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September 2, 1998

Mrs. Blanca S. Bayó
Director, Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Docket No. 980696-TP

Dear Ms. Bayó:

Enclosed is an original and fifteen copies of BellSouth Telecommunications, Inc.'s Rebuttal Testimony of Dr. Randall S. Billingsley, Dr. Robert M. Bowman, D. Daonne Caldwell, G. David Cunningham, Dr. Kevin Duffy-Deno, Georgetown Consulting Group, Peter F. Martin and Dr. William E. Taylor, which we ask that you file in the captioned matter.

A copy of this letter is enclosed. Please mark it to indicate that the original was filed and return the copy to me. Copies have been served to the parties shown on the attached Certificate of Service.

Sincerely,

J. Phillip Carver

J. Phillip Carver

RECEIVED & FILED

FPSC-BUREAU OF RECORDS

Enclosures

cc: All parties of record
A. M. Lombardo
R. G. Beatty
William J. Ellenberg II (w/o enclosures)

CERTIFICATE OF SERVICE
DOCKET NO. 980696-TP (HB4785)

I HEREBY CERTIFY that a true and correct copy of the foregoing was served via Federal Express this 2nd day of September, 1998 to the following:

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ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: DETERMINATION OF THE COST OF BASIC)
LOCAL TELECOMMUNICATIONS SERVICE PURSUANT) DOCKET NO. 980696-TP
TO SECTION 364.025, FLORIDA STATUTES)

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF DR. WILLIAM E. TAYLOR

SEPTEMBER 2, 1998

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY OF WILLIAM E. TAYLOR

ON BEHALF OF BELLSOUTH TELECOMMUNICATIONS, INC.

DOCKET NO. 980696-TP

Introduction and Summary

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.

A. My name is William E. Taylor. I am Senior Vice President of National Economic Research Associates, Inc. ("NERA"), head of its Communications Practice, and head of its Cambridge office located at One Main Street, Cambridge, Massachusetts 02142.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL, PROFESSIONAL, AND BUSINESS EXPERIENCE.

A. I have been an economist for about twenty-five years. I earned a Bachelor of Arts degree from Harvard College in 1968, a Master of Arts degree in Statistics from the University of California at Berkeley in 1970, and a Ph.D. from Berkeley in 1974, specializing in Industrial Organization and Econometrics. For the past twenty-five years, I have taught and published research in the areas of microeconomics, theoretical and applied econometrics, which is the study of statistical methods applied to economic data, and telecommunications policy at

academic and research institutions. Specifically, I have taught at the Economics Departments of Cornell University, the Catholic University of Louvain in Belgium, and the Massachusetts Institute of Technology. I have also conducted research at Bell Laboratories and Bell Communications Research, Inc. I have participated in telecommunications regulatory proceedings before many state public service commissions, including the Florida Public Service Commission ("Commission") in Docket Nos. 820537-TP (on premium intraLATA access charges), 820400-TP (on marginal costs for private line services), 880069-TL (on the Florida Rate Stabilization Plan), 900633-TL (on cross-subsidization), 920385-TL (on depreciation, investment and infrastructure development), and 920260-TL (on price cap regulation), all on behalf of Southern Bell Telephone & Telegraph (now d/b/a BellSouth Telecommunications). In addition, I have filed testimony before the Federal Communications Commission ("FCC") and the Canadian Radio-television Telecommunications Commission on matters concerning incentive regulation, price cap regulation, productivity, access charges, local competition, interLATA competition, interconnection and pricing for economic efficiency. I have also testified on market power and antitrust issues in federal court and on telecommunications matters before federal and state legislative bodies. My vita is attached as Exhibit WET-1.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond, on behalf of BellSouth Telecommunications ("BST"), to the economic issues raised in the direct testimonies filed in this proceeding by Richard Guepe (for AT&T) and Joseph

Gillan (for the Florida Competitive Carriers Association). In particular, I respond to two economic claims with which I disagree:

- that the cost of universal service should be measured as the cost of all services that use the local loop so that the subsidy calculation compares benchmark revenues and costs for all services that use the local loop; and
- that the cost of universal service should be measured geographically at the same level of aggregation (wire center, LATA, statewide, etc.) that is used to set unbundled network element ("UNE") prices.

