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Ms. Blanca Bayó, Director  
Commission Clerk and Administrative Services  
Room 110, Easley Building  
Florida Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, Florida 32399-0850

Re: Docket Nos. 981834-TP and 990321-TP

Dear Ms. Bayó:

Enclosed for filing on behalf of AT&T Communications of the Southern States, LLC, DIECA Communications, Inc., d/b/a Covad Communications Company, and Florida digital network, Inc. d/b/a FDN Communications are an original and fifteen copies of the Joint Posthearing Brief of AT&T Communications of the Southern States, LLC, DIECA Communications, Inc., d/b/a Covad Communications Company, and Florida digital network, Inc. d/b/a FDN Communications in the above referenced dockets. Also enclosed is a 3 1/2" diskette with the document on it in WordPerfect 9.0.

Please acknowledge receipt of these documents by stamping the extra copy of this letter "filed" and returning the same to me.

Thank you for your assistance with this filing.

Sincerely yours,



Floyd R. Self

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DOCUMENT NUMBER-DATE

04183 APR-1 04

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Petition of Competitive Carriers )  
for Commission action to support local )  
competition in BellSouth )  
Telecommunications, Inc.'s service )  
territory )

Docket No. 981834-TP

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In re: Petition of ACI Corp. d/b/a )  
Accelerated Connections, Inc. for generic )  
investigation to ensure that BellSouth )  
Telecommunications, Inc., Sprint-Florida, )  
Incorporated, and GTE Florida Incorporated )  
comply with obligation to provide alternative )  
local exchange carriers with flexible, timely, )  
and cost-efficient physical collocation. )

Docket No. 990321-TP  
Filed: April 1, 2004

**JOINT POSTHEARING BRIEF OF**  
**AT&T COMMUNICATIONS OF THE SOUTHERN STATES, LLC,**  
**DIECA COMMUNICATIONS, INC., D/B/A COVAD COMMUNICATIONS COMPANY**  
**AND FLORIDA DIGITAL NETWORK, INC. D/B/A FDN COMMUNICATIONS**

AT&T Communications of the Southern States, LLC; DIECA Communications, Inc., d/b/a Covad Communications Company; and Florida Digital Network, Inc. d/b/a FDN Communications (collectively the "Consolidated CLECs") through undersigned counsel, submit this joint posthearing brief.

**BASIC POSITION**

Collocation of CLEC facilities in ILEC central offices is an essential prerequisite to facilities-based entry into the local market. It is absolutely critical that collocation be provided on a timely, efficient and economic basis. The Commission thus should adopt the rates and policies described herein regarding the recurring and non-recurring charges for collocation space as being the most appropriate in fulfilling the Commission's mandate to foster competition in the local exchange market in a manner consistent with Federal TELRIC requirements.

**ISSUE 9A: For which collocation elements should rates be set for each ILEC?**

**SUMMARY:** \*\* Please refer to Composite Exhibit 43 -- Revised Exhibits SET-7, SET-8, and SET-9 attached to Steven E. Turner's Rebuttal Testimony for a comprehensive set of collocation elements for which rate should be set for BellSouth, Sprint, and Verizon, respectively.\*\*

**CONSOLIDATED CLEC POSITION:**

The proposed collocation rates attached as Composite Exhibit 43 - Revised Exhibit SET-7 (proposed collocation rates for BellSouth); Revised Exhibit SET-8 (proposed collocation rates for Sprint); and Revised Exhibit SET-9 (proposed collocation rates for Verizon) provide a reasonable and supported list of the elements for which collocation rates should be set by the Commission. The rates exclude certain elements proposed by the ILECS, and modify rates as set forth in further detail herein. Composite Exhibit 43 - Exhibit SET-10 is a detailed change matrix outlining the modifications that were made to the underlying inputs in the BellSouth input worksheets to the BellSouth Cost Calculator. *See* Turner at Tr. 585. The elements set forth herein are supported by competent substantial evidence, and should be adopted by the Commission.

**ISSUE 9B: For those collocation elements for which rates should be set, what is the proper rate and the appropriate application of those rates?**

**SUMMARY:** \*\* Widely disparate costs for collocation are inconsistent with TELRIC. The BellSouth Cost Model, the most flexible and auditable model should be used as the single model for costing collocation elements. It would allow the Commission to focus on inputs and accurately compare the resulting costs charged by the Florida incumbents. \*\*

**CONSOLIDATED CLEC POSITION:**

The Consolidated CLECs operate in the Florida territories of the three ILECs that are participating in this proceeding. Currently, there is wide disparity in the rates for collocation established in these three territories and in the application of those rates. Rate elements associated with collocation such as the application process, DC power, interconnection arrangements, cage construction, and space within the central office should not have widely disparate costs in a TELRIC environment. The costs for these components should be similar in that the three incumbents have the ability to purchase the underlying telecommunications assets at similar prices and operate them in a similarly efficient manner on a forward-looking basis. Given that the underlying investments should be similar, the development of disparate costs and rates for collocation indicates that the results are inaccurate and inconsistent with cost-based TELRIC principles.

The most efficient approach to determine the costing of collocation elements is to identify a single cost model for collocation. A single cost model would allow the Commission to focus on the important issues of the efficient, forward-looking investment model inputs for the three ILECs that are consistent with TELRIC principles without being concerned with how three different models may convert comparable inputs into widely disparate outputs.

The use of three different collocation cost models makes it almost impossible for the Commission to easily compare inputs and resulting costs between the three models, even in situations where the inputs and costs should be virtually identical. Turner at Tr. 530 With a single model, the Commission would be better positioned to focus on the accuracy and appropriateness of the inputs to the model, rather than debating whether the models' outputs can even be compared against one another or whether the manipulation of the cost data inputs by the model has resulted in

equitable cost-based outputs. Turner at Tr. 530-531. Thus, a single cost model would allow the Commission to establish cost-based rates for the three incumbents in Florida that are easily comparable and would lead to a higher degree of certainty that the resulting costs borne by CLECs for collocation would be consistent between the three Florida incumbents.

The BellSouth Cost Calculator Model should be adopted as the single cost model for establishing collocation rates in this proceeding. The BellSouth model has significant advantages over the Sprint and Verizon cost models with regards to its comprehensive ability to internally calculate and flexibly apply cost factors, and is the only model of the three that easily permits the Commission to change the cost of capital inputs and have these inputs flow through to resulting costs for the three companies. Turner at Tr. 537.

Another important benefit to the BellSouth model is that it is the only one of the three cost models that develops a comprehensive set of collocation elements for all of the forms of collocation. Sprint has an extremely limited set of cost elements that simply does not begin to address all of the necessary rate elements for collocation. Further, Verizon's cost model, while more comprehensive than Sprint's model, does not include the comprehensive set of collocation rate elements found in the BellSouth model. Turner at Tr. 537.

Finally, the BellSouth model is flexible, allowing the user to easily add new cost elements if necessary, and it is auditable in that all of the internal calculations within the model can be exported to EXCEL spreadsheets to demonstrate how the calculations within the model are conducted. In short, the BellSouth model presents the best alternative for developing collocation costs among the models submitted in this proceeding, and the Commission should use this model to establish a comprehensive and consistent set of collocation rates for Florida ALECs. Turner at

Tr. 537-538 The rates that the Consolidated CLECs would propose, based on the BellSouth cost model, are contained in Composite Exhibit 43 - Revised Exhibits SET-7, SET-8, and SET-9.

Collocation is a straightforward process of establishing space within a central office for collocator equipment and then connecting interconnection facilities and power to that equipment.

As stated by BellSouth witness Bernard Shell:

When you come to collocation, there's not really a whole lot of technology that you're talking about. You're talking about cable racks, aisle framing, aisle lighting. You're talking about cages. I mean it's not a lot of high tech equipment where you would expect forward looking to have major changes in equipment used. A battery will be a battery tomorrow.

