focus exclusively on demand-side substitutability in defining the market, but use supply-side factors in determining who does or could compete in the market (and whether any market participants have market power), while economics more generally recognizes that there are often benefits to using both demand- and supply-side substitutability as the bases for defining relevant markets for competition analysis. This more general economic view is entirely consistent with the FCC's directions in the TRO.)

I should note that there is no absolute preference in the Guidelines that indicates that markets must be small in size. In fact, the Guidelines counsel that one should *end* with the smallest possible market in which a hypothetical monopolist in the provision of some product could profitably impose a small but significant and non-

transitory price increase. In some cases, application of this methodology will result in markets that are quite large in size.

Second, by employing an ILEC-based perspective (i.e., the wire center) to defining the relevant market, Dr. Johnson has misinterpreted the objective of the analysis. Central to understanding the applications of the Guidelines (and, indeed, the more general concept of market definition in economics) is the view that market definition should not be conducted in a vacuum – that is, understanding the objective of the exercise is important to defining an appropriate market for analysis. Dr. Johnson states that he has employed the wire center as the starting point for his analysis of market definition because he believes the Guidelines direct him to use the locations of production facilities as a starting point (which he interprets as a wire center). Even assuming the wire center were the appropriate notion of ILEC production facilities in some circumstances, in the impairment analysis the objective is to determine where CLECs, *not ILECs*, can compete. Thus, to the extent that a focus on production facilities were warranted, this would presumably require a focus on CLEC production facilities, not ILEC production facilities. In my opinion, this is one of the main reasons that the FCC directed that market definition be informed by the scale and scope economies available to CLECs. Beyond this problem, one does not blindly focus on the location of individual "production facilities" in defining a market. For example, in a large metropolitan area, no one would seriously consider starting the process of defining a market for automobile retailing based on the location of a single dealership.

Q. DO YOU START FROM AN EXTREMELY LARGE MARKET SIZE AND WORK SMALLER? (JOHNSON REBUTTAL 15-16, 32.)

A. No. Dr. Johnson mischaracterizes the process I used in determining the extent of the geographic market. Applying sound economic principles, one starts neither at the most atomistic level possible nor at the most expansive level possible. Instead, one reviews the information regarding the nature of the market, evaluates substitutability in demand and supply and then makes a reasoned estimate of the relevant geographic scope of the market. It may be the case that some modifications, smaller or larger, are needed after making this initial estimate. However, such fine tuning does not mean that one starts either at the smallest or largest possible market size and works toward a middle ground. Either approach would be costly, unnecessary, and prone to deriving inaccurate results.

Q. HAS DR. JOHNSON UTILIZED THIS "START SMALL" APPROACH TO DEFINE RELEVANT MARKETS IN FLORIDA?

A. No, Dr. Johnson is unable to say what market definition is appropriate in this case. That is, he apparently believes that, at least in some instances, wire centers may be aggregated, but he is unprepared to identify these cases and the extent of the markets involved.

Q. PLEASE COMMENT ON DR. JOHNSON'S ALLEGATION THAT THE USE OF THE UNE RATE ZONE/CEA MARKET DEFINITION CREATES

A RISK THAT "VAST GEOGRAPHIC AREAS" WILL BE TREATED AS A SINGLE MARKET. (JOHNSON REBUTTAL 18.)

A. The FCC requires that the market definition account for economies of scale and scope. An area the size of a wire center usually does not satisfy this requirement. For example, as I have noted, mass-market advertising costs are subject to economies of scale and scope and support the view that the relevant markets in this case are much broader than individual wire centers. The markets I have defined balance the need to account for scale and scope economies and other factors, such as loop costs, that are more local in nature. Dr. Johnson's characterization of certain UNE Rate Zone/CEA-based geographic markets as "vast" is simply a subjective observation that provides no economic basis for challenging my proposed market definition.

Q. DR. JOHNSON HAS ASSERTED THAT, WITHIN THE MARKETS YOU DEFINE, COST CONDITIONS RELEVANT TO PROVIDING SWITCHED-BASED SERVICES TO MASS-MARKET CUSTOMERS WILL GENERALLY BE SO VARIABLE AS TO REQUIRE THAT MARKETS BE DEFINED USING WIRE CENTERS OR SMALL AGGREGATIONS OF WIRE CENTERS. (E.G., JOHNSON REBUTTAL 22-23.) PLEASE COMMENT.

