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November 18, 2002

## By Electronic Delivery

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

### REDACTED – FOR PUBLIC INSPECTION

Re: *Joint Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in Florida and Tennessee, WC Docket No. 02-307*

Dear Ms. Dortch:

At the request of the Commission Staff, we are submitting AT&T's calculation of the effect of the double count of inflation by BellSouth and the Florida Public Service Commission, which is set forth in the attached Supplemental Declaration of John C. Klick and Brian F. Pitkin. As stated in Attachment JK/BP-6 to the Supplemental Declaration, the double count improperly raises UNE rates by approximately 1%-5%. This analysis supercedes the preliminary calculations presented in the November 13, 2002 ex parte letter submitted by the undersigned.

The Supplemental Declaration also responds to the claims by BellSouth witness Randall Billingsley included in BellSouth's Reply comments and in a November 8, 2002 ex parte letter submitted by Sean Lev on behalf of BellSouth to the Commission. In short, Dr. Billingsley's conclusions are in error due to his focus on cost incurrence rather than cost recovery. As an example, taking an asset that costs \$1 million with a 10-year life, BellSouth and Dr. Billingsley seek to recover the effects of inflation twice during that 10 year period – once as part of the nominal cost of capital that it employs and again by inflating the \$1 million initial investment *as though* BellSouth were actually going to experience a cash flow incurrence in another two years. However, because BellSouth will not actually experience another cash flow

Marlene H. Dortch  
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until the end of year 10, and because the nominal cost of capital compensates BellSouth for the inflation that will occur during the first 10 years, BellSouth does not need to be compensated again for inflation by increasing the starting investment as BellSouth does from \$1 million to \$1.0816 million. This mathematical point is clearly demonstrated in Exhibit 1 to the Klick/Pitkin Reply Declaration, which sets forth various appropriate cost recovery methods and BellSouth's overstated cost recovery scheme. For convenience, Exhibit 1 is attached to the Supplemental Declaration as well.

Copies of the Klick/Pitkin Supplemental Declaration and attachments have been provided to Jeff Dygert and Josh Swift of the Commission staff.

In accordance with Commission Rule 1.1206, I am filing this document electronically and ask that you place it in the record of the proceeding listed above. Thank you for your consideration in this matter.

Yours sincerely,

/s/ Alan C. Geolot

Alan C. Geolot

cc: J. Dygert  
J. Swift

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

**In the Matter of** )  
 )  
**Application by BellSouth Corporation,** )  
**for Authorization To Provide In-Region,** ) **WC Docket No. 02-307**  
**InterLATA Services in the** )  
**States of Florida and Tennessee** )

**SUPPLEMENTAL DECLARATION OF JOHN C. KLICK AND BRIAN F. PITKIN  
ON BEHALF OF AT&T CORP.**

**I. QUALIFICATIONS AND SUMMARY**

1. Our names are John C. Klick and Brian F. Pitkin. We are the same John C. Klick and Brian F. Pitkin that filed declarations in this proceeding on October 10, 2002 and November 1, 2002.

2. In our prior declarations, we demonstrated that BellSouth's approach of using both the nominal cost of capital and inflating the value of the assets over a three-year period double-counts the effects of inflation and permits BellSouth to over recover its capital costs.

3. In response, BellSouth filed two documents authored by Randall S. Billingsley, a finance professor at Virginia Polytechnic Institute and State University – who takes exception to our views. On November 1, 2002, Dr. Billingsley filed what is styled as a "Reply Affidavit" ("Billingsley Affidavit"). On November 8, 2002 he filed a letter, included as Attachment B to a letter from Sean A. Lev to Marlene H. Dortch, of the Federal Communications Commission ("Billingsley Letter").

4. This declaration addresses several issues raised in the Billingsley Affidavit and the Billingsley Letter. Ironically, there is much that we agree with in both documents but, as we demonstrate below, Dr. Billingsley confuses the issue by focusing on cost incurrence rather than cost recovery and thus draws the wrong conclusion in the end. The fact of the matter is that BellSouth's approach – which was adopted by the Florida Commission – permits BellSouth to establish UNE rates that over-recover capital investment by double-counting the effects of inflation. This error is demonstrably shown in the mathematical calculations set forth in Exhibit 1 to our Reply Declaration (a copy of which is also attached hereto), which neither BellSouth nor Dr. Billingsley have rebutted. This clear error by BellSouth and the Florida Commission cannot be consistent with TELRIC principles.

## **II. POINTS OF AGREEMENT**

5. A useful first step in our analysis is to highlight certain points upon which Dr. Billingsley and we agree. First, we agree with the following statement from page 4 of the Billingsley Affidavit:

While a telecommunications network consists of many assets that generate a complicated profile of both cash inflows and outflows, a telecommunications network may be viewed essentially as the result of a series of capital budgeting decisions. BST obtains funds from debt and equity investors to finance the purchase and ongoing operation of network assets. For the use of those funds BST must offer a competitive expected rate of return that compensates its investors for both the risk of the investment as well as for anticipated inflation.

This statement is important for two reasons. First, it establishes that the nominal cost of capital relied upon by BellSouth compensates investors for inflation. Second, it confirms that the double-count issue can be analyzed by relying on simplified examples that examine a single investment decision. In fact, both the Billingsley Affidavit and the Billingsley Letter use simplified examples similar to those we relied upon in our two declarations to examine the economic issues that are relevant to our claim.

