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March 18, 2002

VIA HAND DELIVERY

Blanca S. Bayo, Director
Division of Records and Reporting
Betty Easley Conference Center
4075 Esplanade Way
Tallahassee, Florida 32399-0870

Re: Docket No.: 990649B-TL

Dear Ms. Bayo:

On behalf of the Z-Tel Communications, Inc., enclosed for filing and distribution are the original and 15 copies of Surrebuttal Testimony of Dr. George S. Ford.

Please acknowledge receipt of the above on the extra copy and return the stamped copy to me. Thank you for your assistance.

Sincerely,

Joseph A. McGlothlin

JAM/mls
Enclosure

Q: PLEASE STATE YOUR NAME AND ADDRESS.

A: My name is George S. Ford. My business address is 601 South Harbour Island Boulevard, Suite 220, Tampa, Florida 33602.

Q: HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A: Yes. I filed revised testimony on January 30, 2002.

Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A: The purpose of my testimony is to respond to the cost of capital testimony filed by Commission Staff Witness David Draper.

Q: PLEASE SUMMARIZE THE RECOMMENDATIONS OF MR. DRAPER AS CONTAINED IN HIS REBUTTAL TESTIMONY.

A: Mr. Draper recommends a cost of capital of 9.67% for Verizon and 9.90% for Sprint. These estimates are based on a cost of equity of 11.30% and a cost of debt of 7.22% for Verizon. For Sprint, the cost of equity was estimated to be 11.55% and the cost of debt 7.43%. Mr. Draper assumes a capital structure of 40% debt and 60% equity.

Q: DO YOU AGREE WITH MR. DRAPER'S ANALYSES AND RECOMMENDATIONS REGARDING THE COST OF CAPITAL?

A: No. First, in my testimony I advocated that the Commission apply in this phase of the UNE investigation the same short-term/long-term yield spread and CAPM approach that it applied to BellSouth a few months ago. By relying only on long-term yield spreads to determine the cost of debt and, in part, on a DCF model to determine the cost

of equity, Mr. Draper departs from that approach. Even if the Commission entertains his methodology, Mr. Draper's analysis is flawed in a number of ways. I address three primary flaws in my testimony. First, Mr. Draper's estimates of the cost of equity are based on an application of the two-stage discounted cash flow ("DCF") model financial model that conflicts with the theory underlying the methodology. Second, Mr. Draper employs an inappropriate set of comparable firms to estimate the cost of equity. Third, I believe Mr. Draper has substantially overstated the cost of short-term debt, thus inflating the cost of debt. In nearly every case, Mr. Draper's flaws not only violate financial theory and practice, but also directly contradict the Commission's decision in the BellSouth Cost Order.

Q: DO YOU PROPOSE REMEDIES TO THE FLAWS MADE BY MR. DRAPER?

A: Yes. In my testimony, I will describe my concerns with Mr. Draper's analysis in detail and will propose alternative assumptions and methodologies. My suggested adjustments to Mr. Draper's analyses are consistent with Commission precedent and standard financial theory and practice, and tied to Mr. Draper's general proposals.

Q: ARE THERE ANY FUNDAMENTAL DIFFERENCES BETWEEN MR. DRAPER'S INTERPRETATION OF THE FORWARD-LOOKING COST OF CAPITAL AND YOUR OWN?

A: Yes. In my Rebuttal Testimony, I did not differentiate between the forward-looking cost of capital for UNEs that should apply to Verizon and Sprint. Conceptually, I believe the forward-looking cost of capital for UNEs should not vary by firm. This view is generally supported by this Commission's Order in the BellSouth Phase, where the Commission

was "deciding the cost of capital for UNEs," and not for BellSouth. BellSouth Cost Order, p. 153. Nevertheless, in the final analysis, the differences proposed by Witness Draper are sufficiently small that dwelling on the issue is perhaps unwarranted. To avoid having my testimony evaluated primarily on this particular dispute, and to focus on the need to adjust Mr. Draper's analyses, my response to Mr. Draper's testimony will adhere to his view that the cost of capital should differ between Verizon and Sprint. If the Commission wishes to homogenize the cost of capital across firms, then the detail provided in my testimony and exhibits provides that flexibility.

Q: HOW HAVE YOU ORGANIZED YOUR TESTIMONY?

A: First, I will point out several shortcomings in Mr. Draper's methods and assumptions. As I do so, I provide simple remedies to these shortcomings. Sequentially, my testimony first addresses Mr. Draper's estimates of the cost of debt and then the cost of equity. To close, I provide an updated estimate of the forward-looking weighted average cost of capital that corresponds to Mr. Draper's approach, once my correcting adjustments have been incorporated.

The Cost of Debt

Q: HOW DOES MR. DRAPER ESTIMATE THE LONG-TERM COST OF DEBT FOR VERIZON AND SPRINT?

A: According to Mr. Draper, Verizon and Sprint have public utility debt ratings of "A" and "BBB." Mr. Draper employs the 10-year treasury as his measure of the risk-free rate when computing the cost of debt. Mr. Draper then computes an average yield spread

between the relevant utility bond and the risk-free security. This yield is then added to the expected risk-free rate to produce an estimate of the long-term cost of debt.

Q: DOES THIS APPROACH DIFFER FROM THE APPROACH TAKEN IN YOUR REBUTTAL TESTIMONY?

A: Yes. In my Rebuttal Testimony, I used the yields on AAA Public Utility bonds and the 30-Year Treasury bond to estimate the long-term cost of debt. My estimates of the long-term cost of debt followed exactly the yield-spread approach created by this Commission and described in the BellSouth Cost Order. This approach uses the average of long-term and short-term yield spreads to estimate the cost of debt. The details are described in my Rebuttal Testimony and the BellSouth Cost Order. Mr. Draper does not employ this approach. He ignores the short-term yield spread in his analysis, thereby ignoring the Commission's finding that consideration of both the short-term and long-term yield spread is "appropriate ... because it allows some weight to the longer term development of the spread and allows for the recent increases in the spread." BellSouth Cost Order, p. 155.

Q: CAN MR. DRAPER'S ESTIMATION PROCEDURES AND YOUR OWN BE RECONCILED?

A: Yes, quite easily. I recommend that the Commission adhere to the estimation procedures employed in the previous phase of this proceeding, as detailed in the BellSouth Cost Order and in my Rebuttal Testimony. Since we can duplicate the calculations from the earlier phase without any difficulty, it seems sensible to do so for the sake of consistency and comparability. Further, this approach is preferable given that this Commission

made an affirmative finding for the use of the short/long-term average spread approach in its BellSouth Cost Order.

Q: SYNTHESIZING MR. DRAPER'S METHODS AND THOSE OF THE BELLSOUTH COST ORDER, WHAT IS THE ESTIMATE FOR VERIZON'S LONG-TERM COST OF DEBT?

A: This synthesis estimate of the long-term cost of debt for Verizon assumes the risk-free rate is measured by the 10-Year Treasury bond and the relevant yield for Verizon is A-rated utility bonds, as assumed by Mr. Draper. Computing the cost of long-term debt using these assumptions and exactly the same methodology found in the BellSouth Cost Order, the long-term cost of debt for Verizon equals

$$4.77 + 0.5(2.91 + 1.99) = 7.22\%.$$

This cost of debt is computed by adding the average of the short-term yield spread (291 basis points) and the long-term yield spread (199 basis points) to the risk-free rate (4.77%). Exhibit GSF-SR1 and Exhibit GSF-SR11.

Q: USING THIS SAME SYNTHESIS APPROACH, WHAT DO YOU BELIEVE IS A REASONABLE PROXY FOR SPRINT'S LONG-TERM COST OF DEBT?

A: For Sprint, Mr. Draper employs the yield on BBB utility bonds as the relevant proxy. Again, using the same calculations set forth in the BellSouth Cost Order, but computing the cost of debt using the 10-Year Treasury and the yield on BBB utility bond (or equivalently Moody's Baa-rating), I compute a long-term cost of debt for Sprint of

$$4.77 + 0.5(3.31 + 2.24) = 7.55\%.$$

This cost of debt is computed by adding the average of the short-term yield spread (331 basis points) and the long-term yield spread (224 basis points) to the risk-free rate (4.77%). Exhibit GSF-SR1 and Exhibit GSF-SR11.

Q: DO THESE CALCULATIONS FOLLOW EXACTLY THE ESTIMATION PROCEDURE EMPLOYED IN THE BELLSOUTH COST ORDER?

