BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

DR. BRIAN K. STAIHR

Introduction/Purpose

Q. Please state your name, title, and business address.

A. My name is Brian K. Staihr. I am employed by Sprint as Senior Regulatory Economist. My business address is 6450 Sprint Parkway, Overland Park, Kansas 66251.

Q. Are you the same Brian Staihr who filed direct testimony in this proceeding on December 4, 2003?

A. Yes I am.

Q. What is the purpose of your rebuttal testimony?

A. In my rebuttal testimony I respond to issues raised in the direct testimonies of BellSouth witnesses Dr. Christopher Pleatsikas (market definition), Ms. Pamela Tipton (competitive trigger analysis), Mr. James Stegeman (optimization in the BACE Model), Dr. Debra Aron (demand-side inputs in the BACE Model), and Dr. Randall Billingsley (weighted average cost of capital in the BACE Model).

Market Definition and Testimony of Dr. Christopher Pleatsikas

Q. In his testimony Dr. Pleatsikas advocates that the Commission should define the market (for purposes of analyzing impairment) as a specific UNE-zone in a specific component economic area (CEA). For example, UNE Zone 1 in the Orlando CEA is a separate market from UNE Zone 2 in the Orlando CEA, which in turn is a separate market from UNE Zone 2 in the Miami CEA. Please comment.

A. From an economic point of view, one portion of Dr. Pleatsikas' proposal is indeed logical: the subdivision of markets into geographically distinct areas (in his proposal, CEAs). This is reasonable because to do otherwise is to suggest that market forces—supply decisions, demand factors, price movements—in one part of the state affect entry and exit decisions in other parts of the state that may be hundreds of miles away. It is also reasonable because the FCC required that impairment analysis be conducted on a granular basis.

But on several other dimensions Dr. Pleatsikas' proposal is inappropriate and, in some cases, the reasons why his proposal is inappropriate are found in BellSouth's own testimony. For example, Dr. Pleatsikas' initial justification for using UNE zones is that he believes UNE zones reflect the locations of mass-market customers being served. His testimony states, "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" (Pleatsikas Direct page 5). Although Dr. Pleatsikas provides no documentation to verify that statement, Sprint's own ILEC experience tends to support it. But Dr. Pleatsikas overlooks the fact that, in his own statement, the distinction is not between UNE zones but rather between urban areas (UNE zones 1 and 2) and rural areas (UNE zone 3). That urban/rural distinction is one of the key reasons why Sprint's proposed market definition (MSA) is a more accurate market definition, because in general MSAs are the more urban areas and non-

MSAs are the more rural areas. If Dr. Pleatsikas believes that actual customer locations are found more often in UNE Zones 1 and 2 than in UNE Zone 3 that fact could be viewed as justification for separating UNE Zones 1 and 2 *collectively* from UNE Zone 3, which is what an MSA-based definition tends to do. But his reference to customer location provides no justification for separating UNE Zone 1 from UNE Zone 2.

Next, Dr. Pleatsikas states that variation in cost is an important factor in determining where a CLEC can serve (Pleatsikas Direct page 5). Clearly loop costs vary for a competitor depending on which wire center the competitor is entering. But the question that must be asked is whether there is any evidence that this variation in loop costs, particularly between UNE Zones 1 and 2, actually has an effect on competitive entry. For example, according to BellSouth's BACE Model the Fort Lauderdale Zone 1 market is made up of nine wire centers. And according to data filed by BellSouth with the Commission there is competitive entry (and unbundled loops) in [redacted] of the nine.[1] In the Fort Lauderdale Zone 2 market there are also nine wire centers, and there is competitive entry (and unbundled loops) in [redacted]. And according to BellSouth's filing there are actually more CLECs competing in Fort Lauderdale Zone 2 than in Fort Lauderdale Zone 1. Furthermore, every competitor that has entered Fort Lauderdale Zone 1 has also entered Fort Lauderdale Zone 2. These facts, when examined, do not provide support for the notion that the higher loop costs in Zone 2 have an effect on entry, nor do they support the notion that competitors view Fort Lauderdale Zones 1 and 2

[1] See BellSouth response to Sprint interrogatories.

as distinct markets. But they very much support the notion that the more urban and suburban regions of Fort Lauderdale tend to be viewed as a single market, which is more in keeping with Sprint's proposed MSA-based market definition.

As mentioned above, Sprint agrees with Dr. Pleatsikas that it is reasonable to separate markets geographically. But his very justification for using a component economic area (CEA) as the unit of analysis is undermined by the proposal to split the CEA by UNE zone. Dr. Pleatsikas writes,

> 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 patters and newspaper readership). Using the CEA creates a geographic area with a community of interest (Pleatsikas Direct page 8).

The same could be said for Sprint's proposed unit of geography, the MSA. But the BellSouth proposal to treat different portions of the CEA differently, based on UNE zones, essentially negates this community-of-interest aspect. Whereas using the MSA as the market maintains the community-of-interest aspect.

Lastly, Dr. Pleatsikas suggests that CEAs are preferable to MSAs because they encompass the entire land area of the state, and if MSAs were used then "parts of Florida would be excluded from consideration in any impairment test" (Pleatsikas Direct page 9). First, it is worth pointing out that BellSouth itself has excluded parts of Florida from consideration in this proceeding, as has Sprint. But more importantly, Sprint's proposal to use MSAs is based on a rather common-sense point of view that if non-impairment can be found anywhere, and the FCC's national finding can be effectively rebutted anywhere, it would be in areas that fall within MSAs (as opposed to outside of MSAs) for the very reason that Dr. Pleatsikas points out in his testimony—most competition is in urban or suburban areas. Furthermore, the overwhelming majority of the wire centers that are served by BellSouth are found in MSAs. To the extent that some party might wish to put forth a non-MSA area for consideration of "no impairment," that party could certainly use RSA (rural service area) designation as the geographic unit. RSAs are well-established, and are often used by wireless companies for regulatory and licensing purposes.

Competitive Triggers and Testimony of Ms. Pamela A. Tipton

Q. BellSouth witness Ms. Pamela A. Tipton suggests in her direct testimony that the FCC's "trigger" criteria for mass market local switching is simply a counting exercise, and that if "there are three or more entities self-provisioning switching to mass market customers" then the triggers are met, regardless of other factors (Tipton Direct pages 4-5). Please comment.

A. It is certainly understandable that BellSouth, or any ILEC hoping to demonstrate non-impairment in a region, would prefer that the Commission treat the trigger analysis as a perfunctory counting exercise. But the Commission should evaluate Ms. Tipton's suggestion on two separate levels: First, if the trigger analysis were intended to be nothing more than a simple counting exercise then one must ask why the FCC would delegate such a simple task to the states? Second, and more importantly, what are the impacts on competition in Florida of treating the trigger analysis in such a simplistic fashion? Both of these are discussed below.