6. Second, page 6 of the Billingsley Affidavit states:

The above result indicates that an investment in the network asset would allow the firm to just meet the required rate of return of 12 percent, which reflects the cost of the firm meeting return requirements of its debt and equity investors given the capital structure of the firm. As noted above, in an efficient, competitive market we would expect the equilibrium price of the asset to drive the NPV to zero.

7. We also agree with this statement. We believe that TELRIC-based prices for UNEs are designed to replicate prices that would be observed in “efficient, competitive” markets, and this statement by Dr. Billingsley confirms our view that in such markets UNE prices would permit BellSouth to *just recover* its weighted average cost of capital. Any recovery in excess of the cost of capital (*i.e.*, an NPV in excess of zero) would therefore be inconsistent with TELRIC.

8. Finally, we agree with certain statements that Dr. Billingsley sprinkled throughout the Billingsley Affidavit. In particular, it is worth repeating the one that Dr. Billingsley notes was “written by one of the authors (Stewart C. Myers) of the two articles cited by Mr. Klick and Mr. Pitkin”:

If the discount rate is stated in nominal terms, then consistency requires that cash flows be estimated in nominal terms, taking account of the trends in selling price, labor and materials, cost, etc. This calls for more than simply applying a single assumed inflation rate to all components of cash flow. Labor cost per hour of work, for example, normally increases at a faster rate than the consumer price index because of improvements in productivity and increasing real wages throughout the economy. Tax shields on depreciation do not increase with inflation; they are constant in nominal terms because tax law in the United States allows only the original cost of assets to be depreciated.

Of course, there is nothing wrong with discounting real cash flows at a real discount rate, although this is *not* commonly done.

The message of all this is quite simple. Discount nominal cash flows at a nominal discount rate. Discount real cash flows at a real rate. Obvious as this rule is, it is sometimes violated.

As we will demonstrate below, it is Dr. Billingsley and BellSouth who have violated this rule. In doing so, we will rely upon the Exhibit 1 that was attached to our Reply declaration.

### **III. TELRIC CALCULATIONS ARE A FORM OF RATE OF RETURN REGULATION**

9. TELRIC rates are established based on a cost of capital that the Florida Commission determined was reasonable for compensating BellSouth's investors. This provides both a return on and a return of investment. As we previously explained in detail, this cost of capital also

provides a return that, among other things, is sufficient to compensate investors for inflation. As noted above, in paragraph 5, Dr. Billingsley agrees.

10. Thus, TELRIC-based prices are a function of the rate of return.<sup>1</sup> They are not prices independently established in a workably competitive market, because BellSouth and the other ILECs have a monopoly on the provision of UNEs. In other words, TELRIC-based UNE rates are established to recover – and just recover – the cost of capital adopted by the Florida Commission. Because the TELRIC rates are determined by a rate of return that includes inflation, the resulting rates are sufficient to compensate investors for inflation.

#### **IV. THE CRITICISMS IN DR. BILLINGSLEY'S DECLARATION ARE NOT VALID**

11. Because we and Dr. Billingsley agree on much of the theoretical framework for analysing this issue, the obvious question is which one of us has gone wrong, and how? Using Exhibit 1, we will demonstrate that it is Dr. Billingsley who has failed to analyze the issue correctly.

12. The Billingsley Affidavit argues repeatedly that one should use a nominal discount rate when analysing nominal cash flows. We agree with this statement. The flaw in Dr. Billingsley's analysis is that it fails to distinguish between cost incurrence – which involves the actual cash flows that BellSouth experiences – and cost recovery – which involves the establishment of TELRIC-based UNE rates.

13. Exhibit 1 relies on a hypothetical investment in an asset that has a current cost of \$1,000,000, an economic life of 10 years, a nominal cost of capital of 10%, an anticipated rate of

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<sup>1</sup> Another way of looking at this is that the TELRIC rates are entirely dependent on the cost of capital. Thus, a nominal cost of capital necessarily produces nominal returns and a real cost of capital necessarily produces real returns.

inflation of 4%, and a real cost of capital of 5.77%  $((1.10/1.04)-1)$ . To illustrate how the issue unfolds over time, Exhibit 1 covered a 50-year time frame, *i.e.*, the initial investment and four 10-year replacement cycles. In our Reply declaration, we noted that the most straight-forward approach would be for BellSouth's customers to pay BellSouth immediately each time it had to spend money to replace the asset, which we noted is the functional equivalent of BellSouth's customers making the investments directly themselves. This alternative, which is shown as Method 1 on Exhibit 1, represents the cash flow BellSouth actually incurs periodically to replace the asset. Note that these prices (or cash flows) inflate, and note that the cash flows in Method 1 are discounted by the nominal cost of capital – all just as the Billingsley Affidavit argues is appropriate. Based on this Method 1 approach, we demonstrate that BellSouth must spend a total present value of \$2,188,347 to make the initial investment *and* the four subsequent replacements (the latter all at properly-inflated prices). Thus, revenues with a present value of \$2,188,347 over 50 years from cost-based UNE prices are all that would be required to generate a NPV of zero – which Dr. Billingsley agrees is the appropriate standard. Prices that permit BellSouth to recover more than this amount would permit BellSouth to over-recover, and would therefore exceed the appropriate TELRIC standard.