Shell at Tr. 326. Despite the simplicity and commonality among ILECs of building and connecting collocation elements, the calculated hours and ultimate rates vary dramatically between ILECs, without any articulable basis. For example, in the discussion of the work activities and work times necessary to provide collocation, Mr. Shell acknowledges that Verizon's work times are considerably lower than that of BellSouth. Shell at Tr. 270. As explanation, he states that "BellSouth is unable to address why Verizon can perform this function in less time, but believes that it is not appropriate to simply assume that Verizon is more efficient. A more reasonable assumption is that the work times are different because the actual work that is necessary differs from one company to the next." Shell at Tr. 270. However, neither Mr. Shell, nor any other witness, provided any reason as to why work times for the same tasks should differ from ILEC to ILEC.

TELRIC concepts of efficiency and economy require that the rates charged for similar work necessary to determine space, construct a simple cage, pull a cable, install power equipment, etc. be comparable regardless of who performs the work. However, the evidence in this proceeding has demonstrated that the modeling of services having substantially similar costs often results in widely

divergent rates, a clear example of rates charged to the CLECs being driven by the model, rather than by the actual costs to the ILECs. See, e.g., Turner at Tr. 531-532. Through the establishment of a single cost model, the Commission will not be left guessing as to why similar inputs result in disparate outputs, and will not be compelled to spend large amounts of time deconstructing and analyzing the workings of the model. Turner at Tr. 533. Rather, a single model will permit a more efficient analysis to be performed in that only one model will have to be modified and a consistent set of inputs can be readily compared within that one model. Turner at Tr. 536. BellSouth witness Mr. Shell was unable to provide any basis for the obvious differences in work times between companies for performing the same function. Indeed, there is no competent, substantial evidence of the need for three separate cost models to manipulate the inputs for the relatively simple act of collocation. To the contrary, if the Commission were to authorize the use of a single cost model, the inputs themselves could be more easily compared, rather than the internal workings of the different models. Thus, the Commission will be able to compare apples to apples.

The implementation of a single model would not foreclose consideration of **actual** variation in costs between the three ILECs, only the manner in which those costs are manipulated through the model in the development of a rate. As acknowledged by Mr. Shell, the “inputs and assumptions are not going to change just because the ILECs use the same model.” Shell at Tr. 299.

Among the more common reasons expressed by the ILECs for the inability to implement a single model are the accounting and billing differences between the ILECs. See e.g. Bailey & Ellis at Tr. 706. However, Verizon admitted that when the FCC required a single model for calculating costs for universal service, Verizon did not have to overhaul its billing system. Rather, it had only to modify some data. Ellis at Tr. 769. There is no reason to believe that similar simple

modifications would not allow the ILECs to introduce their cost inputs into a single model.

Based on the evidence in the record of this proceeding, it is apparent that the use of different models results in dramatically different costs to the CLECs for the same, relatively uncomplicated provision of straightforward collocation elements. In order for the Commission to undertake a more reasoned comparison of ILEC costs, the Commission should require the use of a common model to ensure consistency and comparability of rate outputs.

**ISSUE 10: What are the appropriate definitions, and associated terms and conditions for the collocation elements to be determined by the Commission?**

**SUMMARY:** \*\* Definitions, terms and conditions for collocation elements should be established using the BellSouth terms and conditions as a template. A single set of terms and conditions would lessen the cost of the regulatory process and ensure that CLECs are treated in a nondiscriminatory manner between the Florida incumbents. \*\*

**CONSOLIDATED CLEC POSITION:**

**RATE STRUCTURE**

The appropriate definitions, and associated terms and conditions for the collocation elements should be established in a consistent manner between BellSouth, Sprint, and Verizon. To ensure consistency, the BellSouth collocation terms and conditions should be used as a template consistent with the BellSouth Cost Calculator to set collocation rates.

Moving to a single rate structure for collocation will simplify the interconnection process for CLECs within the state of Florida. Currently, CLECs have to work with three different rate structures with three different implementations of collocation arrangements. This is not necessary.



As set forth in Issue 9B, collocation is a very straightforward process of establishing space within a central office for collocator equipment and then establishing interconnection facilities and power to that equipment. Given the relative simplicity of the process, there is no reason for the insistence upon three complex rate structures that often produce wildly divergent rates for similar collocation services, and there is no reason that a single set of terms and conditions for collocation could not be implemented in Florida. Moreover, doing so would again lessen the overall cost of the regulatory process and facilitate the Commission ensuring that CLECs are treated in a nondiscriminatory manner between the three incumbents in Florida.

The use of different rate structures to determine the rates for what should be fairly straightforward, technologically simple collocation has led to widely differing rates between the three ILEC's for what are essentially identical services. A prime example are the rates for DC power. The elements for provision of DC power to a collocator are virtually identical -- batteries, rectifiers, BDFBs, controllers, cable, etc. The cost for those elements should not differ widely, though there may be some minor differences. Therefore, it is reasonable to expect that the investment cost per amp of power is similar, and that the application of those similar investment inputs to the three ILEC cost models should result in similar cost outputs. However, the rate per amp of DC power provided by Verizon is almost 2½ times that of BellSouth. Turner at Tr. 531-532. Similarly, while the investment costs between BellSouth and Sprint vary by only 7.9%, the rate per amp of DC power provided by Sprint, though not as high as that of Verizon, is significantly higher than that of BellSouth. Turner at Tr. 532. Therefore, it is evident that the rates charged to a CLEC are being driven by the model, rather than by the cost to the ILEC. Turner at Tr. 531.

It is essential to have similar rate element definitions so that the Commission can more

readily establish collocation costs that are comparable between the three companies. While it is possible to make some comparisons between important elements (such as for DC power) between the three companies resulting rate sheets, it is a painstaking process to make these comparisons on a comprehensive basis. Furthermore, doing so illustrates how incomplete the cost development is particularly for Sprint and Verizon. Turner at Tr. 535.

Finally, cost proceedings are not a “once and done” event. The Commission has a responsibility to periodically review rates to ensure that they are cost-based. Having a single rate structure for collocation will enable the Commission to perform this analysis at less cost to itself. In conclusion, There is no reason that a single set of terms and conditions for collocation, along with a single rate structure for those collocation costs, could not be implemented in Florida. Turner at Tr. 536.

## **RATE ELEMENTS**

Aside from the more fundamental issue regarding the need for a single rate structure for collocation, there are a number of individual rate elements that are deficient as cost inputs, and serve to artificially increase the rates charged to CLECs for collocation by the three ILECs. The more significant of those cost inputs are set forth herein.

### **Floor Space Investment Cost**

BellSouth’s collocation floor space investment input is calculated by “[t]he total cost of building **additions** divided by total usable square footage added. . . .” Shell at Tr. 287. BellSouth believes that if those additions are based on the most current expenditures, then the cost input is reflective of forward-looking space cost for both BellSouth and collocators.” Shell at Tr. 287.

Dr. Gabel recognized that the BellSouth space costs that are based solely on the cost of

additions are not TELRIC compliant for several reasons. First, the sample size used by BellSouth to support its space investment cost was too small to comprise a representative sample from which to derive valid data. Gabel at Tr. 847. Even within the small number of data points, the “significant variation” the sample calls the results into question. Gabel at Tr. 848. In addition, and more fundamentally, the reliance on cost data from additions to existing space is not TELRIC compliant.

As stated by Dr. Gabel:

the space addition data relied used [sic.] by BellSouth may be appropriate for an incremental cost study but it is certainly not appropriate for a TELRIC cost study. . . . Whereas BellSouth used incremental rather than total demand in its space study, even if the eight offices were representative of the population of space additions, its floor space investment estimate would still violate the FCC’s pricing rules.

Gabel at Tr. 848.

The BellSouth investment cost violates TELRIC because, in part, additions cost more per square foot than new construction. The set up costs for the construction, which are fairly constant regardless of the scope of the construction, are divided into fewer square feet. In addition, special care must be taken in the context of an addition to ensure that no harm comes to the existing structure or equipment operating within. These costs do not exist when constructing a new building, and serve to increase the cost per foot for the space. Gabel at Tr. 849. As a result, “BellSouth’s incremental cost methodology has produced investment estimates that are **significantly out of line** with the estimates supported by either Verizon or Sprint.” Gabel at Tr. 850.

