BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Joint Application by BellSouth Corporation,	)	
BellSouth Telecommunications, Inc.,	)	CC Docket No. 02-35
and BellSouth Long Distance, Inc. for	)	
Provision of In-Region, InterLATA	)	
Services in Georgia and Louisiana	)	

SUPPLEMENTAL REPLY AFFIDAVIT OF D. DAONNE CALDWELL

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I, D. Daonne Caldwell, being first duly sworn upon oath, do hereby depose and state as follows:

I. INTRODUCTION

1. My name is D. Daonne Caldwell. I am a Director-Cost Matters in the Finance Department at BellSouth Telecommunications, Inc. ("BellSouth"). My business address is 675 W. Peachtree St. NE, BSC 30B49, Atlanta, Georgia 30375. I am responsible for the development of economic costs.

2. I filed affidavits in CC Docket No. 01-277, BellSouth's Georgia/Louisiana 271 application made in 2001. The purpose of those affidavits was to describe how BellSouth developed the cost studies submitted in support of rates contained in BellSouth's Statements of Generally Available Terms and Conditions ("SGATs") for Georgia and Louisiana and to respond to criticisms leveled against BellSouth's cost methodology, models, inputs, and assumptions. These affidavits support the fact that BellSouth's cost studies are consistent with both the

Telecommunications Act of 1996 ("Act") and the Commission's pricing rules. These previous affidavits are incorporated by reference into this proceeding's record.

II. PURPOSE OF AFFIDAVIT

3. AT&T, WorldCom, and ASCENT allege that BellSouth, as well as both the Georgia Public Service Commission ("GPSC") and the Louisiana Public Service Commission ("LPSC"), erred in assessing BellSouth's compliance with the Commission's pricing rules. These claims simply reiterate many of the issues presented in CC Docket 01-277; issues to which BellSouth has already responded. In their most current filings, AT&T, WorldCom, and ASCENT conveniently ignore the responses previously presented by BellSouth, and offer no new evidence to support their unfounded allegations.

4. My reply affidavit in CC Docket 01-277 (Reply App., Tab C) refuted allegations that: (1) BellSouth's use of a loop sample in Georgia violates the Commission's Total Element Long Run Incremental Cost ("TELRIC") methodology; (2) the loop studies reflect unreasonably low fill factors (Georgia and Louisiana), incorrect drop lengths (Georgia) and incorrect residential/business mix (Georgia); (3) BellSouth reportedly double-counted certain costs (Georgia and Louisiana); (4) BellSouth's material prices for switching and loop equipment are overstated (Georgia and Louisiana); (5) BellSouth's use of universal digital loop carrier ("UDLC") for unbundled loops is inappropriate (Georgia and Louisiana); (6) the use of multiple scenarios violates the Commission's TELRIC principles (Louisiana); (7) loading factors overstate costs (Georgia and Louisiana); (8) BellSouth's Daily Usage File ("DUF") costs require revision (Georgia and Louisiana); (9) productivity is not accurately reflected (Louisiana); and (10) the DS1 loop only considers the 4-wire copper loop (Georgia and Louisiana).

5. This affidavit provides a brief response to those misguided claims that have been raised yet again by AT&T, WorldCom, and ASCENT and references the corresponding paragraphs in my Reply Affidavit filed in Docket No. CC 01-277 that refute these parties' assertions.

III. LOOP SAMPLE

6. Paragraphs 4-16 of my Reply Affidavit in Docket No. 01-277 responded to the false assertion that BellSouth "employed a statistical sample of its historical network design." ASCENT Comments at 19 in CC Docket No. 01-277. AT&T similarly contended at that time that BellSouth utilized "an impermissible reproduction approach to compute loop costs." AT&T Comments at 55. Further, AT&T's Michael Baranowski alleged that BellSouth's loop model "computes many critical inputs based on a small *sample* of BellSouth's *existing* network." AT&T Baranowski Decl., ¶ 25.

7. In this proceeding, only ASCENT has again claimed that BellSouth has "employed a statistical sample of historic network design that overstates rates." ASCENT Supp. Comments at 5. ASCENT, however, conveniently ignores my Reply Affidavit in CC Docket No. 01-277, which established that, while BellSouth's loop rates in Georgia started with a sample of existing loops, the composition of these loops was altered to reflect forward-looking design criteria that support an efficient narrowband telecommunications network. Examples of the redesign effort include: loops in excess of 12,000 feet were re-designed to reflect placement of digital loop carrier systems and fiber feeder; cable gauge was changed to mainly 26-gauge cable;[1] and

[1] 24-gauge cable was used if required by the resistance design.

bridged tap was limited to 2,500 feet, with no single bridged tap exceeding 2,000 feet. This can hardly be construed as "historic network design, " as ASCENT incorrectly claims.

IV. FILL FACTORS, DROP LENGTHS, RESIDENTIAL/BUSINESS MIX

8. Both the GPSC and the LPSC have extensively investigated fill factors, drop lengths, and residential/business mix in the initial phases of the UNE cost dockets, and Louisiana recently reviewed the applicable issues again in its recent cost docket. The positions on input parameters espoused by several commenters in CC Docket No. 01-277 merely reflected a restatement of evidence presented, reviewed, and rejected by these state commissions. Paragraphs 17-33 of my Reply Affidavit filed in CC Docket No. 01-277 respond to criticism of BellSouth's fill factors, drop lengths, and the residential/business mix. Without addressing my arguments, ASCENT and WorldCom continue to challenge these inputs.

9. Page 6 of ASCENT's Supplemental Comments contain a laundry list of reported shortfalls in BellSouth's cost studies, one being "inadequate fill factors." As stated in my initial affidavit in CC Docket No. 01-277 (App. A, Tab D), the GPSC, after review of the pertinent testimony, adjusted BellSouth's loop utilization for the copper segments upward by 5% resulting in a distribution fill of 48% and a copper feeder fill of 69.5%. (Fiber Feeder was set at 74%.) The basis for the GPSC ruling was that "BellSouth's fill factors would result in charging the CLECs too much for the unused capacity in the feeder and distribution cable, which represents inappropriate cost causation and also would have an inhibiting effect on competition." *Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services*, Order Establishing Cost-Based Rates at 33, Docket No. 7061-U (GPSC released Dec. 16, 1997) (*GPSC Order*

Establishing Cost-Based Rates). It should be noted that the GPSC-ordered fill factor for copper distribution of 48% is very close to the range of 50% to 75% that ASCENT itself says is reasonable. ASCENT Supp. Comments at 6. It is nonsensical for ASCENT to say that a 50% fill factor would be TELRIC-compliant, but a 48% fill factor would not.