From these fallacies, both Mr. Guepe and Gillan incorrectly conclude that residential customers are not currently subsidized in Florida and that no intrastate universal service fund is necessary. In addition, I explain why the HAI 5.0a Cost Model, advanced by both Mr. Guepe and Mr. Gillan, is not appropriate for determining the size of the required state universal service fund. Finally, I disagree with Mr. Guepe regarding the economic consequences of using costs that incorrectly size a universal service fund in Florida.

SERVICE AGGREGATION

The Universal Service Fund should make explicit any subsidy to residential basic local exchange service.

Q. MR. GUEPE [AT 13] AND MR. GILLAN [AT 7-9] CLAIM THAT THE COSTS USED IN THE CALCULATION OF THE UNIVERSAL SERVICE FUND SHOULD BE THE FORWARD-LOOKING ECONOMIC COSTS ASSOCIATED WITH ALL SERVICES THAT USE THE LOCAL LOOP. DO YOU AGREE?

A. No. Fundamentally, this claim incorrectly confuses subsidies to customers, (e.g., residential customers) with subsidies to services (e.g., basic residential local exchange service). While for some public policy purposes it might be useful to know whether a particular class of customers is receiving a subsidy, it is far more important for sizing a universal service fund to know whether residential basic local exchange service is subsidized.

Q. WHY SHOULD THE REQUIRED UNIVERSAL SERVICE SUBSIDY BE MEASURED AT THE SERVICE LEVEL (RESIDENTIAL LOCAL EXCHANGE SERVICE) RATHER THAN AT THE CUSTOMER LEVEL (FLORIDA RESIDENTIAL CUSTOMERS)?

A. Measuring the universal service subsidy at the service level (rather than at the customer level) is important because firms compete to provide services to customers and distortions in the prices of those services will lead to inefficient competition. Inefficient competition, in turn, leads to higher-cost supply of services and higher prices or lower service quality for consumers.

To see this, consider the example used by Mr. Gillan [at 8-9]:

- the fixed costs of the local loop and switch are $20 per month
- the price of residential local exchange service is $15 per month, and
- on average, the incumbent local exchange carrier ("ILEC") sells its customer $10 worth of optional services that cost $1 per month to supply.

From this example, Mr. Gillan concludes that the customer is profitable to serve and that "[n]o external subsidy is needed or appropriate since the consumer is an attractive customer in its own right." [at 9]. The first conclusion is true but the

second is false. While the average residential customer is profitable to serve (in this hypothetical example), the carrier that supplies local exchange service is placed at a competitive disadvantage compared with carriers that supply optional services (e.g., toll services). When markets are opened to competition, no carrier would willingly supply basic local exchange service at a loss (to be offset by contribution from optional services sold to that customer) because it would be more profitable to sell the optional services without incurring the loss on basic local exchange service.

To continue Mr. Gillan's example, suppose BellSouth is required to supply basic local exchange service for $15 per month while incurring a cost of $20 per month. Competition for optional services—vertical services, toll, directory (in Mr. Guepe's opinion), etc.—will drive prices of those services towards their respective economic costs, reducing BellSouth's ability to use contribution from these services to fund the (assumed) $5 per month subsidy to basic local exchange service.

Q. BUT, IN MR. GILLAN'S EXAMPLE, SERVING THE RESIDENTIAL CUSTOMER IS STILL PROFITABLE. SHOULDN'T THE COMMISSION DELAY IMPLEMENTATION OF A UNIVERSAL SERVICE FUND UNTIL BELLSOUTH CAN NO LONGER FUND THE $5 SUBSIDY FROM CONTRIBUTION FROM OPTIONAL SERVICES?

A. Emphatically, no. In Mr. Gillan's example, an egregious subsidy undeniably remains: the $5 per month subsidy to basic local exchange service. One important public policy intent of the Telecommunications Act of 1996 was to remove

subsidies from the telecommunications price structure or, at least, to make such implicit subsidies explicit (and competitively neutral) through the implementation of a universal service fund. The problem is that the assumed subsidy to basic local exchange service is not competitively neutral. It effectively taxes any carrier that chooses to supply residential basic local exchange service and unavoidably taxes the ILEC that is required to supply residential basic local exchange service at the (assumed) $15 price. Firms that do not bear this burden have an artificial advantage in the market for optional services. BellSouth must earn $5 contribution from optional services in order to break even in supplying the bundle of basic and optional services. The long distance carriers (that Messrs. Guepe and Gillan represent) break even with $0 contribution from optional services.