In terms of analyzing impairment, it is clear that the FCC's position has been that evidence of actual deployment is a means to an end, rather than an end in and of itself. Paragraph 94 of the TRO states,

> As we examine the evidence of facilities deployment by competitive LECs in the specific UNE discussions, we will give it substantial weight, but we do not agree that we must find it conclusive or presumptive of a particular outcome *without additional information or analysis*".[2]

And the TRO goes on to affirm that, when analyzing impairment, state commissions are in the best position "to gather *and assess* the necessary information" and that states are in "the best position *to judge* whether the Act's extraordinary unbundling remedies should be applied."[3] It is for these reasons that the TRO delegated the task of analyzing impairment to the states. If Ms. Tipton was correct, and the trigger analysis was intended to be nothing more than a counting exercise, there would be no assessment or judgment required of the state commissions at all, and the very justification for turning the issue over to the states in the first place would be absent.[4]

[2] TRO paragraph 94, emphasis supplied.
[3] TRO paragraph 188, emphasis supplied.
[4] Another clear example of the TRO relying on state commissions' ability to assess and judge is found in the discussions of intermodal providers. Footnote 1549 states, "In deciding whether to include intermodal alternatives for purposes of these triggers, states should consider to what extent services provided over these intermodal alternatives are comparable in cost, quality and maturity to incumbent LEC services."

Q. You also suggested the Commission should consider the impacts on competition in Florida that would result from treating the trigger analysis as a perfunctory counting exercise. What are those impacts?

A. In my direct testimony I outlined the criteria that CLECs must meet before they can count toward meeting the triggers.[5] By ignoring these criteria, as Ms. Tipton seems to advocate, it is possible that the Commission would create a situation where competitive choices are actually eliminated in some Florida markets. Not only is this directly contrary to the Commission's stated goals in its recent rate rebalancing proceeding, it is contrary to the intent of the TRO itself. In its discussion of the impact of unbundling on competitive switch deployment the TRO clearly states that the FCC's approach "maintains appropriate incentives [for deployment] without *throwing away the competition that exists today*."[6]

Q. Exactly how would Ms. Tipton's suggestion throw away the competition that exists today?

A. Ms. Tipton suggests that the mere presence of three self-provisioning CLECs in a market is enough to satisfy the triggers and thereby remove unbundled mass market switching from the market, without regard to:

- *how many* mass market customers those carriers are actually serving,
- *how much* of the market those carriers are serving,
- how much of the market those carriers are *capable* of serving or willing to serve

[5] For example, trigger-meeting CLECs must be serving a non-de-minimus portion of the mass market, they must be offering service throughout a substantial portion of the market (as opposed to geographically cherry-picking), they must not be using enterprise switches, and they must be actively serving mass market customers and likely to continue to do so.
[6] TRO footnote 1365, emphasis supplied.

- how many customers in that market will *no longer have a choice* of carriers if unbundled local switching is removed.

For example, assume one of Ms. Tipton's proposed markets is made up of 10 wire centers. Using Ms. Tipton's suggestion, we could have a situation where three self-provisioning CLECs are all offering service in just a couple of wire centers in that market, and are not offering service—or even capable of offering service—to the other eight wire centers in the market. These CLECs do not constitute a viable alternate provider for the customers in those eight other wire centers, yet Ms. Tipton would advocate that unbundled switching be removed from the entire market because, as she sees it, the triggers had been met. In my example, the customers in the remaining eight wire centers will be deprived of competitive choice (such as service from a UNE-P based provider) but not because they had an alternative available; they are deprived of a competitive choice simply because someone else somewhere else in the market had an alternative. The effect of accepting Ms. Tipton's proposed approach would be to eliminate much of the competition that exists today in the mere hope that somehow or somewhere there might be competition tomorrow.

Q. Why is it reasonable for this Commission to be concerned with points you raised above, such as how many customers are being served or capable of being served, or how much of the market is capable of being served?

A. First, because this Commission just concluded a long and detailed proceeding regarding rebalancing rates for local service, and the very purpose of that proceeding was to encourage a more robust competitive environment for local telephone service.[7] Throughout that proceeding the concept of more choices for more Florida residents was a constant theme.[8] Yet it appears that Ms. Tipton would have the Commission conclude that as long as a few customers in a given market have a choice—and maybe only one or two customers at that—then it is alright to eliminate competitive choices for the rest of the customers in that market. To throw away one viable form of competition when large numbers of local telephone customers may not have an alternative would be the antithesis of encouraging such a robust competitive environment.

Second, consider the following as an example: If, as stated in my direct testimony, there are three self-provisioning CLECs in a single wire center then there are *also* three self-provisioning CLECs—the same three CLECs—in the UNE-zone that contains that wire center. And there are also three self-provisioning CLECs—the same three CLECs—in the MSA that contains that wire center, and in the CEA that contains that wire center, and in the LATA that contains that wire center, and in the ILEC-serving-area that contains that wire center. If Ms. Tipton is correct, and it doesn't matter how much of a market is being served, the Commission could theoretically define the market as BellSouth's entire serving territory (which is less than the entire state and therefore meets the FCC's requirements) and subsequently remove unbundled local switching throughout the entire service area just because certain portions of the service area were served by CLECs. A situation could exist where unbundled switching would be eliminated in Miami just because there happened to be three self-provisioning CLECs in Jacksonville! Of course such a

[7] Docket Numbers 030867-TL, 030868-TL, 030869-TL.
[8] See, for example, Rebuttal Testimony of Dr. Aniruddha (Andy) Banerjee in Docket 030869-TL.

result would not take place (we would hope) for the logical reason that the existence of competition in Jacksonville does not in any way demonstrate the viability of competition in Miami. Similarly, the existence of competition in select, high-density portions of an MSA does not in any way demonstrate the viability of competition in other parts of the MSA. Therefore, it is logical for the Commission to consider how much of the market is being served before determining that it will remove competitive choices in that market.

Q. In her direct testimony, does BellSouth witness Tipton provide any evidence as to how much of the markets were being served by the self-provisioning CLECs identified?

A. Not on a market-by-market basis. Ms. Tipton's testimony does include the claim that, in total for BellSouth's serving territory, CLECs are serving "over 100,000 "mass market" customers" using their own switches (Tipton Direct page 3). But this claim is not supported in any way. Although it is not possible to know the exact number of mass market lines that exist in BellSouth's serving area, a reasonable estimate is 5.24 million.[9] This suggests that, based on Ms. Tipton's figure, CLECs are likely serving less than 2% of the mass market customers throughout Florida using their own switches.

Q. Is there evidence outside of Ms. Tipton's direct testimony, on a market-by-market basis, regarding *how much* of BellSouth's markets are served by self-provisioning CLECs?

[9] According to USAC BellSouth in Florida serves over 6,693,000 lines in Florida. Using nationwide data from the FCC we see that, on average, residential and small business lines (approximating the mass market) make up 78.3% of all ILEC lines. 6,693,000 * .783 = approximately 5,240,600 or 5.24 million.

A. There is indeed additional evidence, produced as a result of the Commission Staff's data requests, detailing the numbers of mass market customers served by the self-provisioning CLECs identified by Ms. Tipton in her testimony. This evidence is in various forms and in various stages of completeness, and so one must make careful assumptions when attempting to use the data to discern measures such as the extent of competition in a market. But with this caveat in mind, the data can be used to investigate issues such as whether the identified CLECs really do provide evidence of the technical and economic feasibility of an entrant serving the mass market, as Ms. Tipton has defined it.