14. The principle underlying the development of UNE prices is not to compensate BellSouth each time it actually goes out and invests in or replaces an asset. Because these assets generally have long lives, the TELRIC approach seeks to recover the costs of these lumpy investments evenly over all years and all activities that generate the need for the assets in the first place. In other words, TELRIC-based pricing is an issue of cost *recovery*, not merely one of cost *incurrence*. Prices that would permit cost recovery with a present value in excess of the present value of cost incurrence would be inappropriate. And, to reiterate, the standard by which we

established the present value of cost incurrence – and, therefore, the standard by which we will judge various designs for cost recovery – displays the features Dr. Billingsley demands, *i.e.*, nominal cash flows are discounted by the nominal cost of capital.

15. In our Reply declaration, we demonstrated three cost *recovery* methods that are consistent with TELRIC, because they generate revenue streams that have present values that are exactly identical to the present value of the nominal investment cash flows that BellSouth must make. The computational derivation of each of these cost recovery approaches, which were designated Method 2, Method 3 and Method 4, are described in detail in our Reply declaration.

16. In its development of UNE prices in Florida, BellSouth used a version of Method 4, the nominal annuity. Under the nominal annuity, the UNE prices remain constant each year of an asset's economic life. If done correctly – as we demonstrate in the Method 4 section of Exhibit 1 – these prices remain constant for the entire 10-year economic life of the asset. At the end of 10 years, they increase by approximately 48% -- reflecting the fact that at the end of year 10, BellSouth incurs another cash flow to reinvest in a new asset at a much higher price (due to the accumulated effects of inflation).

17. BellSouth does not implement Method 4 correctly, however. Because it assumes that UNE rates will remain in effect for three years, it inflates the initial investment of \$1,000,000 by two years' worth of inflation (at 4% per year), to generate an initial investment of \$1,081,600, and *then* calculates the 10-year annuity. In Exhibit 1, we designated this as the "BellSouth Method." In Exhibit 1, we assumed that BellSouth would make the same adjustment every 10 years, each time a re-investment takes place. Overall, we show that under this set of assumptions, BellSouth would generate a present value for revenues (or cost recovery) that is higher than the

present value of its costs. This means that the UNE prices established using the BellSouth Method are too high. The question is why?

18. The answer lies in Dr. Billingsley's emphasis on cash flows. BellSouth incurs an initial cash flow of \$1,000,000 – and Method 4 demonstrates that an annual cost recovery of \$162,745 is sufficient to permit BellSouth to recover its initial investment *and* generate a 10 percent nominal return on that investment – a return that already compensates BellSouth (and its investors) for inflation that will occur during that 10-year period. This is a fact upon which Dr. Billingsley and we agree. As Method 4 demonstrates, annual cost recovery remains unchanged for the first 10 years *until* BellSouth actually incurs another cash flow to replace the asset at the end of year 10 (at a much higher price). But the BellSouth method seeks to recover the effects of inflation twice during the first 10 years – once as part of the nominal cost of capital that it employs and again by inflating the \$1,000,000 initial investment *as though* BellSouth were actually going to experience a cash flow incurrence in another two years. However, because BellSouth will not actually experience another cash flow until the end of year 10, and because the nominal cost of capital compensates BellSouth for the inflation that will occur during the first 10 years, BellSouth does not need to be compensated again for inflation by increasing the starting investment from \$1,000,000 to \$1,081,600 – and Exhibit 1 clearly demonstrates that doing so over-compensates BellSouth under the standards that even Dr. Billingsley advocates.

19. As noted earlier, the column labeled “BellSouth Method” assumes the initial investment is inflated by two years' worth of inflation (from \$1,000,000 to \$1,081,600) under the assumption that UNE prices would remain fixed for a period of time. However, the cost recovery reflected under the “BellSouth Method” actually holds this cash flow fixed for 10 years. To be consistent with BellSouth's logic, UNE prices would either have to be increased every three

years, or the initial investment of \$1,000,000 should be inflated by five years' worth of inflation to reflect a 10-year planning period instead of a three-year planning period. In either case, by following the logic of BellSouth's approach to its logical conclusion, the resulting overstatement in the present value of the cost recovery would be significantly higher than the 8.2% shown on Exhibit 1. This is because the amount of the inflation double-count would increase.

20. In the Billingsley Letter, Dr. Billingsley seems to suggest that our criticism cannot be consistent with TELRIC because UNE rates are set assuming a three-year time horizon, and when UNE rates are re-established every three years one would *naturally* adjust the asset prices to current levels, even when economic lives are much longer than three years. This epitomizes the triumph of style over substance, in which Dr. Billingsley seeks to *assume* what he alleges he can prove. The logic of our argument, above, and the calculations in Exhibit 1 demonstrate that if Dr. Billingsley's prescription is followed, the resulting UNE prices will permit BellSouth to over-recover its capital costs, because it will over-recover the effects of inflation.

21. Of course, it is possible to develop an appropriate cost recovery mechanism that would inflate periodically within the 10-year economic life of the asset *and* avoid over-recovery. Exhibit 1 provided one example, *i.e.*, the cost recovery pattern shown as Method 3 – the “Real Annuity Method.” As shown in Exhibit 1, the cost recovery received each year using Method 3 (this cost recovery amount is displayed under the heading “Total Recovery”) inflates each year by 4% -- exactly matching the annual rate of inflation.<sup>2</sup> In order to prevent over-recovery, however,

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<sup>2</sup> Alternatively, one could use the real cost of capital and then adjust, each year, the investments in each telecommunications asset category by the appropriate amount of inflation.

the annual cost recovery starts out much lower than the \$162,745 required under the nominal annuity shown as Method 4 – which remains constant over the 10-year economic life.<sup>3</sup>

22. One could also design another cost recovery pattern that would remain constant in years 1 through 3, inflate in year 4 (and remain the same in years 5 and 6), inflate again in year 7 (and remain the same in years 8 and 9), and so on that would nevertheless generate a present value, over years 1 through 50, of \$2,188,347 – exactly equal to the present value of the nominal cash flows that BellSouth actually incur over the 50-year period to initially install and periodically replace the asset.<sup>4</sup> In short, the fact that UNE prices are to be re-established every three years is no justification for permitting BellSouth to incorporate a double-count of inflation into its UNE prices.