In addition to distorting competition, delaying implementation of a universal service fund will delay and discourage facilities-based (including UNE's) local exchange competition in Florida. Why would an alternative local exchange carrier ("ALEC") voluntarily incur a $5 loss to supply basic local exchange service (using either its own facilities or the ILEC's UNEs) to a residential customer when it could earn the contribution from optional services without incurring the loss on basic local exchange service? A properly-sized universal service fund would give all carriers the proper incentive to supply basic local exchange service rather than providing optional services and requiring the ILEC to lose money on basic exchange service.

Q. MR. GILLAN OBSERVES [AT 12] THAT RAZOR HANDLES AND CELLULAR TELEPHONES ARE OFTEN PRICED BELOW ECONOMIC COST WHILE RAZOR BLADES AND CELLULAR AIRTIME ARE

PRICED WELL ABOVE COST. DOES IT MATTER HOW INDIVIDUAL COMPONENTS OF SERVICES THAT ARE TYPICALLY PURCHASED AS A FAMILY ARE PRICED?

A. Yes. In some markets, firms voluntarily price components of services differently in order to target their services towards particular segments of the market. For example, a free cellular phone coupled with a high calling price attracts low volume users or potential customers unsure of the use they might make of the phone. Charging full price for the phone and a price nearer economic cost for usage attracts high-volume users. Carriers will typically offer a continuum of such packages to extract as much profit as the market permits from customers who are free to choose service from other suppliers.

The important difference in the wireline local exchange market is that BellSouth is not permitted to charge more than $15 per month for residential basic local exchange service (in Mr. Gillan's example) and is required to supply the service to any customer who demands it. ALECs are free to charge more than $15 per month for residential basic local exchange service (in combination with lower-priced optional services), or to not supply residential basic local exchange service where the cost of doing so exceeds the price at which they can sell the service. ***The cost of residential basic local exchange service can be calculated unambiguously.***

Q. MR. GILLAN ASSERTS [AT 8] THAT IT IS IMPOSSIBLE TO DETERMINE THE COST OF BASIC LOCAL SERVICE WITHOUT INCLUDING IN THAT COST THE FUNCTIONALITY THAT IS USED BY

OTHER (OPTIONAL) SERVICES. DO YOU AGREE?

A. No. In particular, it does not lead to Mr. Gillan's conclusion [at 8] that "there is no economically correct method to attribute...the cost of these facilities to individual services." This justification is the same tired argument about the "loop being a joint or common cost" that the following economists have thoroughly discredited: Alfred E. Kahn and William B. Shew, "Current Issues in Telecommunications Regulation: Pricing," 4 Yale Journal on Regulation 191, 1987; William E. Taylor, "Efficient Price of Telecommunications Services: The State of the Debate," Review of Industrial Organization, Vol. 8, pp. 21-37, 1993, and Steve G. Parsons, "Seven Years After Kahn and Shew: Lingering Myths on Costs and Pricing Telephone Service," 11 Yale Journal on Regulation 149, 1994.

Proponents of the loop-as-a-joint-or-common-cost idea fail, or refuse, to recognize that the loop can be a service that a person may demand in its own right, even without any need to make long distance calls or to use call waiting. Therefore, by the principle of cost-causation, the cost is uniquely identified with the loop; the action that causes the cost to be incurred is the customer's ordering the loop. Usage-based (or "associated") services, in contrast, generate traffic-sensitive costs which, even if not large relative to the cost of a loop, may nevertheless be avoided when the customer does not have any usage. It follows from this fact that the cost of basic local telecommunications service can be calculated in a discrete manner, one component at a time. It also follows that other usage-based services have positive incremental costs over and beyond the combined cost of the components of basic local telecommunications service.

Q. IS THERE EVER ANY ECONOMIC JUSTIFICATION FOR ALLOCATING THE COST OF THE LOOP AMONG DIFFERENT SERVICES THAT THE LOOP CAN CARRY?