Given the highly skewed and unsupported floor space investment cost advanced by BellSouth, the BellSouth floor space investment should be calculated using the R.S. Means construction data sourcebook. R.S. Means is a data sourcebook widely used in the construction

industry. R.S. Means data is compiled from submissions from companies that have constructed telecommunications central offices, and constitutes an independent evaluation of the forward-looking cost for central office construction. The investment information can be adjusted to individual states because it provides adjustments to modify its “national” data to be applicable to cities across the United States, including 16 cities in Florida. Turner at Tr. 573.

The R.S. Means information is verifiable because the source is public. BellSouth’s investment cost data is based on proprietary information from BellSouth’s accounting systems, or based on adjustments to those systems. Neither the Commission nor the CLECs have access to those systems. It is far better to use a reputable and reliable external source that can be independently evaluated for its veracity. Turner at Tr. 573. By using R.S. Means, costs can be reviewed to ensure that they are competitive and least-cost. R.S. Means is used throughout the construction industry to estimate the cost of construction in a variety of areas. It is in the interest of R.S. Means to be as accurate and current in its information as possible. Moreover, R.S. Means has been used by state Commissions and ILECs in developing investments for collocation. Turner at Tr. 573

Using the R.S. Means data sourcebook calculations for a telecommunications central office, modified to reflect construction costs in Florida, yields a final investment of \$182.25 per square foot of assignable telecommunications space. Turner at Tr. 575-576. That investment cost should be used for Florida in lieu of BellSouth’s inflated value for building additions of \$268.70 per square foot.

Dr. Gabel also found defects in the floor space investment costs of the other ILECs. Although not as egregious as the problems with the BellSouth space investment costs, Dr. Gabel found the Verizon method of calculating floor space (i.e. embedded cost with a multiplier) not to be

TELRIC compliant. Verizon's calculations assumed that new construction would be of the same size and configuration of older buildings. However, older buildings tend to be larger since newer technology is typically smaller. Therefore, such items as cable runs should be shorter, and therefore less expensive, due to both the smaller building size and the fact that CLECs would have the same rights to collocation space near the main distribution frame. Gabel at Tr. 841-843.

Dr. Gabel also found Sprint's charges to be inflated. Although Sprint uses R.S. Means as its cost guide, it replicates its current central offices which, as set forth above, due to technology advances are larger than needed in today's environment. Therefore, Sprint should be required to downward adjust such inputs as cable lengths and other essential cost inputs. Gabel at Tr. 856. In addition, Sprint's building investment calculations include separate costs of permanent fixtures such as overhead lighting and AC receptacles that are already included in the R.S. Means building investment estimates. Therefore, Sprint would double recover. As such Sprint should be required to provide an analysis of the types of fixtures and permanent equipment, e.g. overhead superstructure, cable racks, etc., that go into R.S. Means construction cost estimates for "Telephone Exchanges," and set any separate charge for those items at zero. Gabel at Tr. 856-857. Finally, Sprint improperly "grossed up" its floor space investment to account for shared support and growth space in the central office. Sprint should be required to recalculate its floor space factor as described by Dr. Gabel. *See* Gabel at Tr. 859-861.

### **Space Preparation Charges**

The BellSouth Space Preparation charges are not supported by the evidence in this proceeding. As a general proposition, "the proposed charges need to be closely reviewed in order to insure that the price level is both non-discriminatory and reflective of reasonably incurred costs."

Gabel at Tr. 851. This is due to the fact that BellSouth's cost data is not drawn from a random sample that is representative of the locations where the Company incurs space preparation costs. Gabel at Tr. 852.

BellSouth's space preparation is not TELRIC compliant. BellSouth does not include a space preparation charge in its own forward looking costs, whereas a CLEC would have to pay such a charge. BellSouth can inflate the space preparation cost number to the CLEC because the cost is not spread over the building area as a whole. Gabel at Tr. 854. The Commission should set the space preparation charge at zero, and require BellSouth to include its capitalized space preparation cost in the building investment that is used to determine the space fee. Gabel at Tr. 855.

### **Copper Entrance Cable Installation**

BellSouth's charge for installation of copper entrance cables exceeds that reasonable or necessary. First, BellSouth has included costs that are actually borne by the CLEC. Specifically, the CLEC is responsible to pay the cost of entering the manhole to deliver its copper cables to that point. Turner at Tr. 570. Therefore, the Commission should remove the manhole cost from BellSouth's Copper Entrance Cable Installation element.

In addition, BellSouth has included a "Connect and Test" function performed by Outside Plant Construction for a total of 16.8333 labor hours. This entry is inappropriate because BellSouth also included a "Connect and Test" function performed by Outside Plant Construction for 0.4167 labor hours per 100 copper pairs. The second element that is based on the number of 100 pair increments of copper facilities that are installed is a more appropriate cost element in that the time is directly proportional to the amount of work the Outside Plant Construction personnel are required to perform. Turner at Tr. 570-571. Therefore, the Commission should remove the 16.8333 labor

hours for the “Connect and Test” function performed by BellSouth’s Outside Plant Construction.

### **Cable Racks**

The cost input for cable racks is artificially inflated because BellSouth has artificially underutilized the rack capacity. BellSouth has proposed that its 12 inch cable rack is capable of containing only 30 fiber riser cables. However, using industry accepted data from Bell Labs, a 12 inch rack with a conservative 7 inch pile height has a cable capacity of 74 cables, rather than the 30 proposed by BellSouth. By understating the number of cables, BellSouth has artificially and unnecessarily more than doubled the cost that collocators must pay for the Cable Support structure per Fiber Entrance Cable cost element. Based on the objective Bell Labs cable rack and pile height data, the rate for collocation cable should be based on a capacity of 74 cables for a 12 inch rack.

Turner at Tr. 577-578

### **POT Frame**

BellSouth is responsible for engineering the central office POT frame. However, in its cost input, BellSouth assumes a fill factor for the POT frame that is significantly less than the 85% fill factor that it uses for **all** other central office frame and terminal equipment. There is no reason why BellSouth should engineer this piece of terminal equipment or assume a fill factor that is so dramatically less efficient as compared to the engineering of frames that BellSouth uses. Turner at Tr. 578-579. The Commission should not allow BellSouth to apply this discriminatory level to POT frames, and should require a fill factor consistent with other frame and terminal equipment. In addition, and more generally, POT frames/bays introduce an additional connection point and, as such, violate the FCC Order 98-147 which provides that “[i]ncumbent LECs may not require competitors to use an intermediate interconnection arrangement in lieu of direct connection to the

incumbent's network if technically feasible, because such intermediate points of interconnection simply increase collocation costs without a concomitant benefit to incumbents.” *In the Matters of: Deployment of Wireline Services Offering Advanced Telecommunications Capability*, FCC Docket No. 98-147, First Report and Order and Further Notice of Proposed Rulemaking ¶42 (March 31, 1999); see also 47 CFR §51.323(k)(2).

### **Cage Construction and Other Space Preparation Investment Costs**

BellSouth has based its cage construction investment numbers “on actual contractor quotes.” Shell at Tr. 295. There is no evidence in the record as to the number or independence of the contractors, a question that is pertinent given BellSouth’s use of a single, captive contractor throughout its 9 state region for **other** collocation elements. See Shell at Tr. 324. The fundamental problem with the BellSouth costs for cage construction elements is that they are significantly higher than an independent, verifiable source – R.S. Means. As discussed herein, R.S. Means is used throughout the construction industry to estimate the cost of construction projects in a variety of areas. In a competitive environment, there would be no reason for BellSouth to use construction costs that are significantly higher than the industry standard except for the fact the CLECs are a captive customer who must acquire space within BellSouth’s central office for interconnection. Moreover, TELRIC requires a showing that the costs for an element are those that would be borne by an efficient, cost-conscious company. The fact that BellSouth’s costs are so significantly greater than the objective industry standard, regardless of whether they are based on “contractor quotes,” is compelling evidence that such costs are not TELRIC compliant. Turner at Tr. 580-582.