## V. CALCULATION OF EFFECT ON BELL SOUTH'S UNE PRICES

23. To remove the double-count of inflation on BellSouth's UNE prices, we made adjustments to a number of inputs in BellSouth's models.<sup>5</sup> BellSouth relies principally upon two models in developing its rates, *i.e.*, the BellSouth Telecommunication's Loop Model ("BSTLM") which calculates the investment for loop elements, and the BellSouth Cost Calculator which

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<sup>3</sup> One could also continue using the nominal cost of capital and adjust each of BellSouth's inflation factors to eliminate the general inflation included in the nominal cost of capital (4% in our example). This approach will allow BellSouth to incorporate asset-specific cost trends without double-counting the inflation already in the nominal cost of capital.

<sup>4</sup> This approach could be accomplished by using the real cost of capital, but using asset specific inflation rates intended to cover a planning period -- much like BellSouth proposes. The difference here is that inflation would need to be removed from the cost of capital.

<sup>5</sup> AT&T made a formal discovery request for the inputs used by the Florida staff in its recommendations regarding the "Investigation into Pricing of Unbundled Network Elements," which was filed on August 26, 2002. The Florida Public Service Commission subsequently adopted staff's recommendations. See PSC-02-1311-FOF-TP, Docket 990649A-TP, dated September 27, 2002. AT&T received these materials in response to the discovery request.

converts the loop investment of the BSTLM to rates and calculates non-loop rates such as ports, DUF, etc.

24. We made three changes to the Florida staff's recommended inputs for the BSTLM. First, we set the inflation factors in the material loading table to 1. These factors are applied to all material and equipment investments (except electronics) calculated in the model. *See* Attachment JK/BP-1. Second, we removed the inflation applied to the engineering factors. In its conclusion regarding the engineering loading factors, the "Staff recommend[ed] . . . using witness Donovan's engineering factors adjusted for inflation." We have replaced the staff engineering factors with those calculated by witness Donovan, which effectively eliminates inflation from those factors. *See* Attachment JK/BP-2. Finally, we removed the 10 percent inflation loaded by BellSouth into its outside plant labor rate, and replaced that rate with a figure of \$44.39. *See* Attachment JK/BP-3.

25. In addition, we made one change to the Florida staff's recommended inputs to the BellSouth Cost Calculator. The Cost Calculator applies an inflation factor to the electronics portion of loop investment and to the investment for non-loop elements. We have set these inputs to 1 to remove the inflation double-count from this model. *See* Attachment JK/BP-4.

26. Exhibit JK/BP-5 illustrates the effect of these changes on the way inflation is applied to the investment dollars in the BellSouth Cost Calculator. The results of these changes on the UNE prices are set forth in Attachment JK/BP-6.

## **VI. CONCLUSION**

27. We have demonstrated, above, that the benchmark that we used in our Reply declaration to assess BellSouth's approach to establishing UNE rates is fully consistent with the standards espoused by BellSouth's own witness, Dr. Billingsley, *i.e.*, (1) they reflect the application of a nominal cost of capital to the nominal cash flows incurred by BellSouth, and (2)

they ensure that the present value of the resulting revenue (read “cost recovery”) flows are exactly equal to the present value of the nominal cash flows incurred by BellSouth to initially acquire and periodically replace the asset.

28. Second, we have demonstrated that the BellSouth method violates this benchmark by permitting BellSouth to recover *more*, on a present value basis, than is required to compensate BellSouth for the present value of its nominal cash flows. As Dr. Billingsley himself testifies, such a result is inconsistent with prices that one would observe in “an efficient, competitive market.” As a result, such a result must also be inconsistent with TELRIC principles – which seek just to compensate BellSouth and the other ILECs for the long-run, forward-looking costs of an efficient provider of UNEs.

29. Third, we have established that the BellSouth method achieves this inappropriate result by double-counting the effects of inflation. Both parties agree that the cost of capital established by the Florida Commission includes an amount sufficient to compensate BellSouth’s investors for the effects of inflation over the economic life of the asset (in our hypothetical example, 10 years) without annually inflating the amount of cost recovery. By also boosting the starting investment by two years’ accumulated inflation, long before BellSouth must actually re-invest in a replacement asset, the BellSouth method seeks to recover the effects of inflation twice and, thereby generate UNE rates that exceed TELRIC.

**VERIFICATION PAGE**

I declare under penalty of perjury that the foregoing Declaration is true and correct.

/s/ John C. Klick

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John C. Klick

Executed on: November 16, 2002

I declare under penalty of perjury that the foregoing Declaration is true and correct.