A: Yes. These estimates are based on an algorithm identical to that prescribed by this Commission in the earlier phase of this proceeding.

Q: DOES MR. DRAPER CONSIDER SHORT-TERM DEBT IN HIS ESTIMATION OF THE COST OF DEBT?

A: Yes. Consistent with the BellSouth Cost Order, Mr. Draper has included an analysis of short-term debt.

Q: WHAT DOES MR. DRAPER USE AS A PROXY FOR SHORT-TERM DEBT?

A: Mr. Draper uses the prime rate as a proxy for the cost of short-term debt, and selects a cost of short-term debt of 5.36%.

Q: IN YOUR REBUTTAL TESTIMONY, DID YOU USE THE PRIME RATE AS THE PROXY FOR THE COST OF SHORT-TERM DEBT?

A: No. As in the BellSouth Cost Order, I used the cost of commercial paper (3-month, AA Non-Financial) as the proxy for the cost of short-term debt.

Q: DO YOU BELIEVE THE PRIME-RATE IS AN APPROPRIATE PROXY FOR THE SHORT-TERM COST OF DEBT?

A: No. Local exchange carriers, including Verizon and Sprint, do borrow short-term funds from banks. However, such loans make up a very small portion of short-term debt. For example, only about 3% of Verizon's short-term debt and 17% of Sprint's short-term debt is "bank loans," the rest being commercial paper. Likewise, commercial paper makes up over 80% of BellSouth and SBC's short-term debt. Obviously, commercial paper is by far a more substantial component of short-term debt for the local exchange carriers. Exhibit GSF-SR2.

Q: ON AVERAGE, WHAT PERCENT OF SHORT-TERM DEBT IS COMMERCIAL PAPER FOR THE REGIONAL BELL COMPANIES AND SPRINT?

A: In year 2000, commercial paper accounted for 84% of short-term debt. Bank loans made up the remaining 16% of short-term debt.

Q: WHAT IS THE HISTORICAL RELATIONSHIP BETWEEN THE INTEREST RATES ON COMMERCIAL PAPER AND THE PRIME RATE?

A: Historically, the prime rate has been about 300 basis points higher than the commercial paper rate. Exhibit GSF-SR1. Given that commercial paper is by far the most important component of short-term debt, the prime rate *alone* is not a reliable proxy for the cost of short-term debt. Indeed, the prime rate substantially overstates the average cost of short-term debt.

Q: ALTHOUGH THE PRIME RATE IS NOT A REASONABLE PROXY FOR THE AVERAGE COST OF SHORT-TERM DEBT, IS THE PRIME RATE A REASONABLE PROXY FOR THE COST OF SHORT-TERM BANK LOANS?

A: Yes. In the final quarter of year 2000, the average prime rate was 9.5%. Exhibit GSF-SR1. In its Year 2000 10-K, Bellsouth reports an average bank loan rate of 9.6%. Exhibit GSF-SR2. The similarity between the reported rate by BellSouth and the average during the same time-period indicates that the prime rate is a reasonable proxy for the cost of bank loans. Neither Verizon nor SBC provide an estimate of the rate for bank loans. Note that in its Year 2000 10-K, Sprint reports an average rate for bank loans of 7.1%. Exhibit GSF-SR2. Thus, the prime rate overstates the bank rate paid by Sprint by more than 200 basis points.

Q: IS AA NON-FINANCIAL COMMERCIAL PAPER A REASONABLE PROXY FOR COMMERCIAL PAPER RATES PAID BY THE REGIONAL BELL COMPANIES?

A: Yes. The average commercial paper rate for the last quarter of Year 2000 was 6.5%. Exhibit GSF-SR1. Verizon reports in its Year 2000 10-K that its short-term cost of debt -- of which 97% is commercial paper -- was 6.5%. The same is true for BellSouth and SBC, both reporting an average commercial paper rate of 6.5% in year 2000. Exhibit GSF-SR2. Thus, AA-rated non-financial commercial paper is a reasonable proxy for the cost of short-term debt borrowed as commercial paper.

Q: DOES SPRINT REPORT A RATE FOR COMMERCIAL PAPER IN ITS FINANCIAL DOCUMENTS?

A: Sprint reported an average commercial paper rate of 7.5% in Year 2000 - about 100 basis points higher than Verizon and BellSouth. Exhibit GSF-SR2.

Q: HOW WAS THE SHORT-TERM COST OF DEBT DETERMINED IN THE BELLSOUTH COST ORDER?

A: The rate for AA Non-financial commercial paper was the proxy for short-term debt costs in the BellSouth Cost Order. Given that the vast majority of short-term debt is commercial paper, commercial paper is a very reasonable proxy for the cost of short-term debt.

Q: WHAT DO YOU BELIEVE IS THE MOST REASONABLE PROXY FOR THE COST OF SHORT-TERM DEBT?

A: Consistency with the previous phase of this proceeding prescribes the Commission use the yield on commercial paper. That said, bank loans are part of short-term debt, albeit a much smaller part than commercial paper. Thus, including bank loans in the estimation of short-term debt is perhaps reasonable. Using bank loans to proxy the cost of all short-term debt, however, is counterfactual.

Q: WHAT IS REQUIRED TO INCORPORATE BANK LOANS INTO THE COST OF SHORT-TERM DEBT?

A: Incorporating bank loans into the estimate of short-term debt is rather straightforward. Bank-loans, on average, account for about 16% of short-term debt for the Regional Bell Companies (BellSouth, Verizon, and SBC) and Sprint. Exhibit GSF-SR2. Thus, a weighted average of the commercial paper and prime rates, using weights 0.84 and 0.16 for commercial paper and bank loans, is a reasonable approach.

Q: USING THESE WEIGHTS, WHAT IS THE COST OF SHORT-TERM DEBT FOR VERIZON?

A: Year-end yields on commercial paper and bank loans were 2.01% and 5.16%. Using weights of 84% commercial paper and 16% bank loans, the a weighted average cost of short-term debt is 2.51% for Verizon-Florida. Exhibit GSF-SR1.

Q: WHAT IS THE COST OF SHORT-TERM DEBT FOR SPRINT?

A: Adjusting the commercial paper up by 100 basis points and the prime rate down by 200 basis points, Sprint's weighted average cost of short-term debt is 3.03%

Q: HAVE SHORT-TERM YIELDS INCREASED SINCE THE END OF THE YEAR 2001?

A: No. The three-month average yields on commercial paper and bank loans ending February 2002 are 1.76% and 4.78%.[1] So, short-term interest rates have declined since the end of the year. Thus, these estimates based on earlier data are conservative.

Q: MR. DRAPER ASSUMES THAT 25% OF TOTAL DEBT IS SHORT-TERM AND 75% IS LONG-TERM DEBT. DO YOU CONCUR WITH HIS RECOMMENDATION?

A: In my Rebuttal Testimony, I provided evidence that, on average, the Bell Companies had about 20% of total debt in the form of commercial paper. If bank loans are included, short-term debt amounts to about 27% of total debt in year 2000, or about 23% over the years 1998 to 2000. Thus, if we include bank loans in short-term debt, then the 25-75 split between short- and long-term debt is reasonable.

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[1] For December 2001, January 2002, and February 2002, the average yields for AA Non-Financial Commercial Paper (Prime Rate) were 1.78 (4.84), 1.70 (4.75), 1.79 (4.75), respectively.

Source: http://www.stls.frb.org/fred/data/irates.html.

Q: CONSIDERING THE CHANGES TO THE CALCULATIONS JUST DISCUSSED, WHAT ARE THE SYNTHESIS ESTIMATES OF THE COST OF DEBT FOR PROVIDING UNES BY VERIZON AND SPRINT?

For Verizon, the forward-looking cost of debt for UNEs is

$$0.25 \cdot 2.51 + 0.75 \cdot 7.22 = 6.04\%,$$

and for Sprint the forward-looking cost of debt for UNEs is

$$0.25 \cdot 3.02 + 0.75 \cdot 7.55 = 6.42\%.$$

According to this estimation method, Sprint's cost of debt exceeds Verizon's by about 38 basis points.

Q: HOW DO YOUR ESTIMATES OF THE COST OF DEBT COMPARE TO THAT ESTABLISHED IN THE BELLSOUTH COST ORDER?