For example, Ms. Tipton lists [redacted] as one of the self-provisioning CLECs that meets the trigger for BellSouth's Pensacola Zone 2 market. The Pensacola Zone 2 market is made up of six BellSouth wire centers. According to data filed with the Commission by [redacted], [redacted] does operate [redacted] switches that serve customers in BellSouth's territory. And one of those switches, identified in the LERG as [redacted], appears to provide various forms of service—overwhelmingly to larger business customers—in about [redacted] BellSouth wire centers including the six wire centers that make up Ms. Tipton's Pensacola Zone 2 market. The data provided by [redacted] did not identify how many customers the company actually had in *each* of the [redacted] wire centers; it only identified the total number of customers served by that switch. So the information provided by [redacted] does not confirm or deny the existence of mass market customers specifically in the Pensacola Zone 2 market. But the information is useful nonetheless because the data reveals that the total number of mass market customers—as defined by BellSouth—served by [redacted] out of that switch is exactly [redacted] customers. And none of these customers are residential customers (this is addressed in more detail below). So at best, if those [redacted] customers happen to be located in the six wire centers that make up the Pensacola Zone 2 market, [redacted] is serving exactly [redacted] mass market customers in BellSouth's Pensacola Zone 2 market, and at worst it is serving zero. According to data provided by BellSouth there are over [redacted] mass market customers in the Pensacola Zone 2 market.[10] This suggests that, again as an absolute upper bound, [redacted] has achieved a market penetration of [redacted]

The reason this information is useful is because, as discussed in my direct testimony, the FCC was well aware that CLECs can manage to serve some mass market customers off of what are otherwise enterprise switches.[11] But this situation was not enough for the FCC to find an absence of impairment, and it appears that this is the exact situation we find with [redacted] in BellSouth's Pensacola Zone 2 market. [redacted] also provided data regarding the utilized capacity of the switch in question, as measured in voice-grade equivalents, and the data shows that less than [redacted] of the utilized capacity of this switch is used to serve mass market customers.

Another way of examining the issue of "how much" of the market is served by the identified CLECs is to look at whether there are entire customer groups who are not being served. Specifically, it is worthwhile to examine whether the CLECs

[10] Data taken from BellSouth responses to Sprint's interrogatories.
[11] TRP paragraph 441.

identified by Ms. Tipton are limiting themselves to serving only the business portion of the mass market, and subsequently ignoring the residential market. The TRO is extremely clear that the mass market is made up of both residential and small business customers.[12] If the CLECs identified by Ms. Tipton subdivide the mass market and only offer service to business customers, then the Commission should seriously question whether the evidence presented adequately demonstrates the technical and economic feasibility of an entrant serving the mass market.

Q. Is there evidence that any of the CLECs identified by Ms. Tipton have, in fact, subdivided the mass market and are only serving business customers?

A. Yes. Turning again to the data provided in response to the Commission Staff's requests, we find that several companies have apparently subdivided the market and are only providing service to businesses. These include such companies as [redacted] (listed as a trigger-meeting CLEC in Fort Lauderdale, Miami, Jacksonville and West Palm Beach), [redacted] (listed as a trigger-meeting CLEC in Fort Lauderdale, Miami and West Palm Beach), [redacted] (listed as a trigger-meeting CLEC in Fort Lauderdale and Jacksonville), and [redacted] (listed as a trigger-meeting CLEC in Daytona Beach and Pensacola).

It is certainly not surprising that many of BellSouth's proposed CLECs limit their service offerings to the business market. As the TRO itself indicates, business customers "usually pay higher retail rates, and may be more likely to purchase additional services such as multiple lines, vertical features, data services and yellow

[12] TRO paragraph 127.

page listings" and therefore tend to be, all else held equal, more profitable to serve.[13] But a CLEC that subdivides the mass market, refuses to serve residential customers, and only serves select business customers should not be viewed by this Commission as evidence of the technical and economic feasibility of an entrant serving the mass market with its own switch. In fact, BellSouth itself—perhaps unintentionally—agrees with and supports this point of view by virtue of the way it conducted its potential deployment analysis filed in this proceeding.

Q. How does BellSouth's potential deployment analysis support the notion that selectively serving a limited number of business customers is not evidence of the technical and economic feasibility of an entrant serving the mass market with its own switch?

A. If BellSouth believed unconditionally that selectively serving only business customers was enough to demonstrate the feasibility of serving the mass market, then BellSouth would have conducted its potential deployment analyses in that manner, because it is extremely likely that BellSouth could have produced even *more* markets that were profitable—based on their assumptions—if they limited their take rate to business customers only. The reason they could do this is because of the way in which BellSouth models the cost of serving the mass market, which is to essentially leverage off of the enterprise market. But BellSouth did not conduct their potential deployment analysis in that fashion (business customers only); instead they assumed that both residential and business customers were served.

[13] TRO footnote 432.

It is worth noting that in the TRO, the descriptions of the *intent* of the trigger analysis and the *intent* of the potential deployment analysis are extremely consistent. As stated above, the triggers are intended to provide evidence of "the technical and economic feasibility of an entrant serving the mass market with its own switch".[14] The potential deployment analysis is intended to show "whether a competing carrier could economically serve the market without access to the incumbent's switch".[15] And, as the TRO also states, "the market" is the same in both cases. If BellSouth believes that serving "the market" is more than selectively serving a handful of business customers (as it clearly does in its potential deployment analysis) it must also believe that for its trigger analysis.

Q. Aside from the question of "how much" of a market is actually being served, did Ms. Tipton provide evidence in her testimony as to how much of the market the proposed CLECs are even <u>capable</u> of serving?

A. No. But again, there is additional evidence that can be gleaned from the data provided to the Commission Staff to help address this issue. For example, BellSouth lists [redacted] as a trigger-meeting CLEC in the Jacksonville Zone 2 market. As defined by BellSouth, the Jacksonville Zone 2 market consists of seventeen wire centers. But according to information filed by [redacted] with Commission staff, [redacted] provides service in only [redacted] of the seventeen wire centers. Similarly BellSouth lists [redacted] as a trigger-meeting CLEC in the same Jacksonville Zone 2 market, but according to data that [redacted] provided to the Commission, [redacted] does not provide

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[14] TRO paragraph 501.
[15] TRO paragraph 517.

service in *any* of the seventeen wire centers that make up the Jacksonville Zone 2 market.

Q. Based on the testimony of Ms. Tipton, and the data provided to the Commission Staff, should we conclude at this time that BellSouth has met the triggers in the markets identified in Ms. Tipton's testimony?

A. No. The data provided to Commission Staff raises far more questions than it answers regarding whether the companies identified by Ms. Tipton demonstrate the technical and economic feasibility of an entrant serving the market with its own switch. In some cases ([redacted] and Jacksonville Zone 2) the entrant does not appear to be serving the market at all. In other cases ([redacted] and Pensacola Zone 2) the entrant is serving such a miniscule portion of the market ([redacted], if that much) that this says nothing about the feasibility of serving the market. In still other cases ([redacted] in Fort Lauderdale) the entrant has subdivided the market and is serving only the business portion. For the Commission to conclude that barriers to entry in the mass market have been overcome, based on such questionable evidence, would be a mistake.