/s/ Brian F. Pitkin

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Brian F. Pitkin

Executed on: November 16, 2002

Exhibit 1

| Year | METHOD 1                |                     | METHOD 2                 |              |                                |                          | METHOD 3     |            |            |              |                | METHOD 4              |                 |                         |                   | BELL SOUTH METHOD |                  |                          |                    |              |                  |                          |                    |              |                  |
|------|-------------------------|---------------------|--------------------------|--------------|--------------------------------|--------------------------|--------------|------------|------------|--------------|----------------|-----------------------|-----------------|-------------------------|-------------------|-------------------|------------------|--------------------------|--------------------|--------------|------------------|--------------------------|--------------------|--------------|------------------|
|      | Compounded<br>Inflation | Replacement<br>Cost | Periodic<br>Reinvestment | PV<br>Factor | PV of Periodic<br>Reinvestment | Periodic<br>Reinvestment | Depreciation | Return     | Total      | PV<br>Factor | PV of<br>Total | Initial<br>Investment | Real<br>Annuity | Compounded<br>Inflation | Total<br>Recovery | PV<br>Factor      | PV of<br>Annuity | Periodic<br>Reinvestment | Nominal<br>Annuity | PV<br>Factor | PV of<br>Annuity | Periodic<br>Reinvestment | Nominal<br>Annuity | PV<br>Factor | PV of<br>Annuity |
| 0    | 1,000.00                | \$ 1,000.000        | \$ 1,000.000             | 1.0000       | \$ 1,000.000                   | \$ 1,000.000             |              | 1,000.00   |            | 1,000.00     | \$ 1,000.000   | 1,000.00              | 1.0000          | 1,000.00                |                   | 1,000.00          |                  | \$ 1,000.000             | 1.0000             |              | \$ 1,000.000     | 1,000.00                 | 1.0000             |              | \$ 1,000.000     |
| 1    | 1,040.00                | \$ 1,040.000        |                          | 0.9801       |                                | \$ 100,000               | \$ 100,000   | \$ 200,000 | 0.9801     | \$ 181,818   | \$ 134,386     | 1,040.00              | 0.9757          | \$ 139,782              | 0.9091            | \$ 127,026        |                  | \$ 182,745               | 0.9801             | \$ 147,950   |                  | \$ 178,025               | 0.9801             | \$ 160,023   |                  |
| 2    | 1,081.60                | \$ 1,081.600        |                          | 0.8284       |                                | \$ 100,000               | \$ 80,000    | \$ 180,000 | 0.8284     | \$ 157,025   | \$ 134,386     | 1,081.60              | 0.9616          | \$ 145,352              | 0.8284            | \$ 120,126        |                  | \$ 182,745               | 0.8284             | \$ 134,500   |                  | \$ 178,025               | 0.8284             | \$ 145,470   |                  |
| 3    | 1,124.99                | \$ 1,124.844        |                          | 0.7513       |                                | \$ 100,000               | \$ 80,000    | \$ 180,000 | 0.7513     | \$ 135,237   | \$ 134,386     | 1,124.99              | 0.9484          | \$ 151,166              | 0.7513            | \$ 113,574        |                  | \$ 182,745               | 0.7513             | \$ 122,773   |                  | \$ 178,025               | 0.7513             | \$ 132,251   |                  |
| 4    | 1,169.88                | \$ 1,168.859        |                          | 0.6830       |                                | \$ 100,000               | \$ 70,000    | \$ 170,000 | 0.6830     | \$ 118,112   | \$ 134,386     | 1,169.88              | 0.9359          | \$ 157,213              | 0.6830            | \$ 107,379        |                  | \$ 182,745               | 0.6830             | \$ 111,157   |                  | \$ 178,025               | 0.6830             | \$ 126,220   |                  |
| 5    | 1,216.93                | \$ 1,216.033        |                          | 0.6229       |                                | \$ 100,000               | \$ 60,000    | \$ 160,000 | 0.6229     | \$ 99,347    | \$ 134,386     | 1,216.93              | 0.9239          | \$ 163,500              | 0.6229            | \$ 101,522        |                  | \$ 182,745               | 0.6229             | \$ 101,052   |                  | \$ 178,025               | 0.6229             | \$ 108,298   |                  |
| 6    | 1,265.39                | \$ 1,265.319        |                          | 0.5685       |                                | \$ 100,000               | \$ 50,000    | \$ 150,000 | 0.5685     | \$ 84,671    | \$ 134,386     | 1,265.39              | 0.9125          | \$ 170,042              | 0.5685            | \$ 95,804         |                  | \$ 182,745               | 0.5685             | \$ 91,808    |                  | \$ 178,025               | 0.5685             | \$ 96,362    |                  |
| 7    | 1,315.92                | \$ 1,315.932        |                          | 0.5132       |                                | \$ 100,000               | \$ 40,000    | \$ 140,000 | 0.5132     | \$ 71,842    | \$ 134,386     | 1,315.92              | 0.9016          | \$ 176,843              | 0.5132            | \$ 90,748         |                  | \$ 182,745               | 0.5132             | \$ 83,514    |                  | \$ 178,025               | 0.5132             | \$ 90,329    |                  |
| 8    | 1,368.88                | \$ 1,368.569        |                          | 0.4655       |                                | \$ 100,000               | \$ 30,000    | \$ 130,000 | 0.4655     | \$ 60,846    | \$ 134,386     | 1,368.88              | 0.8911          | \$ 183,917              | 0.4655            | \$ 85,799         |                  | \$ 182,745               | 0.4655             | \$ 75,922    |                  | \$ 178,025               | 0.4655             | \$ 82,117    |                  |
| 9    | 1,423.32                | \$ 1,423.312        |                          | 0.4241       |                                | \$ 100,000               | \$ 20,000    | \$ 120,000 | 0.4241     | \$ 50,989    | \$ 134,386     | 1,423.32              | 0.8809          | \$ 191,274              | 0.4241            | \$ 81,119         |                  | \$ 182,745               | 0.4241             | \$ 69,020    |                  | \$ 178,025               | 0.4241             | \$ 74,852    |                  |
| 10   | 1,480.24                | \$ 1,480.244        | \$ 1,480.244             | 0.3855       | \$ 570,698                     | \$ 1,480,244             | \$ 10,000    | \$ 110,000 | 0.3855     | \$ 42,410    | \$ 134,386     | 1,480.24              | 0.8709          | \$ 198,925              | 0.3855            | \$ 76,894         |                  | \$ 182,745               | 0.3855             | \$ 62,745    |                  | \$ 178,025               | 0.3855             | \$ 67,881    |                  |