A: In the Bellsouth Cost Order, the established cost of debt was 7.3%. This cost of debt was based on yield data from the first half of year 2000. Since that time, the 10-Year Treasury yield has fallen by about 150 basis points, commercial paper costs have fallen by over 400 basis points, the prime rate has fallen by nearly 390 basis points, A-rated utility bond yields are down 75 basis points, and Baa-rated utility bond yields are down nearly 50 basis points. Exhibit GSF-SR1. In light of these dramatic reductions in debt costs, it is not difficult to see why the cost of debt is less now than in period relevant for the BellSouth phase.

Q: ACCORDING TO YOUR TESTIMONY, THE RISK-FREE RATE HAS FALLEN SUBSTANTIALLY. IS THE RISK-FREE RATE SIGNIFICANTLY OFF ITS HISTORICAL TREND?

A: No. For either the 6-month or 12-month periods ending December 2001, the risk-free rate has not deviated significantly from its 20-year trend.

Q: HOW DID YOU TEST FOR CHANGES IN THE TREND?

A: Using time-series of the 10-Year Treasury rate, I tested for a change in intercept or slope for the series trend using a least-squares regression. By using a dummy variable to indicate either the last 6 or 12 months of the series, a fully interactive, least-squares regression can detect a statistically significant change in either the intercept or slope of the trend. I find no statistically significant change in the trend for either period. Exhibit GSF-SR3.

Q: DO ANY OF YOUR PROPOSALS CONTRADICT, IN ANY WAY, WHAT THIS COMMISSION DECIDED IN THE BELLSOUTH COST ORDER?

A: No. All of my computations are consistent with those set forth in the BellSouth Cost Order, but I use Mr. Draper's assumptions about the risk-free rate and the relevant bond yields for Verizon and Sprint. I also incorporate the higher cost of bank loans into the estimate of short-term debt, as proposed by Mr. Draper.

Cost of Equity

Q: HAVE YOU REVIEWED MR. DRAPER'S ESTIMATION OF THE COST OF EQUITY?

A: Yes.

Q: WHAT METHODS DID MR. DRAPER USE TO ESTIMATE OF THE COST OF EQUITY?

A: Mr. Draper employs two methods: 1) a two-stage discounted cash flow ("DCF") model and 2) the capital asset pricing model ("CAPM").

Q: WHAT CONCLUSIONS DOES MR. DRAPER DRAW FROM HIS DCF ANALYSIS?

A: Mr. Draper estimates a cost of equity equal to 11.45% using the two-stage DCF model and 11.13% using the CAPM.

Q: LET'S ADDRESS EACH MODEL IN TURN. DO YOU AGREE WITH MR. DRAPER'S COMPUTATIONS IN HIS DCF ANALYSIS?

A: Unfortunately, Mr. Draper's application of the two-stage DCF model is flawed. The fundamental error in Mr. Draper's DCF model causes his estimated cost of equity to be severely skewed upward.

Q: HOW IS MR. DRAPER'S DCF ANALYSIS FLAWED?

A: The benefit of the two-stage over the constant growth version of the DCF model is that the two-stage model allows for two stages of growth: "an initial phase in which the growth rate is high and a subsequent steady state in which the growth rate is stable and is expected to remain so for the long term."[2] Or, as Mr. Draper puts it, the second stage is a "period of sustainable growth." Draper Rebuttal, p. 7. The second phase of stable growth is required so that the firm does not grow indefinitely at a high growth rate, eventually becoming as large as the economy. The first problem with Mr. Draper's two-stage model is that the growth rate in stage two (10.33%) exceeds the growth rate in

[2] Aswath Damodaran, *Damodaran on Valuation*, John Wiley and Sons, Inc.: New York (1994), p. 105.

stage one (3.3%). Thus, Mr. Draper's analysis is entirely at odds with the underlying theory of the two-stage model.

Q: IS IT NOT POSSIBLE FOR A FIRM TO GROW SLOWLY IN THE NEAR TERM, THEN HAVE HIGHER GROWTH IN THE LONGER TERM?

A: Yes. But in that scenario – with Mr. Draper's assumed growth rates -- you would need a three-stage growth model. The issue is not only that Mr. Draper has inverted the growth rates, but that the long-term growth rate substantially exceeds a sustainable long-term growth rate for a firm.

Q: WHY DO BELIEVE MR. DRAPER'S LONG-TERM GROWTH RATE IS TOO HIGH?

A: General financial practice holds that the long-term sustainable growth rate cannot exceed the growth rate of the economy, or at least exceed it by much. As observed by Professor Aswath Damodaran,

> [i]n practical terms, the stable growth rate cannot be larger than the nominal (real) growth rate in the economy in which the firm operates .... Damodaran on Valuation, p. 100.

This restriction on the growth rate is not entirely rigid, as Professor Damodaran observes,

> ... an analyst may be able to stray from a strict limit imposed on the stable growth rate. If a firm is likely to maintain a few years of above-stable growth rates, an approximate value for the firm can be obtained by adding a premium to the stable growth rate, to reflect the above-average growth in the initial years. Even in this case, the flexibility that that analyst has is limited. The sensitivity of the model to growth implies that the stable growth rate cannot be more than 1% or 2% above the growth rate in the economy. If the deviation becomes larger, the analyst will be better served by using a two-stage or three-stage model to capture the supernormal or above-average growth and restricting the use of

> the [constant growth DCF model] to when the firm becomes truly stable. Damodaran on Valuation, p. 101.

Over the past ten years, nominal gross domestic product ("GDP") has grown an average of 5.4%. Exhibit GSF-SR5. Even if we add a growth premium as high as 2% to the 5.4% growth rate of the economy, the long-term growth rate cannot exceed 7.4%. Thus, Mr. Draper's assumed long-term growth rate of 10.3% is well outside the bounds of a reasonable long-term, sustainable growth rate.

Q: DID THIS ISSUE REGARDING LONG-TERM GROWTH RATES ARISE IN THE BELLSOUTH PHASE OF THIS PROCEEDING?

A: Yes. The Commission recognized the problem with high long-term growth rates in the BellSouth Cost Order,

> ... we find some merit in AT&T witness Hirshleifer's suggestion that companies cannot sustain high growth rates indefinitely. According to an article provided by witness Hirshleifer, a firm growing at 12% in an economy growing at 6% will eventually become larger than the economy. We believe this example has some application in this instance .... BellSouth Cost Order, p. 153.

Just like the example cited by Commission in the BellSouth Cost Order (i.e., 12%/6%), Mr. Draper's assumed long-term growth rate is about twice as high as the long-term growth rate in the economy (i.e., 10.3%/5.4%) and, consequently, should be rejected as a reasonable proxy for long-term growth. Later in my testimony, I employ the DCF model with more reasonable estimates of long-term growth.

Q: WHAT OTHER CONCERNS DO YOU HAVE WITH MR. DRAPER'S DCF ANALYSIS?

A: Mr. Draper's comparable firms conflict directly with the Commission's decision in the earlier phase of this proceeding. Exhibit GSF-SR4.

Q: IN WHAT WAY DO THE COMPARABLE FIRMS SELECTED BY MR. DRAPER CONFLICT WITH THE COMMISSION'S EARLIER DECISION?

A: In its BellSouth Cost Order, the Commission concluded "the [Regional Bell Holding Companies] and GTE are an appropriate group to consider when deciding the cost of capital for UNEs." BellSouth Cost Order p. 153. Observe that the Commission is "deciding the cost of capital for UNEs," and not just Bellsouth. Furthermore, of Mr. Draper's seven comparables, only two are consistent with the comparables prescribed by this Commission in the BellSouth Cost Order. Exhibit GSF-SR4.

Q: DOES MR. DRAPER INCLUDE THE REGIONAL BELL COMPANIES, OR WHAT IS LEFT OF THEM, IN HIS GROUP OF COMPARABLE FIRMS?

A: No. Mr. Draper includes BellSouth and Verizon in his DCF analysis, but excludes Verizon from his CAPM analysis. SBC is excluded in both the DCF and CAPM analysis.

Q: DID YOU INCLUDE QWEST AS A COMPARABLE IN THE ANALYSES PRESENTED IN YOUR REBUTTAL TESTIMONY?

A: For two reasons, Qwest was excluded from my list of comparables. First, and perhaps most importantly, Qwest was not included in the list of "[Regional Bell Holding Companies" in the BellSouth Cost Order. BellSouth Cost Order, p. 153. Consistency with that Order, therefore, requires that Qwest be excluded in this case as well. It is difficult to imagine why Qwest is a valid comparable for Verizon, but not for BellSouth. Second, while Qwest did acquire the Regional Bell Company US West, the "merged" Qwest is clearly different from the Regional Bell Companies. Consequently, I do not believe it is

appropriate to include Qwest as a reasonable comparable for deciding the cost of capital for UNEs.