Optimization in the BellSouth Analysis of Competitive Entry (BACE) Model and the Testimony of Mr. James Stegeman

Q. In the testimony of BellSouth witness Mr. James Stegeman, he describes the various forms of optimization that take place in the BACE Model. Please comment on these optimization procedures.

A. Mr. Stegeman explains in his testimony that there are six different ways that the BACE Model optimizes (or chooses among alternatives) in order to eliminate activities that "yield a negative net present value" (Stegeman Direct page 51). Some of these optimization procedures have to do with network planning (for example, the model chooses between co-locating and using EELs in a particular wire center), and Sprint believes such optimization routines are appropriate. But some of the other optimization procedures involve a choice of whether or not to serve a particular type of customer, or a particular area. In essence, they allow the entrant to *ignore* significant portions of the market. While these choices are sometimes made by firms when conducting business cases, they are contrary to the FCC's guidance in the TRO in terms of analyzing potential deployment.

The TRO states that, when analyzing potential deployment, a geographic area should be defined as the market and then, if triggers are not satisfied, the state should analyze potential deployment in "the market in question."[16] Assume the market in question is UNE Zone 2 in the Miami CEA. What must be determined in the potential deployment analysis is whether entry is economic for that market. But the optimization routines in the BACE Model—particularly the routines that allow the entrant to essentially ignore unprofitable areas—have the effect of negating the market definition itself. These routines create a situation where, if the question is: "Can an entrant economically serve UNE Zone 2 in the Miami CEA?" the model answers, "Yes, if the entrant ignores half of the wire centers in that market." While such an answer might guide an entrant to opt for geographically cherry-picking the

[16] TRO paragraph 506.

portions of Zone 2 Miami it wishes to serve, it does not demonstrate the economic feasibility of serving the market, which was defined as the entire zone.

In the following section, I describe adjustments made to various demand-side inputs in the BACE Model, and describe the results the model produces when the input values are changed. In the course of producing these results, Sprint ran the BACE Model with the following optimization routines turned off: the routine that would eliminate unprofitable wire centers (#3 in Stegeman Direct, page 51), the routine that would eliminate all unprofitable mass market customers (#4 in Stegeman Direct, page 51), and the routine that would eliminate unprofitable markets (#5 in Stegeman Direct, page 51). This prevents the model from ignoring large portions of the defined market, and this is consistent with the concept of determining whether a CLEC is capable of economically serving a market, as opposed to economically serving select portions of a market. (It is also consistent with the definition of market as it is used in the trigger analysis of actual deployment.) However, because CLECs can and do tailor their product offerings, it was reasonable to run the model in such a way that assumed the CLEC would attempt to attract the more profitable customers throughout the entire market. To achieve this, Sprint eliminated the lowest quintile of residential customers (as described in the testimony of BellSouth witness Dr. Debra Aron). The result of all of these changes was, in fact, a *higher* overall net present value for BellSouth's markets than the net present value produced by BellSouth's runs of the BACE Model. This result can be seen in Attachment KWD-6 (Revised 2/12/04) to the revised rebuttal testimony of Sprint witness Mr. Kent Dickerson, by comparing

Scenario 1 and Scenario 2 in that attachment. Scenario 1 contains the BACE Model results when the model is run as filed by BellSouth, with the results simply aggregated to an MSA level, a net present value of approximately $308~~320~~ million. Scenario 2 contains the BACE Model results with the above-mentioned changes made, a net present value of approximately $317.7~~331.9~~ million. This adjusted result serves as the foundation, or "base run" for all inputs changes discussed below and discussed in the revised rebuttal testimony of Sprint witness Dickerson.

<u>Demand-Side Inputs to the BellSouth BACE Model and Testimony of Dr. Debra Aron</u>

Q. In her direct testimony, BellSouth witness Dr. Debra Aron indicates that she provided a number of the inputs that were used in the BellSouth BACE Model. Have you reviewed some of these inputs?

A. Yes. My review primarily focused on a few key inputs that tend to represent the "demand" side of the business case. (The testimony of Sprint witness Mr. Kent Dickerson addresses some of the key inputs on the "supply" side of the business case.) These "demand-side" variables include inputs that reflect market share, pricing, price movements over time, and other variables that are not cost-related.

Q. In a business case how important are these "demand-side" variables?

A. They are *extremely* important; in fact, they can easily make or break any business case or opportunity analysis. And unfortunately, they are extremely difficult to estimate with any high-level of precision because they are fundamentally different from cost-side variables; demand-side variables are variables over which the company has very little control, or often *no* control. Therefore, it is absolutely necessary that the assumptions and support that are used to justify any demand-side variables are accurate, reliable, and applicable to the situation at hand.

Q. Can you give a simple example of the difficulty involved in accurately estimating a demand-side variable?

A. Certainly. Consider a seemingly straightforward variable such as market share. In order to accurately determine the market share that a new entrant can expect to receive in a market (any market, not necessarily telephone), an economist working on the business case would need to...

- First, estimate the overall size of the market prior to entry.
- Second, estimate the growth of the market over the time horizon being modeled by the entrant.
- Third, determine whether the entrant's market share will more likely be the result of increasing the overall market, or taking away market share from existing firms, or a combination of both. This, of course, may depend on...
    - The degree of substitutability between the entrant's product and the existing firm's product.
    - The existence of any pent up demand for an alternative product or provider.
    - The ability of the entrant to successfully differentiate its product from the existing products, which may take the form of...
        - Price differentiation

- Product bundling differentiation
- Perceived quality differentiation
- Product characteristic differentiation

- Fourth, determine the existing firm's expected response to the entrant's attempts to obtain market share. This could take the form of...
    - Competitive pricing
    - Introduction of new bundling or service offers
    - Changes to product characteristics
- Fifth, evaluate the market-specific factors what will affect both the entrant's ability to gain share and the incumbent's ability to win it back. (For example, it may be that the likelihood of customers switching providers is inversely related to the average age of the population, and the market in question may have a higher-than-average proportion of persons over 60.)
- Sixth, repeat the entire process now assuming that the market will be shared by one or more additional entrants.

Obviously the process described above is complex, time-consuming, and research-intensive. But, as stated above, the demand-side variables (such as market share) are extremely important to the outcome of any business case. So it is absolutely necessary to at least attempt to put a structured process behind such numbers as market share in any business case.

Q. Does Dr. Aron's testimony suggest that she relied on such a structured process to arrive at her demand-side variables?

A. No. For example, Dr. Aron advocates (and the BACE Model uses) an end-of-the-time-horizon market share of 15 percent. This figure does not appear to be the result of an investigation into the demand characteristics of the markets being modeled. In fact, the total support offered for the 15 percent market share figure can be summarized as follows:

1. CLECs in Florida, in aggregate, have attained 15% market share in 35 of BellSouth's wire centers (Aron Direct page 25).
2. Cable TV providers have achieved penetration rates for telephony that are higher than 15% (Aron Direct page 26).
3. A CLEC in New York state (AT&T) attained 15% market share (Aron Direct page 27).