10. The LPSC also reviewed BellSouth's proposed utilization rates in the initial generic cost docket (Docket Nos. U-22022/22093) conducted in 1997 and the testimony filed by BellSouth and the CLECs on that specific issue. The LPSC Staff recommended, and the LPSC adopted, the following fill factors: 75% for copper feeder, 42.9% for copper distribution, and 75% for fiber feeder. These inputs were "based upon what the California and Texas commissions found reasonable." LPSC Staff Consultant Dismukes Testimony, Docket Nos. U-22022/22093 at 30 (LPSC filed Sept. 22, 1997).

11. In the most recent Louisiana cost docket (U-24714-A), the LPSC accepted BellSouth's proposed fill rates of 41% for copper distribution and 74% for copper feeder. The LPSC found these BSTLM results to be consistent with the past ruling in Louisiana, and also found that BellSouth's assumptions with respect to this issue were "well-defended." Order Number U-24714-A, *Final Deaveraging of BellSouth Telecommunications, Inc., UNE Rates, et. al.*, Docket No. U-24714-A at 10 (LPSC Sept. 21, 2001) (Initial Application, App. F–LA, Tab 40) ("*LPSC Order Number U-24714-A*").

12. With respect to drop lengths, WorldCom's Mr. Frentrup makes the same argument as in CC Docket No. 01-277: "the drop lengths used by BellSouth in setting UNE rates [in Georgia] are substantially longer than either the national average or the drop lengths found reasonable by the Commission for purposes of modeling universal service costs." WorldCom Frentrup Supp.

Decl. ¶ 18. First, as I explained in my Reply Affidavit in CC Docket No. 01-277, BellSouth's drop lengths reflect anticipated future provisioning of loops in BellSouth's region. Second, the "national data" utilized by Mr. Frentrup in that proceeding was based on a 1983 loop survey that covers the entire nation. Thus, WorldCom's proposed 73-foot drop input is inappropriate for two reasons: (1) it is based on "embedded" (1983) data, which can hardly be construed as forward-looking, and (2) it is not indicative of a forward-looking network in either Georgia or Louisiana. Additionally, Mr. Frentrup's proposed Synthesis Model national defaults do not reflect drop lengths in Georgia, and they ignore this Commission's warning that the Universal Service model (i.e., the SM) "should not be relied upon to set rates for UNEs." *Kansas/Oklahoma Order* ¶ 84. After review of the evidence provided in Docket No. 7061-U, the GPSC adopted BellSouth's proposed drop lengths.

13. Mr. Frentrup claims that "drop lengths used to set UNE Loop rates should vary by line density." Frentrup Supp. Decl. ¶ 20. In fact, BellSouth's drop length costs do differ by zone (i.e., line density) because of the way in which the loop rates were deaveraged. In Georgia, BellSouth began with a statewide average loop cost. In determining a statewide average loop cost, a statewide average drop length would be appropriate. In Georgia, zone-specific ratios from the Benchmark Cost Proxy Model ("BCPM") were then applied to the statewide average loop cost to create deaveraged rates. The BCPM, through internal algorithms, determines drop lengths that differ by density zone. Thus, even though BellSouth began with an average drop length to calculate the statewide average loop costs, the ratios used to deaverage those costs reflect drop lengths that do differ by density zones and thus, the impact of "density-specific" drops is incorporated into the final deaveraged rates. In Louisiana, since the BSTLM was used,

drop lengths were calculated based on actual customer locations. Therefore, these drops differ by wire center and thus, by density zone, which should satisfy Mr. Frentrup's concern.

14. WorldCom again states that the 78% residential and 22% business weightings used in Georgia "are not consistent with the mix of residence and business lines used in the SM, or with the latest line data filed in ARMIS by BellSouth." WorldCom Frentrup Supp. Decl. ¶ 21. Mr. Frentrup, however, fails to acknowledge that the weightings established by the GPSC in Docket No. 7061-U are consistent with the universe from which the sample was pulled. The GPSC extensively reviewed the sample and the sampling process, and ordered a specific adjustment "to correct the omission of the shorter multi-line business loops from the loop sample…." *GPSC Order Establishing Cost-Based Rates* at 37. To alter the weighting beyond the GPSC-ordered adjustment is inappropriate and would invalidate the results. In fact, ACSI witness Kahn made the same argument, i.e., to base the sample weighting on ARMIS data, in Georgia Docket No. 7061-U. Kahn Testimony, Docket No. 7061-U, at 59-60 (GPSC filed Aug. 29, 1997). The GPSC rejected this proposal. Instead, the GPSC maintained the 78/22 mix and adjusted a portion of the business loops to reflect the inclusion of multi-line businesses, which resulted in a shorter average loop length.

V. REPORTED DOUBLE COUNTING OF COSTS

15. Paragraphs 34-39 of my Reply Affidavit in Docket No. 01-277 respond to the contention that BellSouth duplicates costs in three areas: inflation, loading factors, and in the calculation of Daily Usage File ("DUF") costs. As discussed in these paragraphs, such contentions are misguided.

16. Double Counting of Inflation (once in the cost of capital[2] and again through the application of an inflation factor) - In Louisiana Docket No. U-24714-A, the LPSC agreed with the Administrative Law Judge's ("ALJ's") rejection of WorldCom's claim that: "there are two distinct types of inflation which impact BellSouth's costs: an inflation which compensates investors for the use of their funds and an inflation amount associated with the increased price of the plant over the years." *LPSC Order Number U-24714-A* at 10; *see also Final Deaveraging of BellSouth Telecommunications, Inc.,UNE Rates Pursuant to FCC CC 94-95*, Ex Parte at 31, Order Number U-24714 (Subdocket A) (LPSC released Sept. 19, 2001) (*LPSC ALJ Proposed Order*). Thus, the reputed double counting of inflation was rejected in Louisiana. This issue was not raised in Georgia.