| 11   | 1,538.95                | \$ 1,539.454        |                          | 0.3505       |                                | \$ 148,024               | \$ 148,024   | \$ 296,048 | 0.3505     | \$ 103,763   | \$ 198,925     | 1,538.95              | 0.8611          | \$ 206,862              | 0.3505            | \$ 72,511         |                  | \$ 240,903               | 0.3505             | \$ 64,435    |                  | \$ 260,561               | 0.3505             | \$ 91,325    |                  |
| 12   | 1,601.10                | \$ 1,601.032        |                          | 0.3186       |                                | \$ 148,024               | \$ 133,222   | \$ 281,246 | 0.3186     | \$ 86,614    | \$ 198,925     | 1,601.10              | 0.8516          | \$ 215,157              | 0.3186            | \$ 68,556         |                  | \$ 240,903               | 0.3186             | \$ 78,759    |                  | \$ 260,561               | 0.3186             | \$ 81,023    |                  |
| 13   | 1,665.51                | \$ 1,665.074        |                          | 0.2897       |                                | \$ 148,024               | \$ 118,420   | \$ 266,444 | 0.2897     | \$ 77,179    | \$ 198,925     | 1,665.51              | 0.8424          | \$ 223,783              | 0.2897            | \$ 64,818         |                  | \$ 240,903               | 0.2897             | \$ 89,781    |                  | \$ 260,561               | 0.2897             | \$ 75,475    |                  |
| 14   | 1,731.17                | \$ 1,731.870        |                          | 0.2633       |                                | \$ 148,024               | \$ 103,817   | \$ 251,642 | 0.2633     | \$ 68,265    | \$ 198,925     | 1,731.17              | 0.8334          | \$ 232,714              | 0.2633            | \$ 61,281         |                  | \$ 240,903               | 0.2633             | \$ 103,437   |                  | \$ 260,561               | 0.2633             | \$ 68,514    |                  |
| 15   | 1,800.00                | \$ 1,800.944        |                          | 0.2394       |                                | \$ 148,024               | \$ 88,815    | \$ 233,639 | 0.2394     | \$ 60,897    | \$ 198,925     | 1,800.00              | 0.8246          | \$ 242,022              | 0.2394            | \$ 57,838         |                  | \$ 240,903               | 0.2394             | \$ 117,670   |                  | \$ 260,561               | 0.2394             | \$ 62,376    |                  |
| 16   | 1,873.30                | \$ 1,872.981        |                          | 0.2176       |                                | \$ 148,024               | \$ 74,012    | \$ 222,037 | 0.2176     | \$ 54,322    | \$ 198,925     | 1,873.30              | 0.8161          | \$ 251,703              | 0.2176            | \$ 54,778         |                  | \$ 240,903               | 0.2176             | \$ 132,427   |                  | \$ 260,561               | 0.2176             | \$ 56,706    |                  |
| 17   | 1,947.90                | \$ 1,947.900        |                          | 0.1978       |                                | \$ 148,024               | \$ 59,210    | \$ 207,230 | 0.1978     | \$ 48,000    | \$ 198,925     | 1,947.90              | 0.8078          | \$ 261,771              | 0.1978            | \$ 51,790         |                  | \$ 240,903               | 0.1978             | \$ 147,661   |                  | \$ 260,561               | 0.1978             | \$ 51,551    |                  |
| 18   | 2,025.88                | \$ 2,025.817        |                          | 0.1799       |                                | \$ 148,024               | \$ 44,407    | \$ 192,432 | 0.1799     | \$ 41,611    | \$ 198,925     | 2,025.88              | 0.8000          | \$ 272,242              | 0.1799            | \$ 48,985         |                  | \$ 240,903               | 0.1799             | \$ 163,329   |                  | \$ 260,561               | 0.1799             | \$ 46,864    |                  |
| 19   | 2,108.89                | \$ 2,108.849        |                          | 0.1635       |                                | \$ 148,024               | \$ 29,605    | \$ 177,629 | 0.1635     | \$ 35,044    | \$ 198,925     | 2,108.89              | 0.7927          | \$ 283,132              | 0.1635            | \$ 46,294         |                  | \$ 240,903               | 0.1635             | \$ 179,360   |                  | \$ 260,561               | 0.1635             | \$ 42,904    |                  |
| 20   | 2,191.17                | \$ 2,191.173        | \$ 2,191.173             | 0.1486       | \$ 325,898                     | \$ 2,191,173             | \$ 14,802    | \$ 148,024 | 0.1486     | \$ 24,203    | \$ 198,925     | 2,191.17              | 0.7858          | \$ 294,457              | 0.1486            | \$ 43,759         |                  | \$ 2,191,173             | 0.1486             | \$ 195,800   |                  | \$ 2,369,919             | 0.1486             | \$ 38,731    |                  |
| 21   | 2,276.68                | \$ 2,276.768        |                          | 0.1351       |                                | \$ 218,112               | \$ 129,112   | \$ 347,224 | 0.1351     | \$ 20,218    | \$ 294,457     | 2,276.68              | 0.7793          | \$ 306,235              | 0.1351            | \$ 41,382         |                  | \$ 358,595               | 0.1351             | \$ 212,487   |                  | \$ 3,395,893             | 0.1351             | \$ 32,119    |                  |
| 22   | 2,365.99                | \$ 2,365.919        |                          | 0.1228       |                                | \$ 218,112               | \$ 117,291   | \$ 335,403 | 0.1228     | \$ 17,142    | \$ 294,457     | 2,365.99              | 0.7731          | \$ 318,485              | 0.1228            | \$ 39,126         |                  | \$ 358,595               | 0.1228             | \$ 229,806   |                  | \$ 3,395,893             | 0.1228             | \$ 28,781    |                  |
| 23   | 2,457.47                | \$ 2,457.474        |                          | 0.1117       |                                | \$ 218,112               | \$ 107,280   | \$ 325,492 | 0.1117     | \$ 14,048    | \$ 294,457     | 2,457.47              | 0.7671          | \$ 331,224              | 0.1117            | \$ 36,991         |                  | \$ 358,595               | 0.1117             | \$ 247,824   |                  | \$ 3,395,893             | 0.1117             | \$ 25,474    |                  |
| 24   | 2,552.33                | \$ 2,552.304        |                          | 0.1015       |                                | \$ 218,112               | \$ 98,815    | \$ 316,927 | 0.1015     | \$ 10,917    | \$ 294,457     | 2,552.33              | 0.7613          | \$ 344,473              | 0.1015            | \$ 34,973         |                  | \$ 358,595               | 0.1015             | \$ 266,204   |                  | \$ 3,395,893             | 0.1015             | \$ 22,156    |                  |
| 25   | 2,651.88                | \$ 2,651.836        |                          | 0.0923       |                                | \$ 218,112               | \$ 91,487    | \$ 309,604 | 0.0923     | \$ 8,257     | \$ 294,457     | 2,651.88              | 0.7558          | \$ 358,252              | 0.0923            | \$ 33,063         |                  | \$ 358,595               | 0.0923             | \$ 285,023   |                  | \$ 3,395,893             | 0.0923             | \$ 18,999    |                  |