I do not doubt the accuracy of these findings, but a quick examination of these facts illustrates that they provide no real support at all for using a 15 percent market share in the BACE Model's business case of an entrant serving the mass market. For example:

Point #1, *"CLECs in Florida, in aggregate, have attained 15% market share in 35 of BellSouth's wire centers."* The problem with using this fact as support is that the BACE model does not model "CLECs in aggregate." It models a single entrant. The fact that multiple CLECs may have, in aggregate, achieved this market share in some places does not suggest that each and every CLEC, or even any one CLEC, could achieve it. For example, BellSouth witness Tipton's testimony identifies eleven (11) CLECs in the Fort Lauderdale Zone 2 market.

Since it is a mathematical impossibility for each of these eleven CLECs to attain 15% market share we must assume that Dr. Aron is not suggesting that any or every CLEC can gain 15% market share. Perhaps her reference (to the aggregate CLEC market share) is meant to suggest that there is 15% market share *available* to the CLEC being modeled. If so, the 15% penetration rate in the BACE Model must assume that the specific entrant being modeled is the *only* CLEC in the market, and that it successfully captures the entire market that is available to CLECs. But it is unclear whether Dr. Aron's assumption is that the other CLECs (such as those listed in Ms. Tipton's testimony) exited the market, or that they never entered the market. And there is no explanation or support provided for such an assumption. Nor is there support for why apparently one CLEC in the BACE Model can attain a market share that it takes multiple CLECs to attain in the real world. While there is nothing wrong with making such assumptions, they must be justified in some way, and this has not been done.

Furthermore, with regard to this reference ("CLECs in Florida, in aggregate, have attained 15% market share in 35 of BellSouth's wire centers") it is unclear whether this 15% in 35 wire centers is limited to mass market customers. It is a well-established fact that the majority of CLEC lines in Florida are used to serve large business customers, not mass market customers. So it is equally likely that the majority of the 15% are also lines serving large business customers. This would, in turn, suggest a mass-market penetration well below 15%, providing no justification for the 15% input to the BACE Model.[17]

Point #2, *Cable TV providers have achieved penetration rates for telephony that are higher than 15%.* The entrant modeled in the BACE Model is not a cable television provider. The entrant being modeled uses the incumbent's loops. The model does not include either the costs or the revenues associated with the provision of cable television. The TRO is extremely clear that cable television providers have unique advantages in the marketplace, advantages that are not available to other entrants. The TRO states that cable television companies, "because of their unique economic circumstances of first-mover advantages and scope economies, have access to the customer that other competitive carriers lack."[18] As a result, a market share attained by a cable company is not representative at all of the market share that could be obtained by the entrant in the BACE Model. In fact, Dr. Aron's reference to the cable television provider could actually work against her 15% market share assumption. She states that "of the 9.9 million that can obtain cable telephone service, 2.6 million (or 26.2 percent) have selected it" (Aron page 26). Since the entrant being modeled in the BACE Model is clearly not a cable television company, if we assume that there is competition from the cable company this simply means there is less of the market left over for non-cable based providers. Referring back to Point #1 above ("CLECs in Florida,

[17] For example, assume the mass market accounts for 75% of all lines and the enterprise market accounts for the remaining 25%. In a representative wire center of 100 lines (where 75 lines are mass market and 25 are enterprise) a CLEC that has 15% overall penetration has 15 lines in total. If the majority of those 15 lines are enterprise (for example, 8 are enterprise and 7 are mass market) this means the CLEC penetration of the enterprise market is 8/25 or 32%, and the CLEC penetration of the mass market is 7/75 or 9.3%.
[18] TRO paragraph 310.

in aggregate, have attained 15% market share in 35 of BellSouth's wire centers"), if it takes multiple CLECs to attain 15% market share in the absence of cable telephony (as is the case in Florida today), how likely is it that the single CLEC modeled in the BACE Model would achieve 15% market share if cable telephony is likely to become available?

Point #3, *A CLEC in New York state (AT&T) attained 15% market share.* It is a fact that AT&T maintains a unique position in the telecom industry with regard to customer recognition and brand awareness. Indeed, it is well-known among marketing groups that more than a decade after divestiture many local service customers reported (erroneously) that their local service was still provided by AT&T. Dr. Aron's reference to AT&T's New York market share suggests that any new entrant, even one without the ability to leverage this level of recognition and brand awareness, should be able to achieve a similar market share. There is no reason to believe this is so. In fact, the FCC's Local Competition report indicates that there are 26 CLECs in New York state and these 26 companies have a collective market share of 28%.[19] If AT&T accounts for 15% market share, this means the other 25 CLECs collectively serve 13% of the market, and each has, on average, well under 1% market share.

In summary, Dr. Aron's market penetration figure is simply without support. First, it is not the result of a structured process (as outlined above). Second, it disregards market realities such as the existence of other CLECs. Third, it ignores very

[19] Local Competition Report, released December 22, 2003, available at www.fcc.gov.

important questions, such as what is the reason that the CLEC is able to attain such a market share? And fourth, the references that are provided for support have no applicability at all to the situation being modeled in the BACE Model. As stated above, support for demand-side input values, such as market penetration, is extremely important because these inputs have a dramatic effect on the outcome of the business case.

Q. Can you provide an example of the effect that demand-side assumptions can have on a business case?

A. Yes. As shown in an attachment to the revised rebuttal testimony of Sprint witness Mr. Kent Dickerson, if Dr. Aron's unsupported market share figure of 15% is replaced in BellSouth's BACE Model with an estimated market penetration of 10%, and no other changes are made to the model, the net present value of the new entrant's business case for BellSouth's markets falls by nearly ~~nearly~~ 50%, from approximately $318~~332~~ million to slightly over~~less than~~ $163~~174~~ million (Scenario 2 and Scenario 3 in Attachment KWD-6 (Revised 2/12/04).)

Q. Is there a reason to believe that 10% is a more realistic penetration rate than Dr. Aron's proposed figure of 15%?

A. Yes, in fact 10% represents an extremely *generous* upper bound for one entrant's market share. To see why, recall that in the previous pages I presented an example of the steps that are required to estimate market penetration in a structured manner. One of the key determinants included in that example was an understanding the number of competitors in the market (a fact that does not appear to be considered in

Dr. Aron's proposal). According to the testimony of BellSouth witness Tipton, the average number of competitors in BellSouth's Florida markets (for which no impairment is claimed) is slightly over six (6). And according to the FCC's Local Competition Report, in the state of Florida, in zip codes where competition exists, the average number of CLECs in a given zip code is between seven and eight (7.5).[20] Because the BellSouth figure obviously excludes non-facilities-based CLECs, we can conservatively assume that, statewide, Florida markets that have competition have approximately seven competitors on average.[21] Dr. Aron has provided no argument as to why the entrant modeled in the BACE Model should have a higher (or lower) market penetration than any other entrant.[22] So we are left with the question as to how the market will ultimately be divided between an incumbent and many (on average, seven) entrants. Considering this question in two different ways we see, in both cases, that a market share of less than 10% per entrant is much more likely than Dr. Aron's proposed 15%.