17. Drop and NID Costs Are Double Counted - This issue was never raised in any Georgia or Louisiana cost docket. As my Reply affidavit explained, however, BellSouth does not include any of the assignments to ACC 248 (aerial drops) or ACC 548 (buried drops) in the development of in-plant factors. Therefore, the costs of placing service drops and NIDs are not reflected in these factors and thus, are not double counted. I explained this fact in my Reply Affidavit in CC Docket 01-277.

18. DUFs - The last alleged "double counting" of costs by BellSouth is related to the DUF cost development. WorldCom's Frentrup again asserts that Optional Daily Usage Files ("ODUF")

[2] The only comment pertaining to the cost of capital raised in this phase comes from ASCENT. ASCENT claims that the "cost of capital used to compute BellSouth Louisiana rates exceeded ten percent, at least two full percentage points more than the carrier needs to secure necessary equity and debt infusions." ASCENT Comments at 6. As discussed in my Reply Affidavit in CC Docket No. 01-277 (Reply App. A, Tab C), the LPSC weighed an extensive amount of expert testimony in Docket No. U-24714 before it ordered a 10.09% cost of capital. On the other hand, ASCENT presents no testimony, cost of capital analysis, or other evidence to support its assertion.

and Access Daily Usage Files ("ADUF") charges reflect costs that are "in the shared and common costs." WorldCom Frentrup Supp. Decl. ¶ 28. Although Mr. Frentrup provided no support for the allegation previously (nor has he augmented the record here), I can only assume that WorldCom bases its conclusion on the fact that the same expense accounts (6124, 6623, and 6724) appear in both the DUF studies and in the shared and common cost factors. Mr. Frentrup again ignores the fact – highlighted in my Reply Affidavit in CC Docket 01-277 (¶ 38) – that BellSouth identified and removed costs that are directly assigned in the cost studies from the development of the shared and common factors. This issue was not raised in Georgia and was rejected by the LPSC.

VI. MATERIAL PRICES FOR LOOP AND SWITCHING EQUIPMENT

19. AT&T previously presented trends in cable and wire investment per loop and switch investment per dial equipment minute ("DEM") in an attempt to validate the assertion that BellSouth's switching rates should reflect a 40% decrease and that the net investment for cable and wire should reflect a 51% decrease from the 1997 levels upon which BellSouth's Georgia rates are based. AT&T Lieberman Decl. ¶ 7 & fn. 3 in CC Docket 01-277. AT&T's Lieberman makes the same assertions concerning loop and switching costs in this proceeding. AT&T Lieberman Decl. ¶ 8 & fn.4. As explained in my Reply Affidavit in CC Docket No. 01-277 (¶¶ 40-50), these assertions are misguided. BellSouth determined the "per unit" costs based on the most current material prices, contract terms, network configurations, and demand at the time it submitted cost studies for consideration by the GPSC and the LPSC in establishing rates.

20. Additionally, the ARMIS data used by AT&T reflects a mix of vintages and thus cannot possibly reflect what BellSouth pays today, nor can it be used to project what BellSouth will

pay in the future[3]. BellSouth determined the incremental investments required to serve a discrete demand, as required by this Commission's TELRIC principles, utilizing forward-looking network designs. Further, the use of embedded data to trend investments is inappropriate in a TELRIC-compliant cost study.

21. ASCENT seeks to justify a reduction to BellSouth's switching cost by arguing that since the "NYPSC required Verizon to reduce is unbundled local switching charges by roughly 40 percent to render them TELRIC compliant" then BellSouth's switching rates should also be reduced. ASCENT Supp. Comment at 5. In a letter to the New York Public Service Commission, Verizon outlined the impact of the change to switching rates. (Case 00-C-1945, dated February 8, 2002, Exhibit DDC-1). Based on average usage demand per line, Verizon estimates that the rate has fallen from $10.61 to $5.08. In this proceeding, AT&T's Mr. Lieberman estimates that the usage rate in Georgia is $4.37 and in Louisiana, $5.00, values lower than the revised Verizon estimate for New York based on the reduced switching rates. AT&T Lieberman Supp. Exhibit A-3. Thus, there is simply no justification to reduce BellSouth's switching rates at all, much less by 40%.

22. AT&T's Mr. Lieberman again claims that both the GPSC and the LPSC have in the past rejected BellSouth's attempts to include a separate "FPA" [feature port additive] charge in rates. AT&T Lieberman Supp. Decl., fn. 2. As explained previously, this is a half-truth. While it is true that the GPSC denied a separate charge for the FPA, the GPSC never found that the costs of vertical features were included in the cost of the port. Furthermore, the LPSC

[3] My Reply Affidavit filed in CC Docket No. 01-277 also identifies numerous mathematical errors that Mr. Lieberman made in his exhibits used to project investment trends.

originally in its first cots proceeding included a separate FPA in Order No. U-22022/22093 in 1997. As a result of its second cost proceeding, the LPSC "incorporated [feature costs] into the per minute of use switching rate."

23. WorldCom's Mr. Frentrup also contends that: "vertical features do not cause BellSouth to incur any incremental cost over and above the costs already included in the rates for switching and usage." Frentrup Supp. Decl. ¶ 24. This identical argument was made by SECCA in Louisiana Docket Number U-24714-A and was rejected by the LPSC Staff and by the LPSC itself. In its order in Docket No. U-24714-A, the LPSC states: "the Commission concludes that the feature cost recognized by Staff should be incorporated into the per minute of use switching rate." (*LPSC Order Number U-24714-A* at 10). To support his assertion, Mr. Frentrup questions whether or not vertical features contribute to the exhaust of the switch processor. However, the switch vendors have stated that features do affect the useful capacity of a switch, and therefore determine, in part, the number and type of switches that must be placed. For example, Lucent Practice 235-900-133, Issue 3.00B, shows that the 5ESS switch has capacity constraints in terms of the number of calls the switch can process in the busy hour depending on the type and number of features.