An example of the unreasonable nature of the BellSouth cage construction costs is that for a simple eight-foot high wire mesh partition. The R.S. Means cost per linear foot for such a partition



in Florida as calculated based on contractor data, is \$29.80, which includes overhead costs borne by the contractor and profit for the contractor. BellSouth's cost per linear foot for the same partition is \$74.87. It is unreasonable for BellSouth's cost for this element of constructing a collocation cage to be 151 percent higher than that calculated by an independent source for constructing the same element. Regardless of whether BellSouth's grossly inflated rate is based on "contractor quotes," it is not compliant with TELRIC, which imposes standards of efficiency and cost-consciousness. Turner at Tr. 580-581.

The inflation of cage construction cost elements by BellSouth is carried over in other collocation space preparation charges. Those inflated charges are detailed in the following table, which includes the BellSouth cost value, and the industry standard value for the same item. A more detailed analysis of this table is included in Composite Exhibit 43 - Exhibit SET-6.

<b>Element</b>	<b>BellSouth Cost</b>	<b>Joint Sponsors Cost</b>	<b>Restatement Source</b>
Welded Wire Mesh Enclosure	\$2246.00	\$893.97	R.S. Means
Swinging Door and Lockset	\$726.00	\$529.33	R.S. Means
Dust Protection	\$478.00	\$0.00	Engineering Experience
Electrical Work	\$336.00	\$367.15	R.S. Means
Electrical Grounding	\$1558.00	\$675.33	R.S. Means
Signage	\$132.00	\$132.00	None
General Conditions	\$433.00	\$0.00	Included in R.S. Means
Contractor's Fee	\$709.00	\$0.00	Included in R.S. Means
Architectural/Engineering Fee	\$1059.00	\$1059.00	None
Project Management Fee	\$529.00	\$529.00	None
<b>Total</b>	<b>\$8206.00</b>	<b>\$4185.78</b>	

Turner at Tr. 581. Even accepting the signage, architectural and engineering, and project management fees at face value, the BellSouth collocation costs represented in the table are almost twice those expressed in R.S. Means. The Commission should not allow BellSouth to charge CLECs these excessive charges for collocation.

With regard to other ILEC collocation cage charges. Dr. Gabel found the Sprint engineering costs to be suspect due to the small sample size and the wide variance for work times and material costs within the Sprint samples. Gabel at Tr. 879. Dr. Gabel found virtually no relationship between engineering times, which forms a significant portion of the cost of a cage, and the scope and scale of a Sprint project. Gabel at Tr. 879-880. However, even given the problems identified by Dr. Gabel, he ultimately found the Sprint cage construction charge to be the most reasonable of the ILECs based upon its per linear foot rate. Gabel at Tr. 880.

As to the cage construction cost established by Verizon, Dr. Gabel found it to almost *per se* unreasonable because they were more than twice the cost charged by Sprint for the same items. Gabel at Tr. 881.

### **Security**

BellSouth has proposed security measures that include card readers and barrier walls to be paid for exclusively by collocators that are in excess of those necessary to gain access to the central office building and the collocation space. Turner at Tr. 583. The FCC *Advanced Services Order* requires that BellSouth not impose a security requirement on CLECs for collocation that is any more stringent than the security measures BellSouth imposes on its own employees or authorized contractors working on BellSouth's equipment. Turner at Tr. 583.

BellSouth's normal course of business is to have a Card Reader either at the entrance to the building or at the entrance into the telecommunications space or at both. When the CLEC employee passes through these initial security card readers, the CLEC employee will be identified and the time of entry will be documented. However, in its space preparation cost element, BellSouth requires an additional Card Reader for which it seeks full recovery from collocators. There is no need to

perform multiple validations of the CLEC employee's entry into the collocation arrangement. Security within the collocation arrangement can be efficiently provided via key-locked doors, the cost for which is **already** included in the cage preparation element. As a result, it is unnecessary to include BellSouth's cost for the Card Reader as an input for Space Preparation. Turner at Tr. 584.

Barrier walls are installed to prevent the CLEC from walking where BellSouth does not want them. The barrier walls are also not appropriate in that BellSouth does not install such walls to limit the access into areas by its own authorized contractors.

BellSouth's approach to security is to assume that CLEC employees are effectively criminal, limiting where the CLEC employees can walk and time stamping every door through which they pass. Because BellSouth does not treat its employees and authorized contractors in this way, the *Advanced Services Order* prohibits BellSouth from treating CLEC collocators in this way. Turner at Tr. 584. To the extent BellSouth or any other ILEC can demonstrate a compelling need for additional security, costs should be recovered in the rates charged for floor space, rather than as a separate security charge payable exclusively by the CLECs. In that case, the cost is spread over the entire footprint and to all of the users of the Central Office. Gabel at Tr. 878.

Even if the security measures proposed by BellSouth were found to be reasonable, the time and associated charge for providing access to the collocation space is inflated. In its Security Access System – New Access Card Activation times, BellSouth proposes a reasonable activation time per request for security cards of 1.0 hour for up to 5 cards per request. Turner at Tr. 565-566. Although BellSouth calculated a labor expenditure of 0.2 hours per card, it did not use that figure in its cost study. Instead, BellSouth used a separate set of calculations to arrive at a figure of 0.8583 labor hours per card. BellSouth failed to provide a reasonable explanation for its abandonment of its

calculation of 0.2 labor hours per card in favor of the less efficient, more expensive value of 0.8583 labor hours per card. Turner at Tr. 566. Therefore, the Commission should approve a labor input of 0.2 hours per card.

In addition, BellSouth has proposed to charge a higher cost to replace a lost security card than to initially provide one. Replacement of a card should not take materially longer than providing a new card. BellSouth has recognized the comparability in issuance and replacement labor costs with regard to its security access keys, in which replacement key costs are set at the same level as new key costs. Turner at Tr. 566. Therefore the Commission should set a comparable and equivalent labor charge for issuance and replacement of its security access cards.

Finally, BellSouth has provided no support for its cost of providing a Security Key. In general, the use of a key card is the TELRIC compliant option, with security keys being less advanced, less economical and less forward-looking. Turner at Tr. 566. Therefore, the Commission should establish the charge for security keys to be no more than that for security cards.

### **Dust Partition**

BellSouth has included a separate charge for the use of dust partitions during space preparation and associated construction. The justification for the charge is that cage construction creates dust, and therefore, it is appropriate for BellSouth to include the dust partition in its cost study. Shell at Tr. 295. It is undisputed that, for the most part, collation activities produce almost no dust, with the main source of dust being the drilling required for securing partitions to the floor. However, at least one company, Lucent Technologies, when installing framing material in telecommunications lineups, uses drills that have a vacuum to capture the dust that is caused at the time of drilling so that the expense of installing the dust curtain is eliminated. Turner at Tr. 581-582.

Given the TELRIC requirement that costs be those that would be incurred by a provider using the most efficient technology currently available, the Commission should determine that dust partitions are not required in an efficient collocation, and therefore the cost input associated with dust partitions should be eliminated.

### **DC Power**

BellSouth has calculated its investment cost for each amp of DC power based on a sample of 711 power augment jobs performed at central offices in five of the nine BellSouth states. Shell at Tr. 251-252, 323, 351, 354. An “augment job” occurs when BellSouth alters its power provisioning infrastructure to accommodate an incremental demand for power. Turner at Tr. 542. The augment jobs used by BellSouth for its cost study were performed in 1999 and 2000. Shell at Tr. 324. BellSouth believed the averaged regional augment cost values to be applicable to Florida since it uses a single vendor for all of its power augment jobs over the nine state region. Shell at Tr. 324.

The DC power cost study sample base excluded all data from four of the BellSouth states, including Georgia (a large state in terms of collocation), either because the states had little demand for collocation, because data was not available, or because BellSouth was too busy to collect the data off of the BellSouth system. Shell at Tr. 351-352. The sample base was selected by BellSouth’s field power engineers who “took several jobs based on the ones they could get in the time period that was given to them.” Shell at Tr. 351. The sampling was not designed or overseen by anyone familiar with statistics, nor did BellSouth know what percentage of all augments was reflected in the 711 samples. Shell at Tr. 352-353. BellSouth did not know if its power engineers were instructed to select a sample that would have reflected a statistically reliable sample of all jobs performed, but

rather assumed that the jobs were just those completed and available and pulled off of the BellSouth system. Shell at Tr. 353-354. Based on the manner of sample selection, there is no statistical reliability to the BellSouth sampling methodology, and its data should be discounted accordingly.