First, if we look to the long distance industry as one model, we find a market that operated as a monopoly until competition developed, both from other carriers using their own competing facilities (other IXCs) and from other carriers (BOCs) using leased facilities. One would be hard-pressed to identify a more competitive market than the long-distance calling market, yet more than seventeen years after

[20] See FCC Local Competition Report, released December 23, 2003, available at www.fcc.gov.
[21] There are arguments to be made on both sides as to whether that number is expected to increase or decrease over time. According to the FCC the number has increased (from 6 to 7.5) since the Local Competition Report for 2002. For purposes of discussion, it will remain unchanged.
[22] Except, of course, a cable telephony provider whose market share would be higher due to the advantages discussed earlier.

divestiture we find that, according to FCC data, the original monopoly player (AT&T) still retained over 35% market share.[23] The time horizon of the BACE Model is 10 years. If we assume in the local market that the incumbent will retain at least 35% market share for 10 years (an extremely reasonable assumption given that Florida incumbents have retained nearly 87% market share since the passage of the 1996 Telecom Act) there would be, at the absolute most, no more than 65% of the market left that was available to all CLECs. Again, no argument exists as to why the entrant modeled in the BACE Model would achieve a higher market share than any other entrant. This suggests than any entrant would see, on average, a market share of less than [(65%)/(7)] or 9.3%.

A much more likely scenario would follow the suggestion raised by Dr. Aron that cable telephony would become a significant player in this market. Recall that Dr. Aron's testimony stated that approximately 26.2% of households opted for cable telephony, where it was available, in far less than ten years. If we assume that cable telephony enters the market even halfway through our 10 year time horizon, and also assume that 90% of households are passed by cable in any market, we could conservatively estimate that 26.2% of 90% of households, or 23.5%, would opt for cable telephony by the end of the time horizon. If we also assume that the incumbent LEC has managed to retain its 35% market share (again a very conservative assumption) we would find only 41.5% of the market available to other entrants (100% - (35% + 23.5%) = 41.5%). 41.5% divided between 6

[23] See FCC Long Distance Telecommunications Industry Report, released May 14, 2003, available at www.fcc.gov.

entrants (one of the original seven being the cable provider) produces, on average, 6.9% market share per entrant.

It should be noted that neither of these discussions is intended to substitute for the type of accurate, in-depth process that should be used to arrive at a market share estimate for use in a business case. They are only offered as alternative frames of reference. As stated above, it appears that Dr. Aron did not rely on a structured, market-specific process to obtain her 15% estimate. And the slight evidence that was offered in support of that figure was, upon examination, inapplicable to the situation being modeled by the BACE Model. These two examples above are simply offered as support that, in the absence of a structured process for estimating market share, Dr. Aron's 15% input to the BACE Model is significantly overstated.

Q. Are there other demand-side inputs, proposed by Dr. Aron, that are also inappropriate or without support?

A. Yes. Another key demand-side input is what Dr. Aron refers to as the "p-value" or rate of climb. This is, in simple terms, the variable that determines how quickly the entrant achieves its market share. Dr. Aron has advocated, and Bellsouth uses, a p-value of 50% for residential customers. This means, again in simplest terms, that the entrant achieves half of its total market share in a single year, the first year. And it assumes that, by the end of the second year, the entrant has achieved 3/4ths of its total market share.

Q. Is the "p-value" similar to the market share estimate in the sense that it has a significant impact on the outcome of the BACE Model as run by Bellsouth?

A. Absolutely. For example, the "p-value" can take on different values in the BACE Model, from 50% to 25%. As stated above, a 50% "p-value" means that the entrant achieves half of its total market share in the first year. A 25% "p-value" means that the entrant achieves one-fourth of its total market share the first year. BellSouth has run the BACE Model with a "p-value" of 50% for residential customers. If this is changed to 25% the outcome of the model is dramatically affected. As shown in an attachment to the revised rebuttal testimony of Sprint witness Mr. Kent Dickerson, changing the "p-value" to 25% causes the net present value of the new entrant's business case for BellSouth's markets to fall by nearly 30%, from approximately $318~~332~~ million to approximately~~less than~~ $227~~238~~ million (Scenario 2 and Scenario 4 in Attachment KWD-6 (Revised 2/12/04)~~.~~). It is important to note that changing the "p-value" in this way does not change the *number* of customers the entrant acquires; it only changes *how quickly* the entrant acquires them. A simple change in the speed of acquisition can affect the outcome of the business case by nearly 30%. This is just one more example of how important the demand-side variables are to any business case, and why they must be well-supported and applicable.

Q. What support does Dr. Aron provide for the "p-value" of 50%?

A. None. In discussing the "p-value" Dr. Aron does make reference to an article by economist Richard Caves, in which Dr. Caves states that "the size of a typical, successful entrant (when plotted against time) increases more rapidly when the firm is young and small, and tends to level off (the growth rate decreases) as the firm becomes older and larger" (Aron Direct page 25). This reference should be addressed on two different levels.

First, this description (faster growth in early years, slower growth in later years) describes only the general shape of the penetration curve (as Dr. Aron acknowledges). It does not justify a particular "p-value", because both a 50% p-value and a 25% p-value will produce a curve with the same general shape: each will produce a curve that depicts faster growth in early years and slower growth in later years. The only difference is that the slope is less steep in the case of the 25% value, and the curve has a longer tail.

Second, the article that Dr. Aron references is indeed discussing what successful entrants do: Successful entrants (in all industries) find a way to grow faster in early years and then the growth tapers off in later years. If an industry is characterized by a large amount of up-front or fixed costs, as telecom is, the affect that this has on the likelihood of success is obvious: The more customers you can manage to acquire more quickly, the better off you'll be because you can cover those up-front costs more quickly. But by using this approach, Dr. Aron has effectively stacked the deck. Essentially she is suggesting, "This is what the CLEC needs to do in order to succeed, so let's assume the CLEC does it." And, to no great surprise, the CLEC succeeds! By assuming the CLEC only takes 1 year to acquire half of its total 10-year market share, the entrant is virtually guaranteed success. But as I stated in earlier pages, demand-side variables are variables over which the company has little control. The question is whether there is any evidence that CLECs can acquire half of their overall market share in their first year of operation.

Q. Does real-world data offer any support for Dr. Aron's proposed p-value of 50%?

A. No. According to data from the FCC's Local Competition Report 2003, actual CLEC entry into the mass market (residential and small business customers) does not support the notion that CLECs can acquire half of their market share in the first year. The table below lists, on a national scale, the market share that CLECs obtained in the mass market (residential/small business) over a four year period.

<u>CLEC Market Share in the Mass Market</u>

December 1999	December 2000	December 2001	December 2002	June 2003*
2.4%	4.5%	6.6%	10.2%	12.0%

*most recent data available

There is no reason to assume that the 12% depicted in the table above represents an upper-bound, or final figure, on CLEC market share in the mass market. But even if it did, it is clear that CLECs did not come close to achieving half of that figure in the first year of competition. That is why, in the absence of a thorough, structured process for estimating the growth rate of CLEC market share, Dr. Aron's proposed 50% "p-value" must be rejected and a more reasonable figure, such as the alternative 25%, should be considered.[24]

Q. Are there any other demand-side variables utilized by BellSouth that do not withstand scrutiny?

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[24] In all likelihood a "p-value" of even 25% is excessively optimistic, based on the same FCC data. But 25% is the lowest option available to enter as an input into the BACE Model.