Q: HOW IS QUEST "CLEARLY DIFFERENT" FROM THE REGIONAL BELL COMPANIES?

A: Consider the important financial characteristics of Qwest relative to the Regional Bell Companies. Currently, Qwest has a Beta of 1.42, whereas BellSouth, Verizon, and SBC have Betas of 0.40, 0.51, and 0.48. Thus, Qwest's stock is about three-times as variable as, or has three-times the business risk of, the Regional Bell Companies. US West, however, had one of the lowest Betas of the Regional Bell Companies. Exhibit GSF-SR6. Also, consider analysts expectations of long-term growth for the Bell Companies. While earnings for BellSouth, Verizon, and SBC are all expected to grow at about 8%, Qwest has an expected growth rate of nearly 16%. These averages do not tell the whole story, however. The upper range of earnings growth for BellSouth, Verizon, and SBC is about 15%, whereas for Qwest the higher estimates of growth exceed 40%. At the lower end of the estimates, some analysts expect negative 15% growth by Qwest. The other Regional Bell Companies all have minimum growth expectations of about 4%. Finally, Qwest has a bond rating that is nearly "junk bond" status.[3] Clearly, Qwest does not fit very well into a group of the Regional Bell Companies.

Q: ARE THERE OTHER REASONS TO QUESTION MR. DRAPER'S SELECTION OF COMPARABLES?

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[3] Telecommunications Reports Daily, March 5, 2002.

A: Yes. In the BellSouth Cost Order, the Commission rejected a number of proposed comparable firms because the companies did not receive "revenue for the provision of unbundled network elements." BellSouth Cost Order, p. 153. Three of Mr. Draper's seven comparables do not receive revenue for the provision of unbundled network elements: AT&T, CenturyTel, and Telephone & Data Systems ("TDS"). Additionally, the Commission also concluded that the "provision of local exchange service" was an important criterion to be selected as a comparable. BellSouth Cost Order, p. 153. AT&T is not primarily a local exchange carrier, and TDS receives only about 25% of its revenue from local exchange services with the rest coming from its wireless operations.

Q: CENTURYTEL IS ONE OF MR. DRAPER'S COMPARABLES, AND THE COMPANY RECEIVES MOST OF ITS REVENUE FROM LOCAL EXCHANGE SERVICES. SHOULD IT BE INCLUDED IN THE LIST OF COMPARABLE FIRMS?

A: Including CenturyTel as a comparable in this phase of the proceeding would be inappropriate, given that CenturyTel receives no revenue from the sale of UNEs and was *excluded specifically* as a relevant comparable when deciding the cost of capital for UNEs in the BellSouth phase.

Q: IN WHAT WAY WAS CENTURYTEL EXCLUDED AS A COMPARABLE IN THE BELLSOUTH PHASE?

A: The Beta used in the BellSouth Cost Order was provided by Witness Hirshleifer. While CenturyTel was included in Witness Hirshleifer's original set of comparables, in the final decision the Commission limited the comparables to the Regional Bell Companies and GTE - specifically excluding CenturyTel. Exhibit GSF-SR4. As just stated, Qwest

was also absent from the list of comparables in Witness Hirshleifer's testimony. Thus, both CenturyTel and Qwest were excluded from the relevant list of comparables "when deciding the cost of capital for UNEs" in the earlier phase of this proceeding.

Q: WHAT GROUP OF COMPARABLE FIRMS DO YOU RECOMMEND?

A: Since we are deciding the "cost of capital for UNEs" in this phase as in the earlier phase of this proceeding, it seems sensible to apply the same standards now as applied in that earlier phase. In other words, the appropriate set of comparable firms is the Regional Bell Companies.

Q: SHOULD SPRINT BE INCLUDED AS A COMPARABLE?

A: Sprint is perhaps a reasonable substitute for GTE, the latter of which was eliminated from the list of comparables due to its merger with Bell Atlantic. Sprint is a local exchange carrier and sells unbundled elements. Including Sprint brings the set of comparables back to four firms, as was the case in the BellSouth Cost Order.

Q: WHAT FIRMS ARE IN YOUR FINAL SET OF COMPARABLE FIRMS?

A: There are four firms in my final set of comparables: BellSouth, Verizon, SBC, and Sprint. Given that the inclusion of Sprint is questionable, I provide cost of equity estimates that do and do not include Sprint as a comparable.

Q: ACCORDING TO YOUR TESTIMONY THUS FAR, YOU BELIEVE MR. DRAPER USES THE WRONG COMPARABLES, OVERSTATES THE LONG-TERM GROWTH RATE, AND INVERTS THE GROWTH-RATES FOR THE HIGH AND LOW-GROWTH PERIODS. WITH YOUR CHOSEN SET OF COMPARABLE FIRMS, IS IT

POSSIBLE TO ESTIMATE A DCF MODEL THAT ADJUSTS FOR THESE SHORTCOMINGS?

A: Yes. I have estimated a constant growth and a two-stage DCF model for the correct set of comparable firms using theoretically valid methods and assumptions. The relevant inputs for the procedure are provided in Exhibit GSF-SR7.

Q: WHAT ARE THE RELEVANT INPUTS FOR THE DCF ANALYSIS?

A: The constant growth DCF model is summarized by the equation

$$C_E = D\cdot(1 + g)/P(1 - F) + g$$

where C_E is the cost of equity, D is the current (or last) dividend, P_0 is the current price, F are flotation costs expressed as a percentage of price, and g is the sustainable, long-term growth rate. The long-term growth rate is approximated by the long-term, nominal growth in the economy. The only additional input required for the two-stage model is the growth rate for the high-growth period, because the long-term growth rate from the constant growth version of the model (g) also serves as the long-term growth rate in the two-stage model.

Q: WHAT MODIFIED ASSUMPTION HAVE YOU USED FOR THE LONG-TERM, SUSTAINABLE GROWTH RATE?

A: As mentioned earlier, the economy has grown at a nominal rate of 5.4% over the past 10 years, and this growth rate is my chosen proxy for long-term growth Cost of equity estimates are also provided for long-term growth rates of 6.4% (+ 1%) and 7.4% (+2%).

Q: HOW DID YOU ESTIMATE THE GROWTH RATE FOR THE HIGH-GROWTH PERIOD?

A: Consensus estimates of EPS (earnings per share) are used to proxy the growth rate during the high-growth period. In Exhibit GSF-SR7, consensus estimates from four different sources are provided. These estimates are typically five-year forecasts, so I use a five year, two-stage DCF model whereas Mr. Draper used a four-year model.

Q: WHAT IS THE AVERAGE GROWTH RATE FROM THE CONSENSUS ESTIMATES?

A: The consensus estimate of earnings growth for my comparables is about 8%. Exhibit GSF-SR7. I provide estimates based on each individual estimate of long-term EPS growth, as well as the average of the estimates.

Q: WHAT VALUES DO YOU USE FOR THE OTHER RELEVANT INPUTS OF THE ADJUSTED DCF MODEL?

A: Price (P) is measured as the average price for the comparables during the month of January 2002. The dividend (D) is measured as the comparable-average dividend in year 2001. For the constant growth model, the long-term growth rate (g) is assumed to be 5.4%, 6.4%, or 7.4%. Flotation costs are assumed to be 3% of price, as recommended by Mr. Draper.

Q: USING A CONSTANT GROWTH DCF MODEL, WHAT IS THE ESTIMATED COST OF EQUITY?

A: Using the long-term, sustainable growth rate of 5.4%, 6.4%, and 7.4%, the estimated cost of equity is 8.28%, 9.31%, and 10.33%, respectively. Exhibit GSF-SR8.

Q: DO YOU USE AN ANNUAL OR QUARTERLY DCF MODEL?

A: My estimates are based on an annual model. The quarterly model is computing using

$$C_E = [0.25 \cdot D(1+g)^{0.25}/P(1 - F) + (1+g)^{0.25}]^4 - 1,$$

where the variables are defined as before. The implied cost of equity from the quarterly model is slightly higher than the annual model, but not large enough to change the implied cost of capital at the tenth percentage point. For example, the cost of equity from the quarterly model using a growth rate of 5.4% is 8.31%, which is a 3 basis point difference from the annual model. Exhibit GSF-SR8. While the difference between the two models is not large, in the BellSouth Cost Order the Commission did "agree with witness Hirshleifer that the annual DCF model is the appropriate one ..." BellSouth Cost Order, p. 154.