An “augment job” is designed to meet an **incremental** demand for power. Augments fail to account for the “total demand” upon which an appropriately constructed TELRIC cost study must be based. Thus, BellSouth’s analysis of its investment precludes ALECs from obtaining the same economies of scale that BellSouth has with its use of its DC power plant. Because the DC power unit investment is significantly overstated it must be corrected to a TELRIC level that accounts for total demand. Turner at Tr. 542.

Augments, by nature, do not provide the scale economies in the derivation of the DC power investment that BellSouth benefits from based on its installation of a comprehensive DC power plant. In addition, when all of the equipment associated with an entire DC power plant is installed, there are economies of scale in doing all of this work at one time rather than spreading the work across numerous small jobs. Turner at Tr. 546-547. The problem with using augments is that “[b]y basing their primary cost input for both of these studies on their augmentation sampling methodology, BellSouth has not established an appropriate TELRIC cost for actual usage.” Curry at Tr. 809. Although BellSouth seems to recognize the economy of scale as applied to other collocation elements (*see*, Shell at Tr. 292-293), it is not recognized by BellSouth in the context of small scale power augment jobs.

As an example of the manner in which using augments results in artificially inflated costs is found in BellSouth’s previous DC Power collocation cost study in which BellSouth calculated an investment per amp of \$248.70 per used amp. *See*, Florida PSC Docket Nos. 960846-TP, 960757-

TP, 971140-TP Cost Study Filing, Output Report for Element H.1.8.; Composite Exhibit 43 - Exhibit SET-2. That investment cost was used to establish BellSouth's collocation power rates. In its current DC Power cost study, BellSouth has calculated an investment per used amp of \$429.00. Turner at Tr. 548-550. Given Mr. Shell's testimony that he would expect no significant change in costs for standard power equipment between 1999 and 2004 (Shell at Tr. 323-326), there is no basis for there to have been an increase in cost of almost 60 percent between the 1997 docket cost study and the 1999 benchmark for the current study.

Further evidence of the economies of scale and scope that are lacking in augment jobs can be found in an instance in which BellSouth made a large scale installation of DC power capacity that begins to provide insight into the efficient, forward-looking investment that BellSouth actually enjoys with its plant. As documented in BellSouth's response to AT&T POD No. 32, (BellSouth Confidential Stipulation 1 - Staff Exhibit 22) the Gainesville-Main (GNVLFLMA) central office added a significant number of amps of DC power capacity, more closely approximating the construction of a full power plant. For that large project, BellSouth's investment per used amp was \$196.00. Given that this investment per amp does not account for fill, it would need to be adjusted with an 85 percent fill factor, which is a typical fill factor for DC power investments. This final adjustment leads to an investment per used amp of \$230.59. This investment is almost precisely equal to the \$248.70 that was recommended by BellSouth in the previous cost proceeding in Florida. While it is slightly lower than what BellSouth proposed in the previous collocation cost proceeding, it is far more indicative of the scale economies that should be incorporated into a TELRIC calculation of DC power investment in that it reflects the large power plant size that is more typical of the total demand for a central office. Turner at Tr. 550-552.

BellSouth made the same fundamental error in the Gainesville-Main (GNVFLMA) central office as it did throughout the power study, i.e. the total cost of the job was divided not by the capacity of the power plant, but by the amount of power that the CLEC ordered. This led to an investment per used amp of \$1,277.35 or 5.54 times higher than would be consistent with TELRIC. The bottom line is that the Commission should reject BellSouth's approach in that it simply does not represent the scale economies appropriate with TELRIC and is calculated across an artificially defined capacity that does not reflect the total demand inherent in a TELRIC analysis. Turner at Tr. 552-553.

When the increased power provisioning capacity of all of the rectifier augments are considered, the total DC power investment in those offices leads to an investment per amp of \$248.49 after the application of an 85 percent fill factor. Rectifier capacity is important in that it represents the addition of amps (provisioning capacity) to the power plant, rather than storage or distribution capacity alone. That used amp value is within pennies of the investment per amp recommended by BellSouth in the prior collocation cost proceeding. Turner at Tr. 553.

Although not dispositive of the issue, the Commission should recognize that in the recent collocation proceeding in Georgia, the Georgia Commission determined that \$165.80 per fuse amp, or \$248.70 per used amp, is the appropriate investment for establishing the TELRIC cost for DC power. *In Re: Review of Cost Studies, Methodologies, Pricing Policies, and Cost Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Services*, Georgia PSC Docket No. 14361-U, Order effective June 24, 2003; Turner at Tr. 554; <ftp://www.psc.state.ga.us/14361/64681a.pdf> (Order); <ftp://www.psc.state.ga.us/14361/66426.doc>. (Order on Reconsideration). Since, according to BellSouth, DC power costs should be equivalent



throughout the BellSouth region (Shell at Tr. 355), the cost per amp in Georgia should be equivalent to the cost per amp in Florida.

Based on the foregoing, the Commission should retain the \$248.70 investment per used amp that was used by BellSouth in setting the previous DC power rate in Florida Docket Numbers 960846-TP, 960757-TP, and 971140-TP. These investments are supported by the data BellSouth has provided in this docket when appropriate conversions are made to reflect a TELRIC calculation of cost from BellSouth's data.

### **AC Power**

BellSouth has proposed a rate for AC power of \$0.07 per kw/h as its AC power cost input for its DC power rate. That rate is significantly higher than the rate for industrial use of \$0.053 per kw/h, and is higher than the most current rate for commercial use of \$0.067 per kw/h. Turner at Tr. 555-556, 594.

BellSouth has not demonstrated that it is ineligible for the industrial category. BellSouth should qualify for the industrial user category for at least two reasons. First, incumbent LECs tend to have AC power rates that closely approximate the industrial user rates as set forth in the US Department of Energy Estimated U.S. Electric Utility Average Revenue per Kilowatt Hour to Ultimate Consumers by sector, Census Division and State, Year to Date (November) 2002 and 2001. Turner at Tr. 555; Composite Exhibit 43, SET-5. Second, ILECs normally have load-sharing arrangements with the AC power provider in that the ILECs can provide their own AC power if needed, and often have agreements that allow them to place AC power back onto the power grid, if needed by the electric utility. Therefore, the industrial category should be available to BellSouth, and the Commission should either apply the industrial rate as the AC power cost input for

BellSouth's DC power rate, or require BellSouth to demonstrate why the Industrial use category is unavailable to it. At a minimum, the Commission, under TELRIC principles, should require BellSouth to use the more recent commercial AC power rate.

### **Rectifier Efficiency**

One of the elements that goes into the calculation of the rate for DC power is the efficiency of the rectifiers. Rectifiers are used to convert amps of AC power from the power company into amps of DC power that can be used by telecommunications equipment. Shell at Tr. 324-325. That process results in a loss of energy. A rectifier with an 85% efficiency rating loses 15% of the incoming amperage. Shell at Tr. 328.

In a TELRIC environment, the most efficient, least-cost technology that is reasonably projected to be available in the time period should be used in the developing the forward-looking cost. Shell at Tr. 328. The burden is squarely on the ILEC to demonstrate that the equipment proposed for use is the most efficient and inexpensive technology available.

The BellSouth model inputs incorporate a rectifier efficiency rating of 85% solely because "it was a number that is used by Telcordia in many of its economic studies." Shell at Tr. 261. BellSouth does not know if rectifiers in today's environment are significantly more or less than 85% efficient. Shell at Tr. 327. When asked about information indicating the availability of rectifiers with significantly higher efficiency ratings, it was explained that "the benchmark is a forward-looking study with the existing network that actually exists. And in this case **what would exist is BellSouth's agreement to provide power using one vendor** throughout the region, and whatever that vendor has to use is what our forward-looking costs would be." (e.s.) Shell at Tr. 333. BellSouth has **not** met its burden of demonstrating TELRIC efficiencies by merely relying on its

single captive vendor and “whatever that vendor has to use.”