A. Yes. Perhaps the most interesting of all are the assumptions made regarding the prices of bundles that BellSouth uses in its BACE Model. The BACE Model basically establishes a three–tiered bundle offer for residential customers. The customer can get an unlimited local and long distance service for $57.72 (ResBundleB). The customer can add voicemail and line maintenance for an increased price of $62.50 (ResBundleA). Or the customer can add DSL to that package for a total of $100.09 (ResBundleC).[25] These bundles are the primary products the entrant is projected to sell in zones 1 and 2, and they produce the revenue yield the CLEC is expected to realize on these customers. But the interesting facts are 1) these prices do not reflect the prevailing market prices that we actually see in a competitive environment, and 2) these price points are not projected to change over the entire 10-year time horizon of the model. As a result, the revenues that the CLEC is expected to earn are overstated.

Q. Why do you believe the bundle prices that BellSouth uses in the model do not reflect the prevailing market price levels seen in reality?

A. The $57.72 price for ResBundleB appears to reflect a $49.99 unlimited calling plan charge to the customer, the prevailing $6.50 subscriber line charge and a reasonable addition for terminating access charges assessed in toll carriers terminating to the LEC's end user. This is the lowest-priced bundle and therefore it must represent a lower-bound for the prevailing bundle price in the market. Yet Attachments BKS-1 and BKS-2 show win-back offers that BellSouth has actually extended to its residential customers in October and November of 2003. In the offer shown in

[25] The prices listed are Zone 1 and 2 prices. The model also has these same bundles of services available in the Zone areas 3 and 4, at slightly different prices. (ResBundleA3 $68.23, ResBundleB3 $55.76 and ResBundleC3 at $102.09)

Attachment BKS-1, the customer can purchase a $49.99 plan, which we believe to be consistent with the BACE Model's ResBundleB. However, in BellSouth's win-back the customer also gets free voice mail, and their local service connection fee ($42.50) is waived, and the customer gets a one-time payment of $75 cash back. Assuming an average customer life of 24 months, the monthly savings to the customer (or the reduction in prevailing price) is approximately $9.68.[26] That $9.68 value represents a 16.8% decrease on the prices that BellSouth uses in the BACE model for equivalent service. Similarly, the offer in Exhibit B provides $100 cash back and waives the local service connection charge.

Now, the BACE model does contain a table called the CLEC Baseline Price Discount table. A 10% initial discount is loaded in the table, but it appears to be applied only to portions of the bundles that are discussed above. The local line charges (Installation, Regcharges, and Subscription) are discounted in the bundle, but the other parts of the bundle (Access Charges and Toll) do not appear to be discounted. Because of the closed nature of the model, it is not clear how much the ResBundleB price of $57.72 is affected by this table. But a 10% discount on only portions of the bundle of services will not come close to matching the 16.8% reductions built into BellSouth's win-back offers. Clearly, in order for the CLEC to really compete with the incumbent, the discount would have to, at a minimum, be equal. But in BellSouth's runs of the BACE Model it is not. The prices in the BACE Model actually overstate the prices that would prevail—and do prevail—in a competitive market. As a result, the revenues assumed in the model are overstated.

[26] Voicemail value is assumed to be the difference in the price between ResBundleA and ResBundleB ($62.50 - $57.72 = $4.78). The cash back ($75) and waived local service connection charge ($42.50) total $117.50 or $4.90 per month for 24 months.

Q. How would the continued development of competition over a 10-year time horizon affect the prices of these bundles?

A. As competition increases over the BACE Model's 10-year time horizon the prices for bundles will move closer toward costs, and the ability of the incumbent to control prices in the market will continue to decrease. Bundles such as the ones described above (and in the model) will continue to be offered, and the level of discount necessary to win the customer's business initially (for the entrant), or win the customer back and retain the customer (for the incumbent) will increase. The market will put downward pressure on prices, and this downward pressure will be exacerbated by the development of VoIP-type service offerings, as well as wireless substitution.

Q. Is this market dynamic reflected in BellSouth's runs of the model?

A. No. The BACE Model has a table called the Bundle Price Curves table, which allows the prices of the bundles to be changed (reduced) yearly over the 10-year period. For BellSouth's runs of the model the table has not been populated, indicating no downward pressure on prices at all.

Q. How much downward pressure should be reflected in the BACE Model?

A. Barring market failures, effective competition often drives the price of goods toward their economic costs. In the case of BellSouth in Florida we have estimates that the economic cost of providing basic local service to residential customers is well below $30.[27] Even adding to this the costs associated with long-distance service, we would expect to see significant downward pressure from a starting point of approximately $50 (BellSouth's win-back offer price).

Q. Is it reasonable to assume the small business portion of the mass market will also experience price pressure over the 10 year period of the model?

A. Absolutely. The small business market is at least as competitive as the residential market today. Margins on local business services tend to be higher than on residential service, consequently the opportunities for CLECs are greater in the small business market than the residential market. This suggests that the prevailing pricing environment will include discounts from the CLEC and win-back and retention efforts from the ILEC that will produce at least the same level of downward pricing pressure that will develop in the residential market.

Q. So to summarize, the outcome produced by the BACE Model in its current form is the result of overstating the prices (compared to what BellSouth is actually offering in a competitive environment today) and ignoring any downward pressure on pricing over the 10-year time horizon?

A. That is correct.

Q. If the prices in the model are adjusted to account for these two factors, is the effect on the model's results as dramatic as we have seen from other demand-side variables?

[27] The FCC's forward-looking cost model HCPM produces cost estimates that support this statement.

A. Adjusting for these two factors produces changes that are even *more* dramatic. Sprint re-ran the BACE Model and incorporated two changes: 1) Adjusted the model's prices so they would more accurately reflect actual market prices by replacing the 10% CLEC discount on bundles (discussed above) with a ten dollar discount that approximated the $9.68 monthly savings that BellSouth is offering customers in its win-back efforts (also discussed above). 2) Incorporated an extremely conservative price decrease of 1.5% per year for the bundled offerings in the model. In an even more conservative step, Sprint only applied this price decrease to select portions of the bundles, since certain other portions already operate in a fully mature competitive market. The result of these two simple changes was to cause the NPV of the entrant's business case to fall by slightly more than ~~nearly 70~~50%. As Attachment KWD-6 (Revised 2/12/04) shows in Scenario 2 and Scenario 5, the net present value dropped from nearly $~~332~~318 million to slightly over $149~~101~~ million.

Q. Is there a particular justification for a 1.5% annual price decrease to represent competitive pressure on pricing?

A. A 1.5% yearly price reduction on a bundle of services is an extremely *conservative* estimate for price changes in a competitive market. In fact, if the prices reflected nothing except average increases in productivity, which would normally be passed through to end-users in a competitive market, the price decreases would be larger than 1.5% per year.[28] As an alternative, by way of a benchmark, we can examine

[28] According to the Bureau of Labor Statistics the average yearly increase in total business productivity nationwide was between 2% and 2.5% per year over both the past 10 years and the past 20 years. The average yearly increase in total non-farm business productivity nationwide was *also* between 2% and 2.5% per year over both the past 10 years and the past 20 years. www.bls.gov.

price changes in competitive telecommunications markets such as wireless calling or toll calling. According to FCC data the average price of one minute of long distance calling fell from $0.15 in 1993 to $0.08 in 2001, a 47% decrease over eight years.[29] And additional FCC data reveal that the average amount spent per minute of wireless calling fell from $0.47 in 1994 to $0.11 in 2002, a 77% decrease over eight years.[30] By comparison, a 1.5% annual price decrease over a ten-year time horizon amounts to no more than a 15% cumulative price decrease, by any measure a conservative effect.