| 26   | 2,755.25                | \$ 2,755.270        |                          | 0.0839       |                                | \$ 218,112               | \$ 84,556    | \$ 303,666 | 0.0839     | \$ 6,037     | \$ 294,457     | 2,755.25              | 0.7505          | \$ 372,562              | 0.0839            | \$ 31,262         |                  | \$ 358,595               | 0.0839             | \$ 294,290   |                  | \$ 3,395,893             | 0.0839             | \$ 15,842    |                  |
| 27   | 2,863.34                | \$ 2,863.369        |                          | 0.0763       |                                | \$ 218,112               | \$ 78,845    | \$ 300,075 | 0.0763     | \$ 4,239     | \$ 294,457     | 2,863.34              | 0.7454          | \$ 387,485              | 0.0763            | \$ 29,556         |                  | \$ 358,595               | 0.0763             | \$ 27,200    |                  | \$ 3,395,893             | 0.0763             | \$ 12,685    |                  |
| 28   | 2,976.07                | \$ 2,976.703        |                          | 0.0693       |                                | \$ 218,112               | \$ 74,012    | \$ 298,846 | 0.0693     | \$ 2,752     | \$ 294,457     | 2,976.07              | 0.7405          | \$ 402,985              | 0.0693            | \$ 27,944         |                  | \$ 358,595               | 0.0693             | \$ 24,728    |                  | \$ 3,395,893             | 0.0693             | \$ 9,528     |                  |
| 29   | 3,118.51                | \$ 3,118.651        |                          | 0.0630       |                                | \$ 218,112               | \$ 69,822    | \$ 298,925 | 0.0630     | \$ 1,575     | \$ 294,457     | 3,118.51              | 0.7358          | \$ 419,104              | 0.0630            | \$ 26,420         |                  | \$ 358,595               | 0.0630             | \$ 22,480    |                  | \$ 3,395,893             | 0.0630             | \$ 6,376     |                  |
| 30   | 3,243.38                | \$ 3,243.388        | \$ 3,243,388             | 0.0573       | \$ 185,874                     | \$ 3,243,388             | \$ 218,112   | \$ 21,911  | \$ 241,024 | 0.0573       | \$ 13,813      | \$ 3,243,388          | 3,243.38        | 0.7313                  | \$ 436,868        | 0.0573            | \$ 24,970        |                          | \$ 3,243,388       | 0.0573       | \$ 20,436        |                          | \$ 3,508,059       | 0.0573       | \$ 3,210         |
| 31   | 3,373.13                | \$ 3,373.133        |                          | 0.0521       |                                | \$ 324,340               | \$ 204,340   | \$ 528,680 | 0.0521     | \$ 10,795    | \$ 435,868     | 3,373.13              | 0.7270          | \$ 455,303              | 0.0521            | \$ 23,616         |                  | \$ 527,848               | 0.0521             | \$ 27,500    |                  | \$ 5,703,920             | 0.0521             | \$ 28,744    |                  |
| 32   | 3,508.19                | \$ 3,508.059        |                          | 0.0474       |                                | \$ 324,340               | \$ 189,308   | \$ 513,648 | 0.0474     | \$ 8,187     | \$ 435,868     | 3,508.19              | 0.7228          | \$ 474,335              | 0.0474            | \$ 22,328         |                  | \$ 527,848               | 0.0474             | \$ 25,000    |                  | \$ 5,703,920             | 0.0474             | \$ 27,040    |                  |
| 33   | 3,648.84                | \$ 3,648.331        |                          | 0.0431       |                                | \$ 324,340               | \$ 175,280   | \$ 500,620 | 0.0431     | \$ 6,137     | \$ 435,868     | 3,648.84              | 0.7188          | \$ 493,950              | 0.0431            | \$ 21,110         |                  | \$ 527,848               | 0.0431             | \$ 22,727    |                  | \$ 5,703,920             | 0.0431             | \$ 25,392    |                  |
| 34   | 3,794.31                | \$ 3,794.316        |                          | 0.0391       |                                | \$ 324,340               | \$ 162,308   | \$ 488,648 | 0.0391     | \$ 4,582     | \$ 435,868     | 3,794.31              | 0.7156          | \$ 514,104              | 0.0391            | \$ 19,959         |                  | \$ 527,848               | 0.0391             | \$ 20,611    |                  | \$ 5,703,920             | 0.0391             | \$ 23,247    |                  |
| 35   | 3,946.11                | \$ 3,946.080        |                          | 0.0356       |                                | \$ 324,340               | \$ 149,604   | \$ 477,944 | 0.0356     | \$ 3,496     | \$ 435,868     | 3,946.11              | 0.7125          | \$ 534,803              | 0.0356            | \$ 18,870         |                  | \$ 527,848               | 0.0356             | \$ 19,526    |                  | \$ 5,703,920             | 0.0356             | \$ 21,194    |                  |
| 36   | 4,103.93                | \$ 4,103.933        |                          | 0.0323       |                                | \$ 324,340               | \$ 137,170   | \$ 467,510 | 0.0323     | \$ 2,738     | \$ 435,868     | 4,103.93              | 0.7095          | \$ 555,133              | 0.0323            | \$ 17,841         |                  | \$ 527,848               | 0.0323             | \$ 18,475    |                  | \$ 5,703,920             | 0.0323             | \$ 19,246    |                  |
| 37   | 4,268.11                | \$ 4,268.280        |                          | 0.0294       |                                | \$ 324,340               | \$ 125,000   | \$ 457,340 | 0.0294     | \$ 2,135     | \$ 435,868     | 4,268.11              | 0.7066          | \$ 575,973              | 0.0294            | \$ 16,868         |                  | \$ 527,848               | 0.0294             | \$ 17,523    |                  | \$ 5,703,920             | 0.0294             | \$ 17,790    |                  |
| 38   | 4,438.88                | \$ 4,438.813        |                          | 0.0267       |                                | \$ 324,340               | \$ 113,100   | \$ 447,440 | 0.0267     | \$ 1,573     | \$ 435,868     | 4,438.88              | 0.7038          | \$ 596,916              | 0.0267            | \$ 15,948         |                  | \$ 527,848               | 0.0267             | \$ 16,641    |                  | \$ 5,703,920             | 0.0267             | \$ 16,843    |                  |
| 39   | 4,616.48                | \$ 4,616.388        |                          | 0.0243       |                                | \$ 3                     |              |            |            |              |                |                       |                 |                         |                   |                   |                  |                          |                    |              |                  |                          |                    |              |                  |