A. As I have previously noted, Dr. Johnson is not prepared to say what the appropriate market boundaries are in Florida. More to the point, as I noted in my comments to

Dr. Bryant above, the UNE Zone concept is designed to capture at least some of the variation in costs across wire centers. In addition, Mr. Gray has testified that the factors that affect average cost conditions (which themselves affect supply-side substitutability) are similar within the CEA by UNE Zone markets I have defined. This is one of the important reasons why individual wire centers usually are not appropriate as the definition of the relevant markets in this case.

V. RESPONSE TO MR. GILLAN

Q. MR. GILLAN CLAIMS THAT HE HAS "NEVER COME ACROSS ANY MENTION" OF CEAS (GILLAN REBUTTAL 10.) AND THAT THEY "HAVE NOTHING TO DO WITH TELECOMMUNICATIONS" (GILLAN REBUTTAL 3, 10) AND NOTHING TO DO WITH COMPETITIVE ACTIVITY. (GILLAN REBUTTAL 8.) PLEASE RESPOND.

A. Mr. Gillan may not be familiar with the term, but the FCC uses the CEA concept in connection with telecommunications. According to 47 CFR 101.1401, multichannel video distribution and data service (MVDDS) is licensed on the basis of CEAs. That rule says, in part, that "Each CEA consists of a single economic node and the surrounding counties that are economically related to the node." Thus, the FCC recognizes the economic basis for markets defined using the CEA concept. In addition, the FCC's Wireless Bureau provides some tools for those interested in bidding for wireless spectrum to map the CEAs as well as other geographic areas, such as MSAs. (These are found online at

www.fcc.gov/oet/info/maps/areas/.) Thus, contrary to Mr. Gillan's assertions, CEAs have been used as the basis for defining markets in telecommunications. In any event, whether Mr. Gillan is familiar with the CEA concept is hardly a basis for deriving the definition of a market. In my opinion, the relevant consideration in this instance is whether the intersections of UNE Rate Zones and CEAs reasonably represent the relevant markets for the purposes of conducting the requisite impairment analyses.

Q. MR. GILLAN CLAIMS THAT CEAS ARE NOT THE BUREAU OF ECONOMIC ANALYSIS'S "FINAL PRODUCT" AND ARE NOT SUFFICIENTLY LARGE FOR THE BEA'S ECONOMIC PROJECTIONS. (GILLAN REBUTTAL 10-11.) PLEASE COMMENT.

A. In making this claim, Mr. Gillan confuses the different purposes of CEAs and the (generally) larger BEA Economic Areas. As the article appended to Mr. Gillan's rebuttal testimony ("Redefinition of the BEA Economic Areas," by Kenneth P. Johnson, *Survey of Current Business*, February 1995, pp. 75-81) notes, CEAs were defined as "a single economic node and the surrounding counties that are economically related to the node." Thus, CEAs are not, in an economic sense, "middle step[s]" but rather defined areas with an economic community of interest. Most are defined with MSAs as their core. The CEAs were then combined into BEA Economic Areas so that "each economic area is economically large enough to be part of BEA's local area economic projections program." In other words, the BEA determined that, for the purposes of their own particular economic forecasts,

many of the CEAs were too small to permit the development of reliable forecasts. Thus, they were combined to form larger areas. Such a rationale does not in any way undermine the economic rationale for using CEAs to define relevant geographic markets. In fact, if anything this usage may be supported by footnote 5 in the Johnson article, which states: "Data for CEAs can be used by government agencies for administering regulatory programs for small areas and by businesses for developing marketing programs for small areas."

Q. PLEASE COMMENT ON MR. GILLAN'S CRITIQUE OF UNE RATE ZONES. (GILLAN REBUTTAL 11-12.)

A. Mr. Gillan claims that UNE prices vary modestly between UNE-L and UNE-P and so UNE price variation has little effect on the relative ability of a CLEC to use its own switching. (Gillan Rebuttal 11-12.) However, this criticism ignores two important issues relevant to market definition. First, of course, I have not defined markets *solely* on the basis of UNE Rate Zones. The rationale for my use of CEAs in conjunction with UNE Rate Zones was to account for factors that affect supply-side substitutability, including, but not limited to, the differences in loop costs captured by the intersection of UNE Rate Zones and CEAs, and also to recognize that there is a broader set of costs such as marketing and advertising costs that affect the relevant geographic scope of the market.