Q. Please summarize your discussion of the demand-side inputs used in the BellSouth BACE Model.

A. As stated above, achieving accuracy with regard to demand-side inputs is extremely important to any business case because these inputs can affect the outcome of the business case in dramatic ways. Ideally, demand-side inputs such as market share estimates and growth rates should be produced as the result of a structured process that is well-researched and well-supported. Based on her testimony it appears that Dr. Aron engaged in no such process. Alternately, demand-side inputs at a minimum should be applicable to the situation being modeled, supported with evidence, and reflective of marketplace realities. The market share proposed by Dr. Aron is not supported by fact and does not reflect the marketplace realties of, for example, an average of seven competitive entrants per market in Florida. The growth rate ("p-value") proposed by Dr. Aron is not supported in any way and makes assumptions—half of the total market share being captured in the first

[29] FCC 2003 Reference Book on Rates, Price Indices & Household Expenditure for Telephone Service. Available at www.fcc.gov.
[30] 2003 Trends in Telephone Service, available at www.fcc.gov.

year—that are unrealistic and self-serving. The price figures used in the BellSouth runs of the BACE Model are not reflective of real-world pricing or real world competitive dynamics. Sprint has re-run the BACE Model using values for these variables that are appropriate and supported by real-world conditions. The result, when combined with cost-side inputs supported in the testimony of Mr. Kent Dickerson, produces the real-world result of an uneconomic business case for mass market service using UNE-L.

Weighted Average Cost of Capital and Dr. Randall Billingsley

Q. On page 3, lines 13 – 18 of his Direct Testimony Dr. Billingsley states that he obtained his proposed cost of capital using an average of two separate analyses of two separate groups, the firms that make up the Standard & Poor's Composite 500 Index ("S&P 500") and a representative sample of CLECs. Is this a reasonable approach?

A. No, not when the firm being modeled is a new-entrant CLEC. The firms that make up the S&P 500 and the sample of CLECs are simply not comparable in terms of the factors that affect investors' expected returns on capital. Thus, a simple mathematical average of the cost components of these two non-comparable groups does not produce a meaningful result, and certainly not a reasonable estimate of the cost of capital to a new entrant CLEC. Because investors' expected returns are functions of risk, the only justification for averaging the two groups would be if the entrant reflected investment risk that was, for some reason, somewhere between the S&P and CLECs in general.

Q. Historically, how do CLECs and ILECs compare with the firms in the S&P in terms of perceived risk

A. In general, ILECs offer slightly less risk than the S&P as a whole, and both ILECs and the S&P offer significantly less risk than CLECs. As Dr. Billingsley illustrated in his testimony, both the "beta" and the estimated cost of equity are significantly higher for CLECs than for the firms in the S&P 500.[31] This suggests that the perceived risk, on the part of an investor, is higher as well for CLECs.

Q. If the perceived risk for an investor is higher for a CLEC than for an ILEC shouldn't the expected return (in the form of a weighted average cost of capital, or WACC) be higher as well?

A. Yes. To suggest otherwise would be to suggest that a fundamental tenet of capital market theory is incorrect.

Q. Has the FCC recently approved a specific WACC for an ILEC?

A. Yes. In Dr. Billingsley's testimony he discusses the most recent cost of capital figure that the FCC has approved for an ILEC in the Verizon Virginia arbitration case.[32] In that case the FCC supported a weighted average cost of capital for the ILEC of 13.07%. For comparison, the WACC proposed in this proceeding by Dr. Billingsley for the CLEC modeled in the BACE Model is 13.09%.

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[31] Dr. Billingsley presents a BARRA beta of 1.66 for CLECs and an estimated cost of equity of 20.78 for CLECs on page 24 of his testimony, compared to a beta of 1 for the S&P 500 and an estimated cost of equity of 14.31 for the S&P 500.

[32] In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc. and for Expedited Arbitration, CC Docket No. 00-218, and In the Matter of AT&T Communications of Virginia, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc., Cc Docket No. 00-251, Memorandum Opinion and Order released August 29, 2003.

Q. If the FCC supported a WACC of 13.07% for an ILEC, and ILECs represent significantly less risk to investors than CLECs, how realistic is the WACC of 13.09% that Dr. Billingsley supports for use in the BACE Model?

A. It is not realistic, and it is not appropriate. By combining CLEC results with the results that represent the firms in the S&P 500 Dr. Billingsley artificially reduces the WACC.

Q. What would serve as a more realistic WACC for the CLEC modeled in the BACE Model?

A. If we examine the CLEC-specific information in Dr. Billingsley's testimony we find that CLECs have a cost of equity of approximately 20.78% (Billingsley page 24) and a cost of debt of 9.92% (Billingsley page 26). If we use these two, and apply Dr. Billingsley's proposed capital structure of 58.5% debt and 41.5% equity, we achieve a weighted average cost of capital of approximately 14.43%.

Q. Why would you not use the CLEC-specific capital structure proposed by Dr. Billingsley?

A. Because the CLEC-specific capital structure proposed by Dr. Billingsley is based on data reflecting amounts of CLEC debt and equity for existing firms that do not represent a new entrant in today's market. In particular, the relative amount of debt proposed by Dr. Billingsley (roughly 87%) is obviously inappropriate, because many of the very firms represented in Dr. Billingsley's Exhibit RSB-3 had significantly lower relative percentages of debt when they entered the market. An appropriate capital structure, with relatively less debt, produces a more appropriate WACC of 14.43%.

Q. A weighted average cost of capital of 14.43% is indeed higher than the FCC's recent ILEC WACC of 13.07%. Does this then represent an appropriate WACC for a new entrant CLEC in the BACE Model?

A. Not necessarily, according to previous data filed by Dr. Billingsley before this Commission. In the recent UNE docket (Docket No. 990649-TP) Dr. Billingsley advocated a WACC for an ILEC in the range of 14.66% to 15.34%.[33] Although there may be reason to believe that the overall cost of capital has fallen slightly since that time, it is unlikely that the cost of capital for a start-up CLEC would be less than the upper bound of the range that Dr. Billingsley proposed for the ILEC in the UNE docket. In fact, if that were the case, it could be said that investors believe there is less risk investing in a CLEC today than in investing in an ILEC during the time of the UNE docket. Therefore a more appropriate weighted average cost of capital for the start-up CLEC in the BACE Model would be the top end of Dr. Billingsley's ILEC WACC, or 15.34%.

Q. Have you re-run the BACE Model using this more appropriate WACC?

A. Yes. The effect of adjusting the WACC to a more appropriate level is to reduce the net present value approximately 33~~2~~%. This can be seen in Attachment KWD-6 (Revised 2/12/04) (attached to the revised rebuttal testimony of Sprint witness Dickerson) by comparing Scenario 2 with Scenario 6. As the table shows,

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[33] See Order No. PSC-01-1181-FOF-TP in Docket No. 990649-TP.

adjusting the weighted average cost of capital reduces the net present value from approximately $~~332~~318 million to approximately $~~224~~213 million.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.