A. No. Cost causation, not usage patterns or benefits received, should drive cost attribution and cost recovery. As long as a residential loop (or access to the public switched network) is a service that can be demanded in its own right, the cost of which cannot be avoided by not consuming any of the usage-based services, its cost should not be allocated to those services. To recover such costs on a usage basis would be unsustainable in markets opened to competition because high-volume users would prefer to pay the full cost of their loops in exchange for a more cost-based price for usag

I use my loop to make long distance calls and to order pizza. Neither of those activities affects the cost of my loop, and there is no economic basis to seek recovery of my loop costs from long distance carriers or pizza parlors or from me, based on my usage of long distance services or anchovies.

The Revenue Benchmark approach to sizing the Universal Service Fund is incorrect.

Q. ALTHOUGH THAT ISSUE GOES BEYOND THE SCOPE OF THIS PROCEEDING, MR. GUEPE PROPOSES [AT 14] THE USE OF A REVENUE BENCHMARK BASED ON ALL REVENUES THAT A CARRIER WOULD RECEIVE FOR DETERMINING WHETHER UNIVERSAL SERVICE SUPPORT IS NEEDED. DO YOU AGREE?

A. Absolutely not. From an economic standpoint, such a benchmark would only succeed at perpetuating the flow of subsidy from optional services to residential basic local exchange service. A universal service fund based on this concept would provide insufficient incentives for ALECs (and ILECs) to provide residential basic local exchange service in high cost areas.

Q. MR. GUEPE CLAIMS [AT 14] THAT THE FCC HAS USED ESSENTIALLY HIS METHOD OF CALCULATING THE REVENUE BENCHMARK FOR THE PURPOSE OF DETERMINING THE SIZE OF THE INTERSTATE UNIVERSAL SERVICE FUND. DO YOU AGREE?

A. No. It is true that in its Universal Service Order (In the Matter of Federal-State Joint Board on Universal Service, CC Docket 96-45, Order released May 8, 1997), the FCC proposed a revenue benchmark as a means for determining the level of support for which each line served by a universal service provider should be eligible. As proposed by the FCC (Universal Service Order, ¶¶ 263-267), the revenue benchmark (to be set at $31 per line per month) is the average revenue per line from a basket of services containing *both* supported (basic local exchange) and supporting (discretionary) services. However, the FCC's proposed revenue benchmark, unlike Mr. Guepe's, does not include revenue from yellow pages, as claimed by Mr. Guepe [at 13, and in Table 1 at 18]. Yellow pages provide a revenue stream that is separate from the revenues generated by direct purchases of usage services by an ILEC's customers. Averaging in yellow pages revenue into an estimate of a residential customer's average monthly bill is simply an accounting gimmick to raise the revenue benchmark as much as possible. Even

the inclusion of intraLATA toll revenues in that benchmark is troubling. Unlike the other services currently included in the proposed benchmark, intraLATA toll may be purchased from carriers other than the ILEC (e.g., by dial-around means or, where possible, through presubscription to other providers of intraLATA toll). Therefore, *any* use of intraLATA toll by a customer should not automatically be tied back to the revenues earned by the ILEC from that customer.

The FCC's proposed revenue benchmark is itself deficient from an economic perspective for reasons discussed in the previous answer, and repeating that error when the Florida Commission effectively determines the total size of the fund would be a serious error.

Q. SHOULD *ANY* BENCHMARK BE USED TO SIZE THE UNIVERSAL SERVICE FUND?

A. Yes, but the *only* benchmark that should be used is the combined price of the supported services. For obvious reasons, a better description of this formulation would be the term *price benchmark*.

Q. WHAT IS YOUR ASSESSMENT OF MR. GUEPE'S PROPOSED REVENUE BENCHMARK FOR FLORIDA?

A. Based on his calculations, Mr. Guepe proposes [Table 2, at 18] that the revenue benchmark per line for BST in Florida should be over $27 per month. Furthermore, since Mr. Guepe compares *aggregate* revenue from all sources with the *aggregate* cost of providing universal service, the $27 per line per month

"benchmark" ensures, in effect, that there can be little or no case for establishing a universal service fund in Florida. AT&T's strategy here is clear: by combining underestimated costs from the HAI Model with a grossly overestimated revenue benchmark, it is able to "demonstrate" that aggregate revenues exceed aggregate costs for residential customers in Florida [Guepe, at 20] and, hence, no universal service fund is necessary. Mr. Guepe's estimate [at 12] of a $15.11 average monthly cost to serve a residential line, relative to a $27 revenue benchmark, would seem to imply precisely that.