24. Moreover, the Hatfield Model (which evolved into the HAI model), of which AT&T and MCI were sponsors, contains capacity constraints for call processing, ports, and minutes of use. The HAI model, Release 5.1, also includes a "Feature Loading Multiplier" which reflects "the amount by which the load on a processor exceeds the load associated with ordinary telephone

calls, due to the presence of vertical features, Centrex, etc."[4] Thus, the HAI Model also recognizes that call processing and features can and do cause additional switch costs:

> If the model determines that the load on a processor, calculated as the number of busy hour call attempts times the processor feature load multiplier, exceeds the switch real time limit multiplied by the switch maximum processor occupancy, it will add a switch to the wire center.[5]

Additionally, Mr. Frentrup's contention that the switch processor is the hardware required for vertical features is wrong. Frentrup Supp. Decl. ¶ 24. Instead, the feature-related "hardware" is composed of specialized equipment that is required to make specific features function; for example, three-port conference circuits that enable three-way calling and specialized announcement circuits that are needed for certain CLASS features. This specialized equipment would not be considered for POTS service.

25. Finally, Mr. Frentrup's claim that the "software used to provide features is included in the generic switch software" is inaccurate. Frentrup Supp. Decl. ¶ 24. BellSouth previously capitalized only the initial operating systems software, and expensed additional application software directly related to provisioning features. In essence, there are two types of software – the generic software that provides the switch's operating system and associated software that allows specific feature packages to be enabled. The capitalized/expensed methodology was followed in BellSouth's filing in Georgia Docket No. 7061-U in the development of feature costs. Currently, application software that previously was classified as expense, e.g., the

[4] HAI Model Release 5.1 Inputs Portfolio at 88. Filed by AT&T in Georgia Docket No. 10692-U, *Generic Proceeding to Establish Long-Term Pricing for Policies for Unbundled Network Elements* (June 11, 1999). AT&T filed the HAI methodology in support of its proposed rates for UNE combinations in that docket.

[5] HAI Model Release 5.1 Inputs Portfolio at 84.

software for feature packages, is classified as a capital item. Let me emphasize that BellSouth did not arbitrarily make the decision to reclassify software expenditures; this was a directive in accordance with Generally Accepted Accounting Principles.[6] To implement this accounting change, BellSouth developed a factor that reflects the relationship between software investments (Field Reporting Code ("FRC") 560C) and digital switching investments (FRC 377C). Application of this factor allocates a portion of software costs to every element that is comprised of digital switching equipment in Louisiana Docket No. U-24714-A. Thus, local usage, ports, and vertical features bear some of these software costs.

26. AT&T's brief contends that BellSouth relies on an "embedded network to compute switching costs." However, as explained in ¶¶ 42-47 of my Reply Affidavit in CC Docket 01-277 and in the attachment to an ex parte letter filed by BellSouth on November 21, 2001 in CC Docket 01-277, AT&T's claim that the use of a meld of new/growth is "embedded" and that it "violates TELRIC principles" is wrong. AT&T Brief, fn. 39. In fact, this Commission in its order in CC Docket No. 01-324 (Rhode Island) recognized that a meld of new and growth switch discounts fulfills TELRIC principles stating that "an efficient competitor might anticipate some growth additions over the long run." FCC 02-63 ¶ 34. Indeed, Verizon's Rhode Island 271 application was approved with a meld of new/growth switch discounts. Reply Exhibits DDC-1 and DDC-2 (CC Docket 01-277, both exhibits are proprietary) provided a detailed explanation of the switch discounts BellSouth used in Georgia and Louisiana.

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[6] This Commission adopted the Statement of Position that discussed this accounting change in the Report and Order for Phase I of the Biennial Review (paragraphs 42-49) issued in June, 1999.

VII. UNIVERSAL DIGITAL LOOP CARRIER ("UDLC")

27. As I discussed in my affidavits filed in CC Docket 01-277, BellSouth studied the cost of network elements that were unbundled in compliance with the Commission's definition of an unbundled local loop. (Caldwell Reply Affidavit ¶¶ 51-60) In other words, BellSouth studied the cost, and the GPSC and the LPSC established cost-based rates for unbundled loops that would be provisioned on a stand-alone basis. In developing these unbundled loop costs, BellSouth properly assumed the use of UDLC. Some parties criticized this assumption, as WorldCom's Frentrup does in this proceeding, contending that BellSouth's cost studies should have assumed 100% deployment of IDLC, which means that every DLC loop would be provided on fiber-based DLC systems directly integrated into BellSouth's switch at the central office. *See* WorldCom Frentrup Supp. Decl. ¶¶ 10-12.

28. However, because IDLC technology results in the direct integration of a loop into BellSouth's switch, it was not appropriate to include IDLC in determining the cost of a stand-alone loop provisioned to a CLEC's collocation space. Before a voice-grade circuit can go to a CLEC's collocation space, an unbundled loop must be removed from the DLC digital DS1, converted to voice grade, and terminated on the main distribution frame ("MDF"). Therefore, these UNE loops cannot be integrated into BellSouth's switch, as Mr. Frentrup desires.

29. Even though Mr. Frentrup's assertion that unbundled loops can be "provisioned from IDLC that uses the GR-303 protocol" is true, it is not the most economical means of delivering an unbundled loop to a CLEC's collocation space. Frentrup Supp. Decl. ¶ 11. As I stated in my Reply Affidavit in CC Docket No. 01-277, the Commission has reviewed each of the methods required to use IDLC in the unbundling of loops and has noted the limitations of each.

Specifically, the Commission found that "Multiple Switch Hosting is available only on the newest IDLC systems (Telecordia GR-303) and accommodates only a few competitors; Integrated Network Architecture appears to be cost-effective only for competitive LECs with substantial market penetration, and also works only for GR-303-compatible systems; Digital Cross Connect Systems require all loop signals, including signals for loops retained by the incumbent LEC, to pass through the DCS system for processing, and is therefore very expensive." *UNE Remand Order* ¶ 217, fn. 417. Additionally, the Commission noted that MCI conceded that: "Side Door Grooming can only be done for a few lines per remote terminal." *Id*. The Commission finally concluded that: "such methods have not proven practicable." *Id*. ¶ 217, fn. 418.