Second, the objective of the market definition exercise is to provide an appropriate economic context in which to evaluate whether CLECs are impaired in offering

switch-based services to mass-market customers, not to carry out some hypothetical comparison between UNE-L and UNE-P CLECs. As I noted in my comments on Dr. Bryant's testimony, this objective is relevant to the market definition exercise. For this reason, the fact that UNE prices do not vary significantly for UNE-L as compared with UNE-P is not an important consideration in market definition in this case. What is important is that supply-side substitutability will likely be affected for CLECs offering UNE-L as a result of the differences in costs associated with offering service in different UNE Zones. Mr. Gillan's criticism appears to ignore this issue.

Q. PLEASE ADDRESS MR. GILLAN'S CLAIM THAT SOME CEAS ARE SMALLER THAN SOME WIRE CENTERS. (GILLAN REBUTTAL 12.)

A. It is not clear what Mr. Gillan's point is in making in this claim. Perhaps he is simply claiming that some of the markets I have defined have fewer lines than the number of lines in some of the largest individual wire centers in the State of Florida. While this may be true, it is not a relevant fact for market definition purposes, and therefore his claim is not a meaningful economic criticism of my market definition analysis. For example, it is common for individual geographic markets to vary in terms of the number of customers or sales potential contained within them – often substantially (e.g., a local retailing market for a particular product in a rural area of Florida may have a much lower population and/or sales potential than a local retailing market for the same product in Miami or

Jacksonville). Markets are not defined by the number of actual or potential customers but by demand- and supply-side substitutability.

Q. PLEASE COMMENT ON THE USE OF LATAS IN DEFINING GEOGRAPHIC MARKETS.

A. LATAs, by themselves, are unlikely to represent relevant geographic markets because it is likely that they do not adequately reflect differences in supply substitutability. For example, there may not be reasonable substitutability in supply between UNE Zone 1 and UNE Zones 2 and 3 within a particular LATA. It is my understanding that LATAs, which were created by Judge Greene following the breakup of AT&T, correspond loosely to Standard Metropolitan Statistical Areas. An advantage of using UNE Rate Zones divided by CEAs rather than MSAs or LATAs (without reference to UNE Rate Zones) is that the UNE Rate Zone/CEA approach accounts for *both* differences in loop and other costs *and* for economies of scale and scope related to factors such as mass-market advertising costs. It is also worth noting, although Mr. Gillan is testifying on behalf of the FCCA, witnesses for three of the FCCA's members (Dr. Bryant for MCI, Mr. Bradbury for AT&T, and Mr. Nilson for Supra) have filed conflicting testimony.

VI. RESPONSE TO MR. BRADBURY

Q. MR. BRADBURY CLAIMS THAT YOU MAKE AN "OUTLANDISH [CLAIM] THAT THE WIRE CENTER CONCEPT HAS NO MEANING

AND THAT WHERE THE CUSTOMER IS LOCATED IS UNNECESSARY INFORMATION IN DETERMINING WHETHER CLECS CAN USE THEIR OWN SWITCHING FACILITIES TO ECONOMICALLY AND EFFICIENTLY SERVE MASS-MARKET CUSTOMERS." (BRADBURY REBUTTAL 21-22.) PLEASE RESPOND.

A. Mr. Bradbury's immediately preceding discussion on CLEC network architecture is consistent with my own discussion and supports my own analysis. However, some of his apparent confusion about my meaning is understandable in that the specific language to which he refers was inadvertently included in my testimony as filed and was admittedly not clear. I had intended the sentence to which he refers to read, "Therefore, the wire center concept is not relevant to market definition in this context, and specifically not economically relevant in terms of how CLECs provision services to their end users," and the sentence he cites was subsequently corrected to reflect this. With this correction, it is my opinion that Mr. Bradbury's views are consistent with my own. I note that Mr. Bradbury leads off his discussion on network architecture by acknowledging that CLEC networks are not configured in the same manner as BellSouth's. He specifically states that, compared to the traditional (BellSouth) network, CLECs are able to use fewer switches than does BellSouth to provide service to a particular geographic area. It is precisely this point – i.e., that AT&T has chosen a network architecture approach different from BellSouth's approach (e.g., to serve customers in a wider geographic area with a single switch) – that I make in my own direct testimony.