**Attachment JK/BP 1-5**  
**Redacted for Public Inspection**

## COMPARISON OF RESULTS FOR STAFF FILING AND FOR DOUBLE COUNT REMOVAL

| <b>Element</b> | <b>Description</b>   | <b>Current<br/>Commission</b> | <b>Inflation Double<br/>Count Removed</b> | <b>% Difference</b> |
|----------------|--|-------------------------------|---|---------------------|
| A.1.1          | 2-Wire Analog Voice Grade Loop - Service Level 1                     | \$15.21                       | \$14.85                                   | -2.37%              |
| A.4.1          | 4-Wire Analog Voice Grade Loop                                       | \$26.86                       | \$26.66                                   | -0.74%              |
| A.13.1         | 2-Wire Copper Loop - short   | \$11.81                       | \$11.44                                   | -3.13%              |
| A.13.7         | 2-Wire Copper Loop - long  | \$24.78                       | \$23.56                                   | -4.92%              |
| A.14.1         | 4-Wire Copper Loop - short   | \$16.82                       | \$16.38                                   | -2.62%              |
| A.14.7         | 4-Wire Copper Loop - long  | \$44.23                       | \$42.11                                   | -4.79%              |
| B.1.1          | Exchange Ports - 2-Wire Analog Line Port (Res., Bus., Centrex, Coin) | \$1.40                        | \$1.38                                    | -1.43%              |
| D.2.1          | Interoffice Transport - Dedicated - 2-Wire Voice Grade - Per Mile    | \$0.0091                      | \$0.0090                                  | -1.10%              |
| B.1.4          | Exchange Ports - DDITS Port  | \$54.95                       | \$54.04                                   | -1.66%              |
| B.1.5          | Exchange Ports - 2-Wire ISDN Port                                    | \$8.83                        | \$8.67                                    | -1.81%              |
| B.1.6          | Exchange Ports - 4-Wire ISDN DS1 Port                                | \$82.74                       | \$81.32                                   | -1.72%              |
| M.2.1          | Optional Daily Usage File: Recording, per Message                    | \$0.0000071                   | \$0.0000070                               | -1.41%              |