30. As the Commission recognized, all of the IDLC unbundling methods suggested by AT&T and WorldCom have costs; yet neither AT&T nor WorldCom has ever presented any evidence to the GPSC and the LPSC to quantify those costs so that such costs would be reflected in the unbundled loop rates these state commissions established. Additionally, these alternative arrangements consume switch resources that would need to be considered in any cost analysis. Thus, Mr. Frentrup's assertion that "the use of IDLC would significantly lower the cost of a loop" is both unsupported and contrary to this Commission's own prior findings. WorldCom Frentrup Supp. Decl. ¶ 12.

31. Further, Mr. Frentrup's comparison of Louisiana's unbundled stand-alone loop costs to the cost of a "UNE platform" loop illustrates a fundamental misunderstanding of both the most efficient, least-cost network configuration required to deliver unbundled loops and of the network components reflected in BellSouth's cost study. As the previous paragraph discusses,

if IDLC is used to deliver unbundled loops, additional costs that are not reflected in the UNE platform loop need to be considered. Further, the "one dollar a month" difference between the unbundled loop cost and the UNE platform cost is not due solely to the type of DLC used (IDLC or UDLC), as Mr. Frentrup asserts. Each unbundled loop terminates on the MDF. Thus, the cost of this termination is included in the cost of an unbundled loop. This is not the case with the UNE platform loop where not every loop terminates on the MDF.

32. In Georgia Docket No. 10692-U (combination docket) and Louisiana Docket No. U-24714-A, BellSouth's cost studies assumed the deployment of IDLC for the loop-port combinations (or UNE platform loop), since it was assumed that - for the UNE platform - the loop and BellSouth's switch would be combined to serve existing customers. Such an assumption does not apply when only a loop unbundled from the BellSouth switch is being studied.

33. In Georgia Docket No. 10692-U, BellSouth's cost studies for combinations initially assumed that more than 49 percent of digital loop carrier systems would be IDLC, which was a forward-looking assumption, given BellSouth's current deployment of IDLC. Although the GPSC adopted BellSouth's cost studies in Docket 10692-U, the GPSC modified the assumptions concerning IDLC deployment to make the studies more "forward-looking." In particular, the GPSC ordered that BellSouth's cost studies "be adjusted to reflect 98% [of digital carrier systems] IDLC." Order, *Generic Proceeding to Establish Long-Term Pricing Policies for Unbundled Network Elements*, Docket No. 10692-U at 19 (GPSC Feb. 1, 2001) (Initial Application, App. I–GA, Tab 7) ("*GPSC 10692-U Order*"). While that change makes nearly all DLC loops IDLC, the GPSC disagreed with AT&T and WorldCom's argument that <u>every</u> DLC loop should be served by IDLC, noting that such an assumption would ignore "the realities

of network design." As BellSouth testified, UDLC is the "economic choice" in some cases, such as for non-switched circuits, including private line and data circuits not going into the switch. Caldwell Testimony, Docket 10692-U, Tr. at 336 & 346 (Initial Application, App. I–GA, Tab 4a). In Georgia, even AT&T's witness John Donovan acknowledged that provisioning non-switched services through a non-integrated DLC system, i.e. UDLC, would be "appropriate." Donovan Testimony, Docket 10692-U, Tr. at 297 (Initial Application, App. I–GA, Tab 4a). In light of that statement, and given that the GPSC assumed the use of UDLC in 2% of DLC cases, it is difficult to see any basis for complaint by the CLECs on this issue.

34. The GPSC also modified BellSouth's cost studies concerning the assumptions for the deployment of GR-303 on IDLC loops, directing that the studies "reflect 20% GR-303." *GPSC 10692-U Order* at 19. Although less than one percent of BellSouth's access lines were served by GR-303 across the entire region at the time, the GPSC concluded that GR-303 is a "forward-looking technology" that should be reflected in BellSouth's cost studies. However, the GPSC was not persuaded by AT&T's argument that BellSouth's cost studies should be adjusted to assume GR-303 for all IDLC loops. Donovan Testimony, Tr. at 216-217 (Initial Application, App. I–GA, Tab 3); Petzinger Testimony, Tr. at 216-217 (Initial Application, App. I-GA, Tab 3); Wood Testimony, Tr. at 960 (Initial Application, App. I-GA, Tab 6). BellSouth still deploys TR-008 in its network and will continue to do so for the foreseeable future. Caldwell Testimony, Tr. at 336 (Initial Application, App. I-GA, Tab 4a). Furthermore, in Georgia, AT&T's witness Petzinger acknowledged that deploying GR-303 might not make economic sense in all circumstances. Petzinger Testimony, Tr. at 56-57 (Initial Application, App. I-GA, Tab 3)

35. Mr. Frentrup ignores the economics behind the deployment of DLC when he asserts, as he did in CC Docket No. 01-277, that if "the UNE platform loop were provided using only GR-303 compliant IDLC, this difference [the difference between the unbundled loop cost and the cost of a loop used in combination] would be even greater." WorldCom Frentrup Supp. Decl. ¶ 12. In fact, TR008-based IDLC is modeled by the BSTLM only in the limited situation when the system size is less than 150 lines. This reflects the most economic deployment to serve the demand. In Louisiana, only 4.8% of the switched loops are TR008-based, and 43.5% of the switched loops are GR303-based. (The rest of the lines, 51.7%, are not served by DLC systems.) This distribution of lines reflects the most economic (least-cost) network configuration, notwithstanding Mr. Frentrup's claims to the contrary.

VIII. MULTIPLE SCENARIOS (LOUISIANA)

36. Paragraphs 61-68 of my Reply Affidavit filed in CC Docket 01-277 explain why the use of multiple scenarios is compliant with the Commission's TELRIC principles and why it is an accurate modeling methodology. ASCENT and WorldCom have raised the same issue again in this proceeding.