Q: USING THE TWO-STAGE DCF MODEL, INCLUDING THE RECOMMENDED CHANGES TO MR. DRAPER'S ANALYSIS DESCRIBED IN YOUR RESPONSE TO HIS TESTIMONY, WHAT IS THE ESTIMATED COST OF EQUITY?

A: Across a range of estimates, the average estimated cost of equity from the two-stage model with four comparables is 9.50%, with a range of 8.49% to 10.47%. Exhibit GSF-SR8. Excluding Sprint from the list of comparables, the estimated cost of equity is 9.60%, with a range of 8.63% to 10.56%. Excluding Sprint has a small effect on the estimated cost of equity.

Q: WHAT ASSUMPTION DO YOU CHANGE TO CREATE THE RANGE OF ESTIMATES OF THE COST OF EQUITY?

A: I use 15 versions of the two-stage DCF model to estimate the cost of equity. Five short-term growth rates are used, including the four consensus estimates and the average of these estimates. Three long-term growth rates are used, 5.4%, 6.4%, and 7.4%. Pairing each of these growth rates creates 15 different scenarios. When all four comparables are used, only 14 scenarios are legitimate because in one case the short-term growth rate is less than the long-term growth rate.

Q: WHAT IS THE EFFECT OF FLOTATION COSTS ON THE COST OF EQUITY?

A: Flotation costs increase the cost of equity by about 3 basis points per percentage of flotation costs. Given the assumption of 3% flotation costs, the total effect of flotation costs on the cost of equity is about 9 basis points. The magnitude of this effect depends on the assumed growth rate, according to the following formula:

$$\Delta C_E = \Delta F \cdot 1.03 \cdot D(1 + g)/P$$

for the constant growth model. The effects of flotation costs in the constant-growth and the two-stage model are roughly the same. Given a long-term growth rate of 5.4%, the effect of flotation costs on the cost of equity is equal to $\Delta C_E/\Delta F = 1.03 \cdot 0.03 = 0.03$ per percentage point of flotation costs. So, if $F = 0.03$, then the effect on the cost of equity is $3 \cdot 0.03 = 0.09$. Exhibit GSF-SR8.

Q: HOW DO THESE ESTIMATES OF THE COST OF EQUITY COMPARE TO THOSE SUMMARIZED IN YOUR REBUTTAL TESTIMONY?

A: In my Rebuttal Testimony, the CAPM was used to estimate a cost of equity of about 10%. Thus, once Mr. Draper's DCF method has been adjusted to reflect the items I discussed earlier, it produces estimates very similar to those produced by the CAPM presented in my Rebuttal Testimony.

Q: DO YOU HAVE ANY CONCERNS WITH MR. DRAPER'S APPLICATION OF THE CAPM TO ESTIMATE THE COST OF EQUITY?

A: Yes. As previously discussed, I do not believe the comparables chosen by Mr. Draper are appropriate. Clearly, his comparables are not consistent with the Commission's own analysis set forth the BellSouth Cost Order. Exhibit GSF-SR4.

Q: DO YOU HAVE OTHER CONCERNS WITH MR. DRAPERS USE OF THE CAPM?

A: Yes. Setting the issue of comparables aside for the moment, I disagree with Mr. Draper's recommended Beta of 1.02, which is the average of the Betas for some, but not all, of his comparable firms. I have three concerns related to his recommended Beta. First, the CAPM analysis excludes Verizon and AT&T, but the DCF analysis did not. No explanation for why Verizon and AT&T were excluded from the CAPM analysis was provided. Consequently, only one Regional Bell Company (BellSouth) was included as a comparable in Mr. Draper's application of the CAPM.

Second, a Beta of 1.02 presumes that the UNE business is more risky than the market as a whole. This implication strongly contradicts the Commission's conclusions in the BellSouth Cost Order.

Third, this Commission found, in the BellSouth Cost Order, that a Beta of 0.73 was unreasonably high for UNEs. BellSouth Cost Order, p. 153. To now find that a Beta of 1.02 is reasonable seems a bit arbitrary. For certain, BellSouth likely will take offense at Verizon having its cost of capital based on a Beta of 1.02 versus the 0.66 Beta applied to BellSouth in May of last year.

Finally, the Betas listed in Mr. Draper's testimony are considerably higher than the actual Betas for the listed companies. For example, BellSouth has a Beta just over 0.40, yet Mr. Draper presents a Beta for BellSouth of 0.85 – over twice the actual Beta. As a point of interest, BellSouth has not had a Beta of 0.85 since early 1987.

Q: HAVE YOU COMPUTED THE BETAS FOR MR. DRAPER'S LIST OF COMPARABLES?

A: Yes. If the actual Betas are used for his comparables, the average Beta is 0.83, not 1.02. Exhibit GSF-SR9.

Q: WHY ARE MR. DRAPER'S BETAS SO OVERSTATED?

A: Mr. Draper's Betas are provided by ValueLine. The ValueLine Betas are computed using the following formula:

$$\beta_V = 0.33 + 0.67\beta,$$

where β_V is the ValueLine Beta and β is the actual Beta. Note that I use the actual Beta in my computations. The ValueLine Betas are often called "Blume Betas," because the adjustment is based on a paper written by Marshall Blume in the early 1970s. Marshall Blume, On the Asessment of Risk, *Journal of Finance*, Vol. 26, 1971, pp. 1-10; Marshall

Blume, Betas and Their Regression Tendencies, *Journal of Finance*, vol. 30, 1973, pp. 785-795. In this paper, Blume found that the average Beta of a portfolios of firms -- constructed based on the size of the firm Betas in the first year(s) of the series - was closer to one in the last year(s) of the series. Thus, Blume concludes that Betas tend toward one and suggests an adjustment to account for this proposition. The effect of Blume's adjustment is to increase *indiscriminately* any Beta less than 1.00 and to decrease any Beta greater than 1.00.

Q: IS THIS BLUME ADJUSTMENT APPROPRIATE IN THE PRESENT CONTEXT?

A: No, and I would argue that they are rarely appropriate. I have reviewed Blume's work, and it appears as if ValueLine has made a common error in statistical analysis referred to as "regression to the mean." Nobel Economist Milton Friedman wrote a brief article in 1992 entitled "Do Old Fallacies Ever Die?" regarding the frequency with which this fallacy occurs in academic research.[4] It was published in *Journal of Economic Literature*, Vol. XXX, 1992, pp. 2129-2132. We need not focus on this "theoretical" dispute, however, to show that the Blume or ValueLine Betas are inappropriate in the present context. This very question has been addressed directly in a recent academic paper by Martin Lally entitled "An Examination of Blue and Vasicek Betas, *The Financial Review*, Vol. 33, 1998, pp. 183-198..

Q: WHAT DOES THE RESEARCH OF PROFESSOR LALLY CONCLUDE REGARDING THE USE OF BLUME BETAS?

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A: Professor Lally is critical of the Blume adjustment to Beta because the indiscriminate application of the adjustment fails to take into account the industry in which the firm operates. In a highly relevant analogy, Professor Lally observes:

> A dramatic example of this is in U.S. electric utilities. A typical such firm has an estimated beta (unadjusted) of around 0.4. ... By contrast, Blume adjusts the 0.4 to 0.6 [i.e., 0.33 + 0.67(0.4)]. The result is a dramatic overestimate by Blume, because a singularly relevant fact is ignored, i.e., membership of an industry whose average estimated, and therefore presumably also true, beta is well below one. Lally, p. 192.

In constrast to Blume, Lally finds that industry average Betas tend to "the industry mean rather than the global mean of one." Lally, p. 186. The relevance of Lally's research to the current proceeding is described accurately by the author:

> Given that these firms have output prices that are set so as to recover costs, including the cost of equity, and they have substantial equity investments, then the implications of using Blume betas (i.e., not portioning into industries) for measuring costs of equity are particularly severe. Lally, p. 192.

Thus, the use of ValueLine or Blume Betas is inappropriate when computing the cost of equity for the UNE business, or any line of business for that matter. ValueLine or Blume Betas are only relevant for broad portfolios of stocks grouped only with reference to their observed historical Betas.

Q: DOES THE AVERAGE BETA OF THE BELL COMPANIES SHOW ANY TENDENCY TOWARD ONE?