The rectifiers used in AT&T’s network, which are similar to those used in incumbent networks, have an efficiency rating of at least 90 percent. There is no reason to believe that BellSouth’s rectifiers should operate at less efficiency than AT&T’s. Turner at Tr. 556. BellSouth has an affirmative obligation under TELRIC standards to use the most efficient, least-cost technology. There is unrebutted evidence in the record that rectifiers having an efficiency rating of 90% or greater are available. Since BellSouth does not know whether the more efficient rectifiers are more or less costly (Shell at Tr. 403), BellSouth should be required to incorporate the more efficient technology in the absence of evidence that they are more costly.

#### **Subsequent Application Labor Charges**

The charge for subsequent collocation applications has been inflated by BellSouth. For an initial application for collocation, BellSouth has included 6.5 labor hours for Job Grade 58 functions. However, for a subsequent application, BellSouth has included 7.5 labor hours for Job Grade 58 functions. Subsequent applications generally require less labor or at most the same amount of labor than required for the initial application. Although BellSouth provided some detail to justify 6.5 hours for an initial application, it failed to provide sufficient detail as to why it should take 7.5 hours to handle a subsequent application. Turner at Tr. 567. Therefore, the Commission should allow, at most, 6.5 hours of Job Grade 58 functions for handling a subsequent collocation application.

There is no basis for charging a half hour for Outside Plant Engineering in a subsequent application because multiple fibers (normally 24) are installed with the initial installation for collocation. Turner at Tr. 567. Therefore, the Commission should disallow 0.5 hours for Outside Plant Engineering in a subsequent application.

Finally, BellSouth has, as it did with Job Grade 58 functions, overstated the level of involvement by Parsons Engineering, stating that the engineering for an initial application and a subsequent application for collocation are the same. BellSouth has provided no information substantiating the level of Parsons Engineering work necessary for a subsequent application. Typical additions sought through a subsequent application include additional Cross-Connect arrangements, incremental power, and occasionally added space. The engineering work for these types of activities is substantially less than that required for an initial application for collocation. This adjustment is supported by BellSouth making similar reductions for work activities associated with subsequent applications as compared to the initial application. Therefore, in keeping with other subsequent application elements, the Commission should reduce the level of involvement by Parsons Engineering by one-half. Turner at Tr. 568.

**Space Availability Report**

BellSouth has proposed a nonrecurring charge of \$572.66 for preparation of a space report. That level is completely unsupportable when compared to the charges established for the same function in other states, and is unreasonable for the amount of work necessary to perform this function. The charge for Space Availability Reports in other states include:

<b>State</b>	<b>Space Availability Report Charge</b>
Texas	\$204.06
Missouri	\$168.04
Kansas	\$168.04
Oklahoma	\$168.04
California	\$150.00

While these charges should not be viewed as dispositive, they illustrate that the rate BellSouth has put forward in Florida is far in excess of the range that other states have ordered.

Turner at Tr. 569.

In developing its space availability report rate, BellSouth included costs for developing the report that should be treated as a normal part of being in the telecommunications business. The cost for the report transfers to the CLEC the cost for BellSouth to update and maintain its inventory of telecommunications space within its central office every time a space availability report is requested. Turner at Tr. 569. Moreover, the \$572.66 BellSouth is requesting for the space availability report exceeds that which would be expected in an efficient, TELRIC compliant manner. Turner at Tr. 569-570; Gabel at Tr. 881-882. Therefore, the Commission should reject BellSouth's proposed cost for preparation of a space availability report. Rather, the Commission should approve only the costs necessary for identifying available space - those costs being 1.0 hour for Common Systems Capacity Management to pull the space availability from the CAD systems that BellSouth has available to it, identify the available space, and provide this information to the Account Team Collocation Coordinator in an email message, and 0.5 labor hours for the Account Team Collocation Coordinator to process the information. Turner at Tr. 570.

### **Collocation Cable Records**

BellSouth has included as a nonrecurring collocation cable records charge costs that are already recovered through other elements that the CLEC pays for when it purchases interconnection arrangements from BellSouth. Specifically, the labor time that BellSouth includes for the Circuit Capacity Management (CCM) function is duplicative of functions and labor costs captured in rate elements for the CCM engineering time with establishing the interconnection arrangements. There is no reason to duplicate this cost for the cable records as well. Turner at Tr. 571.

BellSouth has requested charges for establishing the operational support systems records of

CLEC cables terminating on a BellSouth frame. The development of those records is a routine process, costs for which are already paid by the CLEC through the factors applied on the capital recovery of the equipment investment that is contained in recurring rates. Additionally, making updates to the records is a normal function of maintaining the integrity of the asset and included in the recurring maintenance charge. Turner at Tr. 572. Evidence that such charges are not necessary or appropriate in a TELRIC environment is the fact that neither Sprint nor Verizon have charges of this type in their collocation rate proposals, since such charges do nothing more than double-recover costs that are already picked up in recurring elements. Turner at Tr. 572. Therefore, the Commission should reject BellSouth's nonrecurring rate proposal for Cable Record Charges.

### **Cost of Capital**

Collocation cost studies employ the same TELRIC principles as do cost studies of unbundled network elements. Among the most significant inputs into a forward-looking economic cost analysis for a provider of unbundled network elements and collocation services is the assumed cost of capital. Murray at Tr. 155.

There are a number of individual elements related to the cost of capital calculation performed by Verizon witness Vander Weide and, to a lesser extent, PSC witness Lester, that have served to inflate the cost of capital over and above the competitive market cost of capital necessary to ensure that Verizon can recover its collocation investment. Mr. Lester's analysis is much more realistic than the overstated cost of capital calculated by Dr. Vander Weide. However, Mr. Lester's analysis still contains some elements that have resulted in some inflation of the cost of capital. Therefore, except for the "risk premium" discussed herein, this brief will focus on those elements of Mr. Lester's analysis that, if corrected, will achieve a realistic cost of capital that will allow Verizon to

recover, but not over-recover the cost of providing collocation.

BellSouth and Sprint have both proposed to use the cost of capital inputs that the Commission adopted in its most recent UNE pricing case for each company. Murray at Tr. 156, Turner at Tr. 540. The cost of capital adopted by this Commission for Verizon in the most recent UNE case was 9.63%. See, *In re: Investigation Into Pricing of Unbundled Network Elements (Sprint/Verizon Track)*, PSC Docket No. 990649B-TP, Order No. PSC-02-1574-FOF-TP, p. 88, Order entered November 15, 2002. In this proceeding, Verizon initially recommended a cost of capital of 18.36%, subsequently lowered to 16.85 percent. Vander Weide at Tr. 45, 101.

#### **1. Risk Premium**

Dr. Vander Weide's recommendation of a cost of capital of 16.85% included a "risk premium" of 4.82% over and above his estimate of the normal competitive market cost of capital. Vander Weide at Tr. 101. Verizon was the only ILEC to propose a "risk premium." However, Dr. Vander Weide admits that "[t]he risk of investing in Verizon FL's local exchange business is indistinguishable from the risks of investing in the local exchange businesses of BellSouth and Sprint." Vander Weide at Tr. 102. The "risk premium" is based on his theory that CLECs will cancel their facility leases (Vander Weide at Tr. 120-121) and that other CLECs will not fill the void. Dr. Vander Weide, though focusing on historic evidence of contracts that have been cancelled, failed to make any corresponding analysis of new or expanded contracts to fill the space. As stated by Mr. Lester, ILECs are not required to build new space, and when they do so are able to recover much of its investment in up front, non-recurring charges, thereby reducing their risk below that of a typical company in a competitive market. Thus, the "risk premium is entirely unnecessary. Lester at Tr. 224-225, Murray at Tr. 182. Dr. Vander Weide has provided no evidence to demonstrate or even

suggest that any collocation space made available by the cancellation of a contract will not be filled by other competitive LECs seeking entry to the market. Therefore, his testimony falls short of providing competent, substantial evidence to support the imposition of a “risk premium,” and the Commission should reject the imposition of such a premium over and above the competitive market cost of capital.