37. The use of multiple scenarios is appropriate for a number of reasons. First, using only one scenario would, in fact, lead to an under-recovery of BellSouth's costs. The LPSC Staff in its Post-Hearing Brief recognized this fact. The Staff states: "the Combo scenario assumes that all loops will be provided on fiber-based DLC systems directly integrated into BellSouth's switch at the central office. However, voice grade unbundled loops, by definition, must terminate on the Main Distribution Frame ('MDF'). Before a voice grade unbundled loop can be provisioned to a CLEC's collocation space, the loop must be removed from the DLC digital

DS1, converted to voice grade, and terminated on the MDF. The costs for this conversion and the MDF termination are not included in the Combo run. Consequently, the cost under the Combo only scenario understates the true costs of provisioning these UNEs." *LPSC Staff Post-Hearing Brief* at 4 (Initial Application, App. F–LA, Tab 38, CC Docket 01-277).

38. Second, this modeling technique fulfilled the Commission's directive that "a reasonable projection of the sum of the total number of units" is considered.

39. Third, by assuming all customer locations are potential candidates for a particular unbundled loop, BellSouth has eliminated the arbitrary assignment process.

40. Both WorldCom's Mr. Frentrup and ACSENT contend that the multiple scenario approach means that BellSouth's cost model does not capture the economies of scope inherent in the network. *See* WorldCom Frentrup Supp. Decl. ¶ 11; *see also* ASCENT Supp. Comments at 5. They are wrong. As I discussed, the LPSC investigated this issue extensively and found the use of multiple scenarios to be reasonable and consistent with TELRIC. With respect to the claim that the use of multiple scenarios does not reflect economies of scope, just the opposite is true. Multiple scenarios will optimize the utilization of the network equipment since in each scenario the entire quantity of lines is considered in providing a specific loop type.

IX. LOADING FACTORS

41. BellSouth's reply to allegations that the loading factors used in the cost studies are inappropriate is contained in ¶¶ 69-77 of my Reply Affidavit in CC Docket No. 01-277. Conveniently ignoring my earlier responses, commenters again recycle the same claims that they made in that proceeding. Below, I will respond again to these claims.

42. WorldCom's Mr. Frentrup again claims that "these factors are excessive" and that "[t]he manner in which these factors were developed is not described in BellSouth's documentation." WorldCom Frentrup Supp. Decl. ¶ 14. Mr. Frentrup is still wrong. In both Georgia and Louisiana, BellSouth provided a detailed description of the methodology, data sources, and assumptions that were used in the development of its factors in the filed cost studies. Additionally, BellSouth provided an electronic copy of the files used to develop the factors such that users could adjust input, if desired. In fact, LPSC consultant Kimberly Dismukes was able to review the factors, understand the methodology, and modify the inputs she believed required revision in Docket No. U-24714-A. The modifications made by Dismukes involve factors that Mr. Frentrup claims BellSouth did not document: "annual cost factors (depreciation, cost of capital, and taxes), the development of annual expense factors, pole, conduit and trench sharing and shared and common cost calculations and assumptions." Dismukes Testimony, Docket No. U-24714-A, at 9 (LPSC filed Feb. 26, 2001) (Initial Application, App. F–LA, Tab 9).

43. BellSouth has provided these materials again in this proceeding. In order to assist Mr. Frentrup in understanding "the manner in which these factors were developed" attached to this affidavit is a file that reflects the development of the outside plant in-plant loading factors in Louisiana, (Exhibit DDC-2). A similar calculation was made to develop the in-plant factors in Georgia.[7] The last two pages of Exhibit DDC-2 reflect the calculations made in Georgia Docket No. 7061-U. An extract of the relevant data and calculations from files contained in BellSouth's Georgia and Louisiana cost studies created this exhibit.

[7] In the Georgia cost study, the file Gafactor.xls contains all of the factor development, including the calculation of the in-plant factors.

44. Mr. Frentrup continues to assert that BellSouth's in-plant factors should be practically identical in Georgia and Louisiana, an allegation he also made in CC Docket No. 01-277. WorldCom Frentrup Decl. ¶ 16. His assertion is flawed because, as I stated previously, each state negotiates vendor placement contracts independently, has different work content, and imposes unique state taxes. Thus, the in-plant factors should be expected to differ by state.

45. Mr. Frentrup once again asserts that: "because BellSouth applies the same loading factors to all sizes of equipment, these factors add a great deal more total cost to areas that are served by large switches or cable sizes." WorldCom Frentrup Supp. Decl. ¶ 16. In other words, Mr. Frentrup contends that BellSouth does not accurately reflect the deaveraged costs of loops because, supposedly, in-plant loading factors overstate costs in high-density (large cable, larger switches) areas. First, the application of switch-related in-plant factors should not warrant a serious concern due to their relatively small value – an 8% loading was used in Georgia and 14% in Louisiana. Further, switching elements were not deaveraged in either Georgia or Louisiana, thus an average factor is appropriate. Even if switching elements were deaveraged, the modularity of digital switching makes Mr. Frentrup's large switch/small switch argument unsupportable. The use of Host/Remote configurations and the ability to grow switches in discrete amounts to handle customer requirements allows companies to economically fit switch equipment purchases and deployment to meet demand.

46. In Louisiana Docket No. U-24714-A, SECCA made an argument similar to the one proffered by Mr. Frentrup with respect to the loop cost development, contending that BellSouth's outside plant in-plant loading factors overstate the costs of larger sized cables. Wilsky/Wood

Testimony, Docket No. U-24714-A at 49 (LPSC filed Feb. 26, 2001). While the relationship of the combined costs of installation labor, exempt material, sales tax and engineering to total material costs may not be perfectly linear, the use of in-plant factors produces representative cost results when viewed on a total cable placement basis. In other words, while the use of in-plant factors may potentially overstate, to some degree, the costs for large size cables, the corollary is also true (i.e., that the in-plant loading factors potentially understate, to some degree, the costs for small size cables.) What is important is that these factors accurately reflect the average costs associated with installing a cable. SECCA's argument was not persuasive to either the LPSC staff consultant or to the LPSC, which adopted BellSouth's in-plant loading factor approach. Moreover, because loop costs are deaveraged in both Georgia and Louisiana, economies associated with larger cable sizes in denser areas are ultimately reflected in the rates that CLECs pay.