A: No. Exhibit GSF-SR10 provides graphs of both the average Beta of the Bell Companies (BellSouth, Verizon, and SBC) and the Coefficient of Variation of the Beta over a number of years. These graphs show clearly that the Beta of the Bell Companies (BellSouth,

Verizon, and SBC) exhibits no tendency toward 1.00. In fact, it appears as if the Bell Company Beta is tending toward zero, if anything. Further, the coefficient of variation – that is the standard deviation divided by the mean, where both are computed over twelve month intervals -- exhibits no observable diminution of variance, which is a true test of convergence. Friedman, p. 2129.

Q: ARE THE BETAS PROVIDED BY MR. DRAPER CONSISTENT WITH THE BETAS USED IN THE BELLSOUTH COST ORDER?

A: No. The Betas used in the BellSouth Cost Order were computed using 60 months of returns on the relevant stock price and the S & P 500.

Q: WHAT BETAS DO YOU USE IN YOUR OWN ANALYSIS?

A: Actual Betas, as the Commission did in the Bellsouth Cost Order, without the arbitrary and incorrect Blume adjustments.

Q: MR. DRAPER INCLUDES AN ADJUSTMENT FOR FLOTATION COSTS IN HIS CAPM ANALYSIS. DO YOU BELIEVE THAT IS APPROPRIATE?

A: Given the decision in the BellSouth Cost Order, I believe Mr. Draper's inclusion of an adjustment for flotation costs is reasonable. In the BellSouth Cost Order, the Commission concluded, "[w]e believe flotation costs are appropriate because the evidence shows that these costs are incurred by firms that raise capital and represent a reduction to the proceeds from the issuance of stock." BellSouth Cost Order, p. 153. The 3% figure recommended by Mr. Draper is reasonable, given that this Commission concluded that a "5% flotation allowance may be somewhat high." BellSouth Cost

Order, p. 153. Note, however, that the Commission did not include flotation costs in its final decision in the BellSouth Cost Order.

Q: DO YOU HAVE ANY OTHER COMMENTS ON MR. DRAPER'S IMPLEMENTATION OF THE CAPM?

A: Yes. Mr. Draper employs the 10-Year Treasury for the risk-free rate in his cost of debt calculations. Mr. Draper makes an affirmative case for using the 10-Year Treasury, noting, "the Federal Reserve has stopped issuing the 30-year Treasury bond, [so] I have used the 10-year Treasury Bond in calculating a forecasted cost for long-term debt." Draper Rebuttal at 5. Given his affirmative case for the 10-Year Treasury, it is unclear why he then uses the 30-Year Treasury bond to proxy for the risk-free rate when estimating the cost of equity. While I believe using either the 10-year or 30-year Treasury is reasonable, I believe the same proxy should be used for the cost of debt and for the cost of equity.

Q: WHAT EFFECT WILL CHANGING THE RISK-FREE RATE HAVE ON THE FINAL ESTIMATES OF THE COST OF DEBT AND EQUITY?

A: The difference between the yields is not large, so adopting a more consistent approach has little effect. Since Mr. Draper makes an affirmative case for the use of the 10-year Treasury, I recommend that the yield on the 10-year Treasury, or 4.77%, serve as the risk-free rate for all computations. That said, either the 10- or 30-year Treasury is a

reasonable proxy for the risk-free rate. McKinsey & Company, Inc., recommends using the 10-year Treasury bond for the risk-free rate.[5]

Q: DID YOU ESTIMATE THE COST OF EQUITY USING THE FOUR COMPARABLES AND THE CAPM?

A: Yes. In my Rebuttal Testimony, I employed the average Beta of the Bell Companies (BellSouth, Verizon, and SBC) for year 2001, or 0.58. Adding Sprint to this group of firms increases the Beta to 0.61. Exhibit GSF-SR9. Moving to the 10-year Treasury bond as the risk-free security, Mr. Draper's proposed market-risk premium increases from 5.47 to 6.10. Exhibit GSF-SR11.

Q: INCORPORATING THE CHANGES JUST DISCUSSED, WHAT IS THE ESTIMATE OF THE COST OF EQUITY USING THE CAPM?

A: With a risk-free rate of 4.77%, a Beta of 0.61, a market-risk premium of 6.10%, and flotation adjustment of 9 basis points, the cost of equity is

$$4.77 + 0.61 \cdot 6.10 + 0.09 = 8.58\%.$$

If Sprint is excluded as a comparable, the cost of equity is

$$4.77 + 0.58 \cdot 6.10 + 0.09 = 8.40\%,$$

which is only slightly less than the cost of equity computed using all four comparables.

Q: IN SUM, WHAT IS THE ESTIMATED COST OF EQUITY AFTER THE NECESSARY CHANGES ARE MADE TO MR. DRAPER'S ANALYSES?

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[5] Tom Copeland, Tim Koller, and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3rd Ed., McKinsey & Company, Inc., (2000).

A: The estimated cost of equity capital is about 9% (i.e., the average of 8.58, 9.45, 9.58, and 9.31). If only the DCF results are used, the cost of equity is closer to 9.5%. From the sensitivity analysis performed using the DCF models, the upper bound on the cost of equity is about 10.5%.

Q: DO YOU BELIEVE THESE ESTIMATES ARE RELIABLE PROXIES FOR THE FORWARD-LOOKING COST OF EQUITY?

A: Yes. The DCF and CAPM estimates are very similar. All estimates are derived from public data and standard methods. Further, these estimates also are a synthesis of Mr. Draper's analysis and the decision made by this Commission in the BellSouth Cost Order. Thus, I believe these estimates are reasonable.

The Weighted-Average Cost of Capital

Q: USING THE DEBT AND EQUITY COSTS THAT RESULT FROM YOUR PROPOSED ADJUSTMENTS TO MR. DRAPER'S ANALYSES, WHAT IS THE INDICATED FORWARD-LOOKING WEIGHTED-AVERAGE COST OF CAPITAL FOR VERIZON?

A: The forward-looking cost of debt for Verizon is estimated to be 6.04%. All three methods used to estimate the cost of equity – the constant growth DCF model, the two-stage DCF model, and the CAPM – produce estimates of about 9%. Assuming a capital structure of 40% debt and 60% equity, the weighted-average cost of capital for Verizon is

$$0.40 \cdot 6.04 + 0.60 \cdot 9.00 = 7.82\%.$$

My sensitivity analysis on the cost of equity produced an estimate as high as 10.56%, which implies a cost of capital of 8.75%. At the other extreme, the low estimate of the cost of capital from the sensitivity analysis is 7.51%. Exhibit GSF-SR11.

Q: AND WHAT IS THE ESTIMATED FORWARD-LOOKING COST OF CAPITAL FOR SPRINT?

A: For Sprint, the cost of debt is estimated to be 6.42%. Given a cost of equity of 9%, the weighted-average cost of capital is

$$0.40 \cdot 6.42 + 0.60 \cdot 9.00 = 7.97\%,$$

or about 8.0%. The sensitivity analysis bounds the cost of capital between 7.53% and 8.90%. Exhibit GSF-SR11.

Q: DO THESE NUMBERS DIFFER SUBSTANTIALLY FROM YOUR REBUTTAL TESTIMONY?

A: No. In my rebuttal testimony, I estimated a weighted average cost of capital of about 8.5%. Thus, Mr. Draper's estimates, corrected to be more consistent with the Bellsouth Cost Order and standard practice and theory, are slightly lower than my estimates, on average. The upper-bound estimates from the adjusted Draper analysis are most consistent with my earlier estimates.

Q: WHAT ARE YOUR FINAL OBSERVATIONS REGARDING THE WEIGHTED AVERAGE COST OF CAPITAL FOR VERIZON AND SPRINT?

A: Based upon my Rebuttal Testimony and the adjusted estimates of Mr. Draper's analysis computed in this testimony, the respective, weighted-average cost of capitals for Verizon

and Sprint are in the 8.0% to 8.5% range, with Sprint's cost of capital being slightly higher than Verizon's.

Q: THESE ESTIMATES ARE ABOUT 200 BASIS POINTS LESS THAN THE COST OF CAPITAL DETERMINED IN THE BELLSOUTH CASE. HOW DO YOU RECONCILE THIS LARGE DIFFERENCE IN THE COST OF CAPITAL BETWEEN THE BELLSOUTH CASE AND NOW?