## **2. Cost of Equity**

### **a. Discounted Cash Flow Model**

Both Dr. Vander Weide and Mr. Lester used a Discounted Cash Flow (“DCF”) method to estimate the cost of equity. A DCF model calculates investors’ required rates of return for holding stock under the assumption that today’s stock price for a company is equal to the present value of the cash outlays accruing to that company’s stockholders. These cash outlays include both dividend payments and capital appreciation in the value of shares held. According to the DCF logic, investors implicitly require high returns from stocks with large current dividend yields (the dividend paid to shareholders divided by the stock price) and high dividend growth rates. Murray at Tr. 159-160.

#### **1. Economic Growth Rate**

Both Mr. Lester and Dr. Vander Weide rely on the constant-growth or one-stage DCF model to estimate the cost of equity input. A one-stage DCF method assumes that there is a single, constant growth rate in perpetuity, and requires the unrealistic assumption that a company can continue to grow forever at a rate different from the economy. That analysis is unrealistic in that a single constant growth rate will ultimately result in a company that either shrinks to insignificance or grows to overtake the entire economy. Murray at Tr. 160. That incongruity has been recognized by the FCC Wireline Competition Bureau in a recent Virginia arbitration, in which case the FCC Bureau



found that:

If the growth rate used in the [constant growth DCF] model is substantially inconsistent with this assumption [I. e., the longterm growth rate of the economy as a whole], however, the finance literature concludes without exception that the model is unlikely to produce an accurate cost of equity capital estimate. Verizon's use of the constant growth DCF model to estimate the cost of growth for its S&P proxy group stretches the reasonable limits of its use. . . . As AT&T/WorldCom demonstrate, however, no company can grow forever at a greater rate than the economy as a whole, and therefore we conclude that Verizon's assumption is not reasonable.

Murray at Tr. 161, citing Virginia Arbitration Order, ¶73.

Mr. Lester used an average annual growth rate of 9.72% in his DCF analysis. That rate far exceeds that forecast by a reputable and objective Federal growth forecast. In its most recent economic forecast, the Philadelphia Federal Reserve Bank's *Survey of Professional Forecasters* provided a forecast economic growth rate, after adjustment for inflation, of 5.68% per year over the next ten years. Murray at Tr. 162-163. Mr. Lester's use of the highly inflated and unrealistic economic growth rate of 9.72% resulted in his DCF analysis producing an estimated cost of equity of 12.64%, which again far outstrips the projected long term return rate for the S&P 500 of 7.47% as calculated by the *Survey of Professional Forecasters*. Murray at Tr. 163. There is no reason why the cost of equity in this proceeding should be in excess of 60% greater than the average equity investment in the market. Therefore, the Commission should accept an economic growth rate, as established by an impartial and respected governmental entity, of 5.68%, and use that figure as the input for the DCF model.

## **2. Proxy Companies**

The selection of a group of companies to represent the equity market as a whole is an important element of determining the cost of equity. Mr. Lester's proxy group is larger and more

diverse than the narrower S&P Industrials used by Dr. Vander Weide, and fails to accurately measure the risk of a telecommunications carrier subject to facilities-based competition. Murray at Tr. 165.

Mr. Lester analyzed the returns for a proxy group of 657 firms covered by the *Value Line Investment Survey*. He restricted his sample to firms that had positive projected dividend and earnings growth over the next five years, and eliminated what he deemed to be outliers on both the low and high ends. Murray at Tr. 164; Lester at Tr. 218-219. The rationale that the firms are a broad group of “competitive companies” is not sufficient to justify basing the cost of equity for a hypothetical efficient collocation provider on the simple average cost of equity for the highly diverse group of companies. Murray at Tr. 165. If being a “competitive company” were determinative of the cost of equity, the cost of equity for Mr. Lester’s 657 firms would cluster tightly around an average “competitive firm” cost of equity. However, the estimated cost of equity for these firms ranged from a low of 7.91 % to a high of 26.44%.

The FCC’s Wireline Competition Bureau has taken exception to Verizon’s use of a similarly diverse group of companies, the S&P 500, in the cost of capital study in the Virginia arbitration.

According to the Bureau,

The businesses of most of Verizon’s S&P 500 based proxy group of companies have no obvious similarity to the provision of local exchange services, and Verizon did not describe any. Consequently, there is no basis on which to conclude that this proxy group best represents the risks that Verizon would face if it faced facilities-based competition.

Murray at Tr. 165-166, citing the *Virginia Arbitration Order*, ¶90.

Mr. Lester’s proxy group is even less representative than the S&P 500, which at least includes the major Regional Bell Operating Companies (“RBOCs”), Sprint, and AT&T. Mr. Lester’s proxy group, by contrast, excludes Verizon, the very firm whose cost of equity he is attempting to

estimate. Of the companies most similar to Verizon, Mr. Lester calculated a cost of equity of 8.36% for BellSouth Corp., and calculated, but did not use, the cost of equity of 6.58% for Verizon and 6.60% for SBC Communications. The inclusion of these obviously relevant data points would have lowered Mr. Lester's average DCF result. Murray at Tr. 166.

Mr. Lester excluded Verizon, SBC, and other firms for which he calculated a low cost of equity, because the estimated cost of equity for these firms fell below the forecasted BBB bond return. There were 75 such firms excluded from his analysis. Mr. Lester's rule for excluding results at the high end of calculated equity costs was to eliminate firms more than three standard deviations from the mean. There were only 11 such firms excluded. Murray at Tr. 167; Lester at Tr. 218-219. The disparity between the number of firms eliminated on the low end (75) versus the number of firms eliminated on the high end (11) indicates that the "outlier" elimination systematically increased the average result. Had the "outliers" remained in his calculation, the average return for the group would have been 12.16%. Murray at Tr. 167.

The use of the projected return for the BBB bond (the riskiest category of investment-grade bonds) is too high a cutoff for less risky companies (including Verizon and SBC) with higher bond ratings. Mr. Lester's low end cutoff is much more stringent than his high end cutoff. Had Mr. Lester applied the same "three standard deviations from the mean" cutoff for both the upper and lower bounds of his analysis, he could not have eliminated any results at the low end. Three standard deviations equals 13.36%, which, when subtracted from the mean result for the entire sample (12.16%), would have produced a negative cost of equity.

Mr. Lester's exclusion rule ensured that there would not be any firms in the analysis with an estimated negative cost of equity. He only included dividend-paying firms in the *Value Line*

database that had both positive projected dividend growth and positive projected earnings growth. Murray at 168; Lester at Tr. 217. Application of this proxy group limitation further increases the overall estimate of the cost of equity relative to the estimate from an unaltered and unbiased sample of "competitive companies." Taken in combination, therefore, these rules for excluding companies from the *Value Line* database introduced a systematic upward bias in Mr. Lester's cost of equity calculation. Murray at Tr. 168.

**b. Capital Asset Pricing Model**

A more accurate and representative method of determining the cost of equity is the Capital Asset Pricing Model ("CAPM"). The CAPM assumes investors require high returns for stocks that are sensitive to fluctuations in the overall stock market. The formula for estimating the required return is set forth fully at Tr. 169-170. That formula was adopted for use by the FCC's Wireline Competition Bureau in its *Virginia Arbitration Order*. Murray at Tr. 170. Applying the CAPM approach adopted in the *Virginia Arbitration Order* to current data results in a cost of equity of 10.70%. Murray at Tr. 170.

The calculation of the cost of equity described above using, literally, the methodology used in the *Virginia Arbitration Order* required the use of historical equity risk premium data going back to the year 1926 which calculated that element in the 7-8.4% range. Murray at Tr. 171-172. However, there is a considerable body of evidence demonstrating that, due to changes in market forces, the forward-looking estimate of the equity risk premium element of the cost of equity calculation is in the 4% range. Murray at Tr. 171-173. Using a forward-looking 4% equity risk premium in the CAPM would yield a cost of equity of 8.77%. Murray at Tr. 174. As this estimate is the only estimate based on forward-looking data, it is TELRIC compliant, and should be adopted

by the Commission in this proceeding.