47. BellSouth has accurately reflected the differences in loop costs by density zone. As discussed earlier, in Georgia, BellSouth used the BCPM to generate ratios, which are applied to the statewide average loop cost results. The BCPM reflected differences in installation costs by density zone and thus, these differences were reflected in Georgia's deaveraged loop costs. In Louisiana, the BSTLM calculated the material cost of an average cable, one reflecting various cable sizes, at the wire center level.[8] Application of BellSouth's in-plant factors to these wire-center specific material prices accurately captures the difference in installation costs.

[8] The BSTLM results reflect a much greater incidence of small sized cables then what is actually found in the network. In Louisiana, the BSTLM distribution was as follows: 25 pair (60%), 50 pair (13%), 100 pair (10%), 200 pair (6%), 300 pair (3%) with only about 8% of the placements related to cable sizes of 400 pair and larger.

48. Mr. Frentrup comments that: "in Georgia the cost of an unbundled loop is more than doubled by the use of these factors." Frentrup Supp. Decl. ¶ 15. Although Mr. Frentrup apparently is surprised by the fact that the sum of engineering labor costs, construction labor (placing and splicing) costs, exempt material, and sales tax (i.e., the items captured by the in-plant factors) exceeds the cost of material, he should not be. First, the construction of outside plant facilities is extremely labor-intensive. BellSouth and vendor placing and splicing costs add significantly to the cost of cable installation. Second, in order to install cable, miscellaneous items that are not driven to specific accounts, e.g., anchors, guys, terminals that are less than 100-pair, patch cords, and pigtails, are required. These items are reflected in the exempt material expenses. Also, engineering is a legitimate and necessary cost associated with cable placement. Additionally, there are other extraneous items that are associated with cable placement such as: right-of-way acquisition, interest during construction, and leasing of heavy equipment, that are captured in the in-plant factors. Therefore, an in-plant loading in excess of 100% is not unusual and should not be a cause for concern.

49. Mr. Frentrup attempts to leverage the Commission's reference to Verizon's modification in Rhode Island which reduced the switching loading factor from 60%, to conclude that BellSouth's loop-related in-plant factors should also be reduced. Frentrup Supp. Decl. ¶ 15. This is ludicrous. First, BellSouth's switching in-plant loading factor used in Georgia is less than 8% and is approximately 14% in Louisiana. Second, there is no correlation between switching in-plant loading factors and outside plant in-plant loading factors. If one would simply take the time to consider the type of installation work being performed and the environment in which the installation takes place – one involving placing and splicing cable in the outside environment and

the other involving the installation of electronic equipment in a controlled environment - it should be rather obvious that outside plant in-plant factors justifiably exceed those for switching. Finally, Mr. Frentrup does not even attempt to discuss Verizon's outside plant loading factors, which are a pertinent issue in setting loop rates.

50. ASCENT contends that the "loading factors employed by BellSouth reflect the carrier's historical experience and hence reflect embedded, rather than forward-looking, costs." ASCENT Supp. Comments at 6. ASCENT is wrong. First, the in-plant factor calculation is based on the latest year-end data available at the time BellSouth's cost studies were conducted; i.e., the foundation of BellSouth's factor development is the most recent calendar year of plant addition activity. This data provides the most accurate reflection of influencing factors, such as vendors' contracts, exempt material prices, and any outsourcing initiatives. This relationship of capitalized labor, exempt material costs, and sales tax to material prices is anticipated to continue into the future. Moreover, since the resulting cost (i.e., the result from the application of the in-plant factor to the forward-looking material price) is one based upon an efficiently deployed, least-cost, anticipated network, the result by definition is forward-looking.

51. In Georgia Docket 7061-U, AT&T and MCI WorldCom focused little attention on BellSouth's use of in-plant factors or other loading factors. Their sole testimony on the issue was contained in the pre-filed testimony of AT&T witness James Wells, who only addressed the cable material and conduit loading factors. Wells Rebuttal Testimony, Docket 7061-U at 40-47 (GPSC filed Aug. 29, 1997). In its Post-Hearing Brief in Docket 7061-U, AT&T devoted one paragraph to the issue, simply contending that BellSouth's loading factors were based on "embedded cost data" and "tremendously inflate its material prices." AT&T Post-Hearing Brief at 29 (GPSC

filed Oct. 1, 1997). MCI WorldCom's Post-Hearing Brief and Proposed Order in Docket 7061-U did not address the issue at all. MCI Brief and Proposed Order (GPSC filed Oct. 1, 1997). Furthermore, neither AT&T nor MCI WorldCom offered any reasonable alternative to the in-plant and other loading factors used by BellSouth, nor did they propose any specific adjustments to BellSouth's cost studies to address their concerns, other than to advocate use of assumptions from the Hatfield Model, which the GPSC rejected. Wells Rebuttal Testimony, Docket 7061-U at 45-47 (GPSC filed Aug. 29, 1997). The GPSC accepted BellSouth's use of in-plant and other loading factors. *See GPSC Order Establishing Cost-Based Rates*, at 37-38 (declining to make any adjustments to BellSouth's cost studies other than those proposed by Staff). Interestingly, in the other proceedings in which the GPSC addressed costs – Docket 10692-U (combinations) and Docket 11901-U (xDSL and related services), neither AT&T nor MCI WorldCom objected to the use of BellSouth's loading factors.

52. In Louisiana Docket No. U-24714-A, SECCA recommended that the LPSC adopt the "more accurately 'loaded' material investments adopted by the Florida Commission" in its Universal Service Fund proceeding. Wilsky/Wood Testimony, Docket No. U-24714-A at 53 (LPSC filed Feb. 26, 2001) (Initial Application, App. F–LA, Tab 10). BellSouth rebutted SECCA's recommendation, in part, by stating that BellSouth is the only party that has proposed BellSouth-specific inputs in the proceeding. Caldwell Rebuttal Testimony, Docket No. U-24714-A at 62-65 (LPSC filed Mar. 26, 2001) (Initial Application, App. F–LA, Tab 14). Neither the LPSC Staff nor the Administrative Law Judge nor the LPSC agreed with SECCA's recommendation. In fact, even the Florida Commission rejected this same proposal for the state of Florida in Docket No. 990649-TP, Florida's generic cost docket. In its Order, the

Florida Commission recognized: "the inputs ordered in our Universal Service proceeding are for a different purpose and are not appropriate here." Further, the Florida Commission stated: "we find that the appropriate assumptions and inputs for the associated cable placement costs are those identified by BellSouth." Order No. PSC-01-1181-FOF-TP, Docket No. 990649-TP at 190 (FL PSC May 25, 2001).