A: The explanation for this sizeable fall in the cost of capital is detailed in my Rebuttal Testimony and discussion here. The fact is that since the time period used to generate the cost of capital in the BellSouth Cost Order, the 10-Year Treasury yield has fallen by about 150 basis points, commercial paper costs have fallen by over 400 basis points, the prime rate has fallen by nearly 390 basis points, A-rated utility bond yields are down 75 basis points, Baa-rated utility bond yields are down nearly 50 basis points, and the Betas of the Regional Bell Companies are down 30%. At this point, to argue that the cost of capital for the UNE business is anywhere near the 10.24% established in the BellSouth Cost Order requires one to ignore everything that has happened in the financial markets over the past few years. Indeed, any estimate of the current cost of capital for UNEs not substantially below 10.24% is suspect.

Q: HAVE ANY COMMISSIONS IN BELLSOUTH STATES ADOPTED A COST OF CAPITAL IN THE RANGE YOU RECOMMEND?

A: Yes. The current cost of capital is Georgia is 9.27%. Notably, of all the BellSouth states, Georgia has the highest percentage of end-users served by ALECs.[6]

Q: DOES THIS CONCLUDE YOUR TESTIMONY?

A: Yes.

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[6] Federal Communications Commission, *Local Telephone Competition: Status as of June 30, 2001*, February 2002, Table 6.

Yield Averages

	Long-Term Average (Jan-97 thru Dec-01)	Short-Term Average (Oct-07 thru Dec-01)	Source
30-Year Treasury bond	5.90	5.31	(1)
10-Year Treasury Bond	5.66	4.77	(1)
AAA Public Utility Bond	7.35	7.48	(2)
A Public Utility Bond	7.65	7.68	(2)
BBB Public Utility Bond	7.90	8.08	(2)
AA 3-mth Non-Fin. Comm. Paper	5.19	2.01	(1)
Bank Prime	8.19	5.16	(1)

Source: FRED Database (1), Mergent Bond Record (2).

Yield Spreads

	Spread on 30-Year Treasury		Spread on 10-Year Treasury	
	LT	ST	LT	ST
30-Year Treasury bond	...	...	0.24	0.54
10-Year Treasury Bond	-0.24	-0.54	...	...
AAA Public Utility Bond	1.45	2.17	1.69	2.71
A Public Utility Bond	1.76	2.37	1.99	2.91
BBB Public Utility Bond	2.00	2.78	2.24	3.31
AA 3-mth Non-Fin. Comm. Paper	-0.71	-3.30	-0.47	-2.76
Bank Prime	2.29	-0.15	2.53	0.39

Yield Changes From March-May 2000

(Period Relevant for BellSouth Cost Order)

	Mar-00 thru May-00	Oct-01 thru Dec-01	Basis Point Difference
30-Year Treasury bond	6.02	5.31	-71
10-Year Treasury Bond	6.23	4.77	-146
AAA Public Utility Bond	7.99	7.48	-51
A Public Utility Bond	8.42	7.68	-75
BBB Public Utility Bond	8.55	8.08	-47
AA 3-mth Non-Fin. Comm. Paper	6.22	2.01	-421
Bank Prime	9.02	5.16	-387

Components of Short-Term Debt

	BellSouth	Verizon	SBC	Sprint
Comm. Paper	5,730	12,659	6,437	3,300
Bank Loans/Other	1,129	360	1,419	676
Percent Comm. Paper	83%	97%	82%	83%
Rate Comm. Paper	6.5%	6.5%*	6.5%	7.3%
Rate Bank Loans	9.6%	n/a	n/a	7.1%

Source. BellSouth, Verizon, SBC, and Sprint Year 2000 10-Ks.
* Average of Commercial paper and other short-term debt (97% comm. paper).

The dependent variable of the least-squares regression (Y) is measured as the average yield on the 10-Year Treasury bond over the period Jan-82 through Dec-01. The variable D6 (D12) is a dummy variable which equals 1.00 for the last six-months (twelve-months) of the series. The variable T measures time, where T = 1, 2, ... 240. The least-squares regression results are:

Regression Results

Variable	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
Constant	11.49	11.52	11.55
	(80.13	(79.12)	(78.62)
T	-0.0297	-0.030	-0.030
	(-28.79)	(-27.94)	(-27.35)
D6	...	6.05	...
		(0.10)	
D6·T	...	-0.023	...
		(-0.09)	
D12	...	...	2.00
			(0.09)
D12·T	...	...	-0.006
			(-0.06)
R^2	0.78	0.78	0.78

Source: http://www.stls.frb.org/fred/data/irates/gs10.

The lack of statistical significant on D6, D6·T, D12, and D12·T indicates that there has been no statistically significant deviation from the trend in the risk-free rate during the last six or twelve month period. The regressions were also run using a twelve-month rolling average of the risk-free rate. No change in the trend was observed for this alternative series.

Nominal GDP	
Year.Qtr	GDP
1991	6080.7
1992	6469.8
1993	6795.5
1994	7217.7
1995	7529.3
1996	7981.4
1997	8478.6
1998	8984.5
1999	9522.5
2000	10027.9
2001	10221.6

Source: FRED Database (http://www.stls.frb.org/fred/fredfile.html)

To compute quarterly growth rate, the following least squares regression was estimated:

$$\ln(GDP) = \alpha_0 + \alpha_1 T,$$

where T is an indicator of time (T = 1, 2, ... 10). The coefficient α_1 measures annual growth. The estimate of α_1 is 0.054. The R-square of the regression is 0.997, and the t-statistic of α_1 is 52.

Choice of Comparables					
	BellSouth Phase		Verizon-Sprint Phase		
	Hirschleifer Proposed	Commission Final Decision	Draper DCF	Draper CAPM	Ford
BellSouth	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Verizon	**Yes**	**Yes**	**Yes**	**No**	**Yes**
SBC	**Yes**	**Yes**	**No**	**No**	**Yes**
Sprint			**Yes**	**Yes**	**Yes/No**
Qwest			Yes	Yes	No
CenturyTel	Yes	No	Yes	Yes	No
AllTel	Yes	No	No	No	No
TDS			Yes	Yes	No
GTE	Yes	Yes	n/a	n/a	n/a
US West	Yes	Yes	n/a	n/a	n/a

Financial Statistics for the Regional Bell Companies and Others

	Beta 1998	Beta 1999	Beta Feb-02 (Multex)	Beta Avg. 2001 (BARRA)	Mean Expected Growth	Max Expected Growth	Min Expected Growth	# Estimates
BellSouth	0.47	0.63	0.40	0.44	8.20	17.0	4.0	15
Verizon			0.51	0.61	8.20	13.0	4.1	16
SBC	0.74	0.64	0.48	0.46	7.96	17.0	3.4	17
Sprint			0.59	0.63	4.09	8.50	0.40	12
Qwest			1.42	1.56	15.9	41.0	-15.2	13
GTE	0.66	0.65						
US West	0.52	0.51						
Bell Atlantic	0.65	0.70						

Source: Multex Investor (www. marketguide.com), BARRA Beta Book.

Inputs for the DCF Analysis

Ticker	Price and Dividends		Analysts Estimates				
	Mean Price (Jan-02)	Dividend 2001	Quicken	Zacks	Multex	IBES	Average
BLS	38.88	0.76	8.50	8.04	8.20	9.16	8.48
VZ	48.26	1.54	8.40	8.47	8.20	7.84	8.23
SBC	37.85	1.02	10.60	8.56	7.96	8.05	8.79
FON	18.96	0.50	6.80	7.00	4.09	7.81	6.43
Average	$35.98	$0.954	8.58%	8.02%	7.12%	8.22%	7.98%

Sources: Multex Investor (www.marketguide.com), finance.yahoo.com, www.quicken.com, www.zacks.com, and www.alacra.com.

The Constant Growth DCF Model is written as:

$$C_E = D\cdot(1 + g)/P(1 - F) + g.$$

Using the values summarized in Exhibit GSF-SR7 and growth rates of 5.4%, 6.4%, and 7.4%, the implied cost of equity is

$$C_E = 0.954\cdot(1 + 0.054)/35.98(1 - 0.03) + 0.054 = 8.28\%$$

$$C_E = 0.954\cdot(1 + 0.064)/35.98(1 - 0.03) + 0.064 = 9.31\%$$

$$C_E = 0.954\cdot(1 + 0.074)/35.98(1 - 0.03) + 0.074 = 10.33\%.$$

Assuming flotation costs are 0% and growth is 5.4%, the cost of equity is

$$C_E = 0.954\cdot(1 + 0.054)/35.98(1 - 0.00) + 0.054 = 8.19\%,$$

illustrating that 3% flotation costs increase the cost of equity by 9 basis points.