There is additional confirmation of this strategy from the testimony of Mr. Don Wood (on behalf of MCI and AT&T). Exhibit DJW-5 of his testimony reports HAI Model-generated "average monthly cost" estimates for 193 of BST's wire centers in Florida. Taking Mr. Guepe's recommended revenue benchmark for BST, 152 of those 193 wire centers (i.e., nearly 79 percent) have average monthly costs below the benchmark and, hence, would appear not to qualify for universal service support in Florida. Thus, even with universal service support needs assessed at the proper point, i.e., at the wire center level, the HAI Model-based AT&T cost "estimates" would downplay the need for universal service funding in Florida. The Commission should attach no credence whatsoever to this strategy and instead focus more closely on true costs, the *price* benchmark, and price-cost comparisons at the individual residential line level in every wire center.

Q. WHAT ELSE IS PROBLEMATIC ABOUT MR. GUEPE'S PROPOSED REVENUE BENCHMARK?

A. Mr. Guepe's discussion and calculation of the revenue benchmark do not acknowledge the overall context in which the state universal service support should be determined. For example, he ignores the link between the size of the Florida state universal service fund and the amount of support that would be forthcoming from a federal universal service fund. Mr. Guepe accepts uncritically the definition of the revenue benchmark that the FCC and the Federal-State Joint Board have proposed as a device for determining the federal subsidy. The FCC has itself acknowledged that a majority of state members on the Federal State Joint Board preferred cost-based to revenue-based benchmarks, and recognized that using a revenue-based benchmark may be difficult (Universal Service Order, ¶ 266). Unfortunately, Mr. Guepe passes up the opportunity to apply proper economic principles for selecting such a benchmark. I explained above why this average revenue figure doesn't make sense for determining the level of support required. Conveniently, every dollar by which Mr. Guepe can increase the benchmark also reduces the Florida state fund.

Q. PLEASE EXPLAIN HOW MR. GUEPE'S TREATMENT OF THE REVENUE BENCHMARK IGNORES THE OVERALL CONTEXT IN WHICH THE FLORIDA UNIVERSAL SERVICE FUND SHOULD BE DETERMINED.

A. Even within the issues framework established for this proceeding, it is appropriate to examine how basing a state universal fund solely on a *state*-specific revenue benchmark ignores the link between that fund and the size of the *federal* universal service fund. The idea behind a universal service fund is to provide *explicit*

support (rather than *implicit* price-based subsidies) for prices that are set below cost, particularly in high-cost areas, for the components of residential local exchange service that make up the universal service program.

Once the *total* implicit support nationwide has been determined, the provision of that support from explicit sources could reasonably be managed by a combination of a federal and various state funds. How would such a goal be affected by using one revenue benchmark to set the federal fund and another to determine the state fund? Unfortunately, *any* revenue benchmark—whether at the federal or the state level—that is not the same as the proper price benchmark will necessarily result in funds of the wrong size. Ideally, every ILEC should be able to fully recover its legitimate universal service support needs from a combination of federal and state support payments. So, while it is possible for the federal and state universal service funds to be based on different benchmarks, only benchmarks formed from the combined prices of supported services would ensure the establishment of efficiently-sized funds. Mr. Guepe's proposals do not accomplish this.

Q. HOW DOES MR. GUEPE JUSTIFY HIS REVENUE BENCHMARK?

A. Mr. Guepe's justification for the revenue benchmark is twofold. First, he claims [at 14-15] that because a carrier that sells local exchange service to a customer will also likely sell other services to that customer, the full revenue "potential" of that customer ought to be in the revenue benchmark. Accordingly, he argues that the revenue benchmark should be the average revenue from all services "a local telecommunications carrier can expect to receive" [at 14].