I conclude that this fact provides evidence that the geographic market area in Florida is not the BellSouth wire center because the switch-based CLEC's decision to offer service in a geographic area is not limited by the area covered by the BellSouth wire center. The reason is that AT&T (or any CLEC) is not obligated to install a separate switch to customers in the different wire centers where it offers (or could offer) switch-based services. One of the principles that I refer to frequently herein and in my previously filed testimony in this matter is that supply substitutability is an important determinant of geographic market definition. The fact that CLECs such as AT&T are capable of serving customers in multiple wire centers from a single switching location is one indicator that the single wire center is not usually an appropriate definition of the relevant geographic market based on supply-side substitutability (e.g., because CLECs are able to take advantage of scale and scope economies, including switching, that allow them to serve much larger areas than an individual wire center).

VII. RESPONSE TO MR. NILSON

Q. PLEASE RESPOND TO MR. NILSON'S VIEW THAT UNE RATE ZONE/CEA ARE "SIMPLY TOO LARGE" AND THAT WIRE CENTERS SHOULD BE USED INSTEAD. (NILSON REBUTTAL 4 AND 25.)

A. As I have noted in my previous testimony and in this surrebuttal testimony, use of the wire center as the general principle for market definition, as proposed by Mr. Nilson, is inconsistent both with the direction provided by the TRO (in particular,

with the need to consider the economies of scale and scope available to CLECs in defining the market) and with sound economic analysis. Rather than mechanically adhering to the wire center concept, one should consider the relevant factors influencing substitutability in demand and in supply and come to a reasoned conclusion about the geographic market on that basis.

Q. IS IT TRUE THAT THE CLEC MUST BE OPERATIONALLY ABLE AND WILLING TO PROVIDE SERVICE TO ALL CUSTOMERS IN THAT MARKET? (NILSON REBUTTAL 29).

A. I believe that Mr. Nilson may be referring to paragraph 499 of the TRO. This paragraph was corrected in the FCC's September 17 2003 *Errata.* What it is referring to is the "wholesale" triggers and the fact that a CLEC that offers switching in an area must be willing to provide wholesale service (to other CLECs) in the designated market. In my opinion, his views are inconsistent with the *Errata.*

Q. MR. NILSON HAS CONTENDED THAT "POPULATION DENSITY" IS AN IMPORTANT FACTOR TO BE CONSIDERED IN DEFINING THE GEOGRAPHIC MARKET IN THIS CASE (NILSON 15) AND THAT YOUR ANALYSIS HAS NOT TAKEN THIS FACTOR INTO ACCCOUNT. PLEASE RESPOND.

A. I agree that population density is one factor that should be taken into account because it, at least indirectly, can affect costs the CLECs face in providing switch-based services. However, the UNE Zones do, in part, take this factor into account because they divide the state into three separate zones based on loop costs. An important determinant in this division of the state in three UNE Zones, in turn, was loop density (which is related to population density). Since my market definition explicitly uses the UNE Zones to derive geographic markets—a fact that Mr. Nilson does not acknowledge given his claim that I only make "cursory mention of UNE loop rates" (Nilson Rebuttal 13)—I believe that it does incorporate this factor noted by Mr. Nilson.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

Errata for Christopher Jon Pleatsikas Direct Testimony filed 12/4/2003
Docket No. 030851-TP

Replace Exhibit CJP-2 with Revised Exhibit CJP-2.

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DIRECT TESTIMONY OF DR. CHRISTOPHER JON PLEATSIKAS
ERRATA

Page 5 Line 15	serve ~~the greatest~~ a greater number of customers ~~in~~ the more urban UNE Zones 1 and 2 than in
Page 10 Line 10	wide as is economically feasible to take advantage of economies of scale. This
Page 10 Line 23	~~markets where~~ locations of CLEC switches and CLEC customers ~~are located~~ and has found that the
Page 11 Lines 15-17	other CLECs. Therefore, the wire center concept is not relevant to market definition in this context~~has no meaning with regard to market definition~~, and specifically ~~no economic meaning~~ not economically relevant in terms of how CLECs provision services to their end users. The geographic scope of the service offered is limited in part by the

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ERRATA

~~Page 5 Line 6~~	~~As the FCC instructs, a~~Available scale and/or scope economies
Page 6 Line 21	Wire centers were organized years ago to ~~efficiently~~ permit the ILEC to efficiently serve
Page 7 Lines 2-4	single wire centers ~~do~~may not adequately reflect substitutability in supply and therefore ~~are~~may not constitute distinct geographic markets.

(Transcript continues in sequence with Volume 4.)

STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

I, LINDA BOLES, RPR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 26TH DAY OF FEBRUARY, 2004.

LINDA BOLES, RPR
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