The quarterly DCF model is written as:

$$C_E = [0.25\cdot D(1+g)^{0.25}/P(1 - F) + (1+g)^{0.25}]^4 - 1,$$

where for growth of 5.4% and flotation costs of 3%, we have

$$C_E = [0.25\cdot 0.954(1+0.054)^{0.25}/35.98(1 - 0.03) + (1+0.54)^{0.25}]^4 - 1 = 8.31\%.$$

Thus, the quarterly model increases the cost of equity by 3 basis points (= 8.31 - 8.28).

Two-Stage DCF Results: BellSouth, Verizon, SBC, and Sprint

(5-Year Short-term)

Short-Term Growth	Long Term Growth		
	5.40%	6.40%	7.40%
8.58%	8.70%	9.58%	10.47%
8.02%	8.62%	9.51%	10.40%
7.12%	8.49%	9.38%	*
8.22%	8.64%	9.53%	10.42%
7.98%	8.61%	9.50%	10.39%

Average: 9.45%
Minimum: 8.49%
Maximum: 10.47%

* Long-term growth rate exceeds short-term growth rate.

Two-Stage DCF Results: BellSouth, Verizon, and SBC

(5-Year Short-term)

Short-Term Growth	Long Term Growth		
	5.40%	6.40%	7.40%
9.17%	8.78%	9.67%	10.56%
8.36%	8.67%	9.55%	10.45%
8.12%	8.63%	9.52%	10.41%
8.35%	8.67%	9.55%	10.44%
8.50%	8.69%	9.57%	10.46%

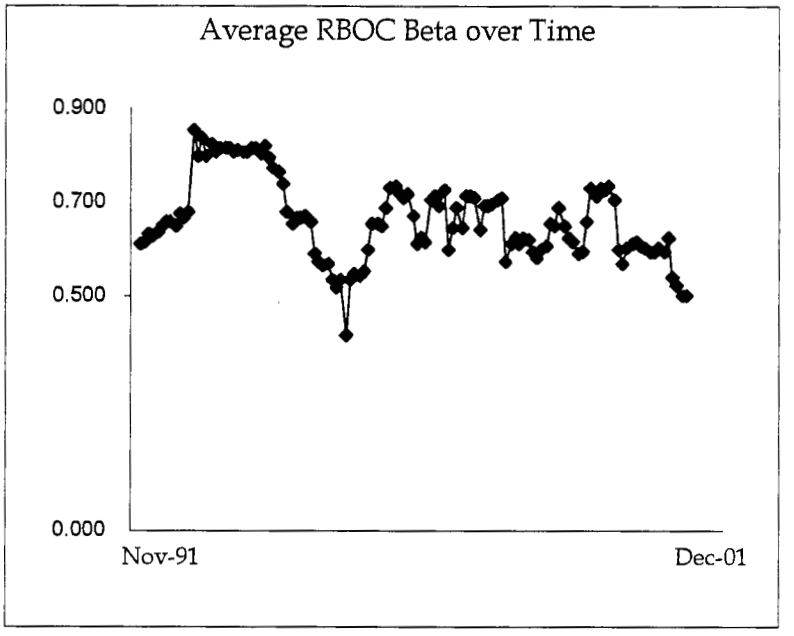
Average: 9.60%
Minimum: 8.63%
Maximum: 10.56%

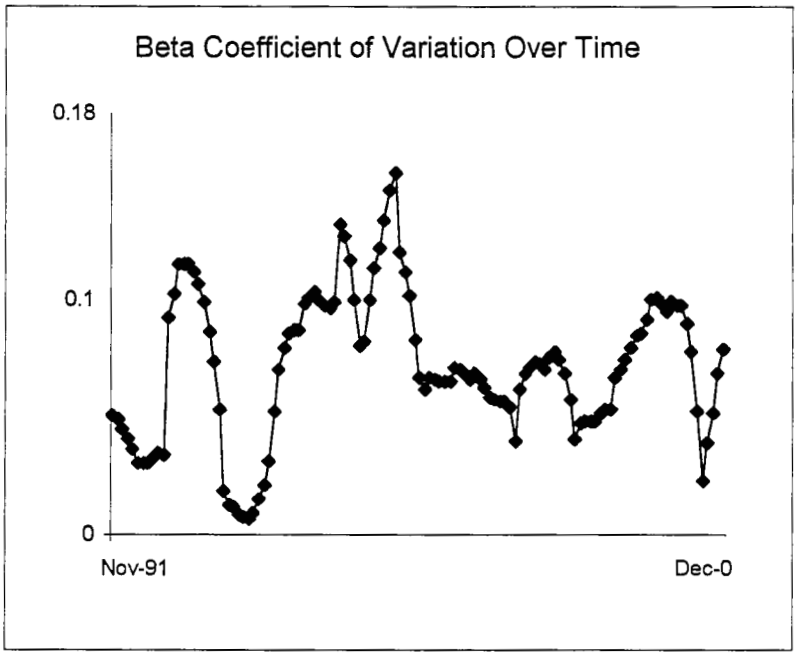
* Long-term growth rate exceeds short-term growth rate.

Comparison of Betas

Company	Beta from Draper Testimony	Actual Beta*	Beta** (Avg 2001)
BellSouth Corp.	0.85	0.43	0.47
CenturyTel	1.00	0.77	
Qwest	1.55	1.42	
Sprint	0.85	0.59	0.71
TDS	0.85	0.93	
Average	**1.02**	**0.83**	
Verizon		0.50	0.69
SBC		0.48	0.57
Average w/ VZ and SBC		**0.73**	**0.61**

* Multex Investor, www. markeguide.com, Feb-02.
** BARRA Beta Book (Average of 2001).


Average RBOC Beta over Time
0.900
0.700
0.500
0.000
Nov-91
Dec-01


Beta Coefficient of Variation Over Time
0.18
0.1
0
Nov-91
Dec-0

VERIZON: Weighted Average Cost of Capital: Summary Computations

	CAPM	CAPM	2SDCF (4)	2SDCF (4)	2SDCF (4)	2SDCF (3)	2SDCF (3)	2SDCF (3)	CG DCF	CG DCF	CG DCF
Risk Free Rate (R_F)	4.77	4.77									
Beta (β)	0.58	0.61									
Premium (P_M)	6.10	6.10									
Flotation	0.09	0.09									
Cost of Equity (C_E)	8.40	8.58	8.49	9.45	10.47	8.63	9.58	10.56	8.28	9.31	10.33
Risk Free Rate (R_F)	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77
ST Premium (P_S)	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91
LT Premium (P_L)	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99
$0.5(P_S + P_L)$	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
LT Debt Rate $[R_F + 0.5(P_S + P_L)]$	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22
Comm. Paper Percent	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
ST Debt Rate (R_S)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51
Short Term Debt Percent	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Long Term Debt Percent	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Cost of Debt (C_D)	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04
Capital Structure											
Percent Equity	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Percent Debt	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Weighted Avg Cost of Capital	7.46	7.57	7.51	8.09	8.70	7.60	8.17	8.75	7.39	8.00	8.62

SPRINT: Weighted Average Cost of Capital: Summary Computations

	CAPM	CAPM	2SDCF (4)	2SDCF (4)	2SDCF (4)	2SDCF (3)	2SDCF (3)	2SDCF (3)	CG DCF	CG DCF	CG DCF
Risk Free Rate (R_F)	4.77	4.77									
Beta (β)	0.58	0.61									
Premium (P_M)	6.10	6.10									
Flotation	0.09	0.09									
Cost of Equity (C_E)	8.40	8.58	8.49	9.45	10.47	8.63	9.58	10.56	8.28	9.31	10.33
Risk Free Rate (R_F)	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77	4.77
ST Premium (P_S)	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31
LT Premium (P_L)	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
$0.5(P_S + P_L)$	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
LT Debt Rate $[R_F + 0.5(P_S + P_L)]$	7.55	7.55	7.55	7.55	7.55	7.55	7.55	7.55	7.55	7.55	7.55
Comm. Paper Percent	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
ST Debt Rate (R_S)	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
Short Term Debt Percent	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Long Term Debt Percent	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Cost of Debt (C_D)	6.42	6.42	6.42	6.42	6.42	6.42	6.42	6.42	6.42	6.42	6.42
Capital Structure											
Percent Equity	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Percent Debt	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Weighted Avg Cost of Capital	7.61	7.72	7.66	8.24	8.85	7.74	8.31	8.90	7.53	8.15	8.76

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of Dr. George S. Ford's Surrebuttal Testimony was on this 18th day of March 2002 been served (*) Hand Delivery and U.S. Mail to the following:

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