X. PRODUCTIVITY

53. Paragraphs 84-85 of my Reply Affidavit respond to the "productivity" issue. In this proceeding, ASCENT makes the same claim it raised in CC Docket No. 01-277 that "[t]he productivity factors BellSouth used to compute its UNE rates are a mere fraction of the 6.5 percent productivity factor recognized by the Commission as appropriate in the access charge context." ASCENT Supp. Comments at 6. ASCENT's claim is legally and factually flawed. First, the Commission's decision that authorized the use of the 6.5% factor for interstate price cap purposes was found to be arbitrary and capricious by the United States Court of Appeals for the District of Columbia Circuit, which remanded the issue to the Commission for further review. *See United States Telephone Association v. FCC*, 188 F.3d 521 (D.C. Cir. 1999). On remand, the Commission switched the 6.5% factor from a productivity proxy to a non-productivity based mechanism for rate reduction purposes, but that decision was recently reversed and remanded by the United States Court of Appeals for the Fifth Circuit which found that the 6.5% factor "lacked a rational basis." Sixth Report and Order in CC Docket No. 96-262 and 94-1, and Report and Order in CC Docket 99-249, and Eleventh Report and Order in CC Docket 96-56, *Deployment of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Distance Users, and Federal-State*

Joint Board on Universal Service, 15 FCC Rcd 12962 (released May 31, 2000) ("*CALLS Order*"), *aff'd in part, rev'd in part Texas Office of Public Utility Counsel v. FCC*, 2001 U.S. App. LEXIS 19974 (5th Cir. Sept. 10, 2001). Thus, any suggestion that the Commission's productivity factor, which has been reversed twice in three years by two different appellate courts, should be used in a UNE cost study should be summarily dismissed.

54. Second, WorldCom used this same argument in Louisiana.[9] The LPSC did not adjust BellSouth's productivity factor based on the Commission's 6.5% factor. However, the following reductions to expenses were made by the LPSC: 31% for general support, 51% for customer operations-marketing, 52% for customer operations-service, 63% for executive and planning, and 4% for general and administrative expenses to reflect the effects of competition and productivity.

XI. COMPARISON TO "NEW" GEORGIA COST STUDY

55. AT&T again attempts to utilize BellSouth's recently filed cost study in Georgia to attack the cost-based rates contained in the SGAT, insinuating that these rates are not TELRIC-compliant. *See* AT&T Brief at 45-46; *see also* AT&T Lieberman Decl. ¶¶ 6-7.

56. As detailed in my initial affidavit in CC Docket 01-277, however, the GPSC acknowledged that the Commission's *Local Competition Order* prescribed a methodology for identifying costs. In 1997, the GPSC adopted an approach consistent with that methodology, stating that it "would presume that the cost study methodology should be forward-looking, consistent with the Total Element Long Run Incremental cost ('TELRIC') approach." *GPSC Order Establishing Cost-*

[9] This was not raised as an issue in the Georgia proceedings. The adjustments made by the GPSC to BellSouth's shared and common factors are discussed in my initial affidavit filed October 2, 2001 in CC Docket No. 01-277 (App.

Based Rates at 11. Thus, the GPSC consciously established rates based upon cost support that complied with the TELRIC standard. The GPSC adhered to that same approach in setting rates for combinations of network elements and related UNEs in February 2000 in Docket 10692-U and xDSL and related UNEs in June 2001 in Docket 11901-U.

57. While the results of the newest cost study differ from the rates contained in BellSouth's SGAT (some increased, some decreased) this in and of itself does not negate the TELRIC-compliance of the previous cost studies. Costs change, and a TELRIC-compliant study conducted in 1997 is not rendered non-TELRIC compliant solely as a result of such changes in cost.[10] State commissions in BellSouth's region routinely examine BellSouth's cost studies, and after completing the first phase of generic cost studies in 1997 and 1998, these commissions initiated new dockets in 2000 and 2001 to re-examine these studies. The GPSC initiated Docket 14361-U (i.e., the "new" cost docket) to re-examine BellSouth's cost studies, and BellSouth will implement the GPSC's rulings in that proceeding. The only way to address AT&T's concern about changes in cost is for the state commissions to conduct generic cost proceedings continuously, which is an unnecessary and unreasonable result.

58. In fact, this Commission has addressed this same phenomenon recently in the evaluation of Verizon's Rhode Island 271 application in CC Docket No. 01-324. The Commission stated: "we disagree with claims by AT&T and WorldCom that Verizon's UNE rates are not TELRIC

A, Tab D).

[10] The Commission in CC Docket 01-324 recognized that "rates may well evolve over time to reflect new information on cost study assumptions and changes in technology, engineering practices, or market conditions." FCC 02-63 ¶ 31. Nowhere does the Commission state that it anticipates that rates will always go down with each subsequent cost docket. Thus, Allegiance's comparison of proposed rates to the approved rates in Georgia should be summarily rejected. As it has done in the past, the GSPC will undoubtedly scrutinize each of BellSouth's proposed rates in Docket 14361-U, and make whatever adjustments the GSPC deems necessary to ensure compliance with TELRIC. As

compliant because the Rhode Island Commission will soon begin a new rate proceeding in which it will reconsider certain assumptions underlying the rates." FCC 02-63, ¶31.

XII. CONCLUSION

59. There is no basis to the claims that BellSouth's cost studies violate the Commission's TELRIC methodology. Many of the allegations addressed here have been previously raised and rejected in the generic cost dockets in Georgia and Louisiana. Further, the cost-based rates contained in BellSouth's SGATs reflect the decisions of the GPSC and the LPSC. Additionally, both the GPSC and the LPSC have found BellSouth's cost methodology to be TELRIC-compliant once the state commission-ordered modifications were implemented. The parties offer no evidence that should cause this Commission to reach a different conclusion.

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a result, any discussion of proposed rates in 14361-U is premature.