### **3. Cost of Debt**

The cost of debt element of the cost of capital calculation used by both Mr. Lester and Dr. Vander Weide of 7.54% is based on the average yield-to-maturity on Moody's A-rated industrial bonds for April 2002. Vander Weide at Tr. 92; Murray at 174. The cost of debt calculation is erroneous for three reasons.

First, the 7.54% cost of debt is too outdated to use in current or forward-looking cost of capital estimates. Long-term debt costs have decreased since the analysis that produced that figure. Even Verizon Florida's embedded debt costs are lower. Verizon provided a Florida specific embedded yield-to-maturity as of March 31, 2003, which was 6.92%. Given the downward trend in interest rates, embedded debt costs should be greater than forward-looking yields-to-maturity. Therefore, Verizon's own embedded debt cost of 6.92% is convincing evidence that the 7.54% cost of debt estimate is excessive. Murray at Tr. 175.

Second, the 7.54% figure represents a generic debt cost for A-rated debt, rather than a debt cost specific to telecommunications carriers such as Verizon. The FCC Wireline Competition Bureau endorses the use of current yield-to-maturity for ILEC specific debt, rather than generic debt of a particular bond rating. *Virginia Arbitration Order*, ¶67. Current data as of September 22, 2003, show that the yield-to-maturity for the Verizon companies' publicly traded bonds ranges from 4.676% to 6.160%, depending largely on the maturity date of the bond. The weighted-average of these forward-looking yields-to-maturity is 4.97%, which provides a better estimate of the forward-looking long-term debt cost for a carrier such as Verizon. Murray at Tr. 175-176.

Third, Dr Vander Weide's analysis of debt costs inappropriately ignored short-term debt. By

accepting Dr. Vander Weide's figure, Mr. Lester likewise failed to take into account short-term debt, even though Mr. Lester did include short-term debt in his proposed capital structure calculation. Short term debt is very inexpensive. Verizon discovery responses indicate that the company's cost of short-term debt was only 1.285% as of March 31, 2003. The use of only long term debt, and the failure to consider short term debt, demonstrates that the debt calculation of 7.54% is artificially and unreasonably overstated. Murray at Tr. 175-176. Verizon has failed to demonstrate that its cost of debt calculation is reasonable or appropriate, and the Commission should reject that cost of debt.

Based on the foregoing, the Commission should adopt a cost of debt no greater than the actual 4.97% cost of Verizon's public debt structure, which itself is high due to its exclusion of short term debt.

### **Capital Structure**

In estimating the cost of capital, Mr. Lester used a "market value capital structure." Lester at Tr. 220. However, the relevant capital structure for determining the cost of capital at which investors will provide funds for investment is the firm's target capital structure, not its market-based capital structure. A market-based valuation fluctuates too much to represent investors' long-term expectations. Murray at Tr. 177. In that regard, the District of Columbia Public Service Commission found target capital structures to be preferable to current market capital structures since "[t]arget capital structures are based more on careful management consideration of risks than on current market prices, which can fluctuate for reasons not specifically related to the entity in question." DC PSC Order No. 12610, ¶161. Thus, it is far better to attempt to identify a target capital structure than to rely solely on current market capitalization. By definition, in an efficient market, a firm's capital structure will adjust toward its target structure in the long-run. Murray at

177, 179.

It is difficult to ascertain the actual capital structure of a hypothetical efficient and forward-looking firm. Few firms provide public information about their target capital structures. For example, Verizon has stated in this proceeding that neither it nor its parent has a target structure. Murray at Tr. 179. However, Sprint and BellSouth provided specific figures regarding their target capitalization. Sprint indicated that its target capital structure is 60% equity and 40% debt, while BellSouth placed its target structure at between 65% equity and 35% debt and 55% equity and 45% debt, the mid-point being 60% equity and 40% debt. Murray at 179-180.

The Commission should establish a capital structure for Verizon in this case that is consistent with that utilized by BellSouth and Sprint, and with that approved in recent UNE proceedings. As established by Mr. Lester, market value based capital structure has not been widely used in UNE proceedings since they tend to vary widely, can result in very high levels of equity in the capital structure, and imply unreasonably high interest coverage ratios. Lester at Tr. 221, Murray at Tr. 180. In addition, data generated in this proceeding indicates that ILECs use significant debt financing for their networks. Lester at Tr. 221. Based on those factors, the Commission should take a more conservative view of the appropriate capital structure and approve a capital structure of 60% equity and 40% debt. Lester at Tr. 221-222, Murray at Tr. 180.

By lowering the unrealistically high ratio of the much more expensive equity component, and increasing the debt ratio to a more appropriate and realistic level, the overall cost of capital will more readily reflect the current and reasonably expected future capital cost in an efficient, forward-looking environment. Verizon, and only Verizon, has advanced an unrealistic level of 75% equity and 25% debt, based on historical data from the S&P Industrials and certain telecommunications companies.

Vander Weide at Tr. 116; Lester at Tr. 220. That ratio does not reflect the reality of debt financing of network facilities in today's environment. Lester at Tr. 221. If the capital structure is established at the more reasonable and forward-looking level of 60% equity and 40% debt, and using the current cost of equity and debt as set forth herein, the cost of capital component of the collocation cost model could be as low as 7.25%, but in no event higher than 9.78%, which is virtually identical to the 9.63% rate approved by this Commission in the most recent Verizon UNE proceeding. Murray at Tr. 181, 183.

Based on the foregoing, the Commission should adopt a capital structure for Verizon of 60% equity and 40% debt that is not only based on the most forward-looking information available, but is also consistent with the capital structure identified by the two other incumbent LECs, BellSouth and Sprint, in this proceeding.

### **CONCLUSION**

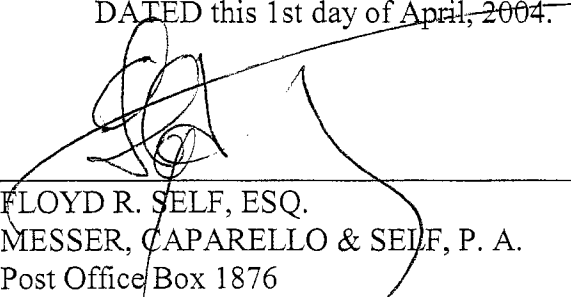
The very cornerstone of competition is the ability of providers to offer goods or services to the consumer at the same basic cost starting point. If the cost to provide services is greater for a smaller entrant into the marketplace than it is for the established, dominant provider, the entrant will be unable to sell those goods and services at a competitive price, and will ultimately fail. Thus, competition will suffer. In this case, the Commission should set collocation rates at a level that will allow the incumbent LECs to recover their actual costs. However, the Commission should disallow the incremental increases and overcharges, small in isolation but large in combination, that will cause the goal of competition to die a death by a thousand cuts.

The most efficient way to measure the actual costs is to require all of the ILECs to use a common method of accounting for those costs, thereby allowing for an "apples to apples" analysis



and foregoing the concealment of cost inflation through idiosyncracies in the model. Model inputs must also be carefully examined, and measured against forward-looking, TELRIC concepts as required by the FCC and this Commission. Obvious overstatements of cost, including profit laden concepts such as "risk premiums" and inflated or unnecessary collocation costs driven by captive contractor "quotes" should be pared away by the Commission so as to allow the competitive LECs to enter the market based on the quality of their service.

DATED this 1st day of April, 2004.



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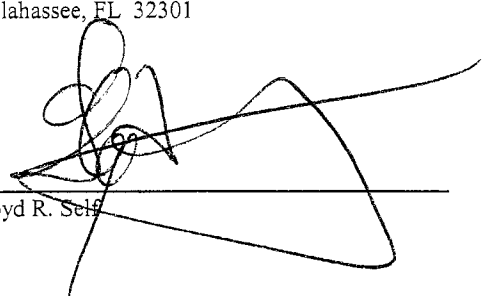
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