Q. IN YOUR VIEW, DOES THAT JUSTIFICATION REFLECT SOUND ECONOMIC ANALYSIS?

A. No, this reasoning confuses a subsidy to a service with a subsidy to a customer, and when applied to other circumstances, the argument has obvious absurd implications. Suppose a person buys water, snow removal, and trash recycling services from the same source, say, his town's municipal authority. Suppose also that, for whatever reasons, water is available from the town at a subsidized rate (price below cost). Does that mean that the amount of subsidy received by that person for water cannot, or should not be, calculated without taking account of his purchases of snow removal and trash recycling as well? In that event, is it ever possible to establish that any given service out of the three that he purchases is subsidized?

In economic theory, a cross-subsidy is defined and measured on a service-by-service basis. When determining whether the components of universal service are receiving a subsidy, it is not appropriate to involve other services that are not connected to universal service even though the same carrier may provide both sets of services. Under competition, a customer may certainly opt to purchase local, long distance, and enhanced services from different service providers, even though the same telephone line will serve as a conduit for all those services. For example, even now I can use the same telephone line that I purchase from my local carrier to receive services from other carriers of internet and satellite services. Mr. Guepe's reference [at 15] to the "one-stop-shopping environment" is a red herring that confuses *uses* of the loop with *cost causation*, the only proper basis for pricing.

Finally, the "average revenue from all sources" makes even less sense when

one considers that customers do not all purchase the same services beyond the components of universal service. While all customers may be said to purchase the components of universal service, they do not all purchase the other services available. For example, it is well known to telephone demand analysts that the majority of consumers do not use long distance services, and that subscribership to most vertical services (barring the two or three most popular among them) is generally quite low. In stating [at 15] that "... consumers do not subscribe to phone service simply to make and receive local calls," Mr. Guepe overlooks this empirical reality. Therefore, within a state, each customer's average revenue from all services may be quite different even though the average revenue from the universal service components may not.

Q. WHAT IS MR. GUEPE'S SECOND JUSTIFICATION, AND IS THAT BASED ON SOUND ECONOMIC ANALYSIS?

A. Mr. Guepe's second justification (echoed by Mr. Gillan at 7-8) is that the facilities used to provide local exchange service can also be used to provide other services. Therefore, according to Mr. Guepe, if the cost of those facilities can be included in the cost of universal service, the revenues associated with services carried over those facilities should be included in the revenue benchmark as well. This reasoning is exactly the kind of justification that lacks a firm economic underpinning because it relies solely on the premise that the loop is a source of joint or common cost, an idea widely discredited by economists. There is simply no economic rationale for counting revenues from all sources simply because the loop that carries universal service components can also be the channel for

receiving other services.

Q. WHAT WOULD BE THE PRACTICAL IMPACT OF MR. GUEPE'S PROPOSED REVENUE BENCHMARK OF $27 FOR BST?

A. Mr. Guepe's calculation of the revenue benchmark is palpably an effort to "set the bar" so high that a large number of lines (or wire centers) otherwise eligible for universal service support would fail to qualify for that support. Even going by Mr. Guepe's calculations [at 18], removal of all but the universal service components from his benchmark would very likely produce a figure more like $19 in Florida. If the true price benchmark is at or below this figure, it is clear to see just how much more of a bar Mr. Guepe proposes setting for qualifying for universal service support. For example, even with the downward-biased wire center-specific average monthly cost per line estimates produced by the HAI Model, the number of wire centers that would fail to qualify for universal service support with a $19 revenue benchmark drops to 123 (about 63 percent). Clearly, with costs and price benchmarks set at the proper levels, the percentage of wire centers qualifying for universal service support in Florida could be significantly higher. Unfortunately, as long as AT&T insists that only aggregate revenues and costs matter for determining the need for a state universal service fund, the bias in determining the universal service fund size would simply be exacerbated.

Q. DO YOU ACCEPT MR. GUEPE'S REASONING [AT 16] THAT FAILING TO INCLUDE OTHER REVENUES IN THE COMPARISON COULD BIAS THE UNIVERSAL SERVICE FUND IN THE DIRECTION OF BEING

"TOO LARGE?"

A. Not at all. I have explained why proper economic principles require that the price-cost comparison to determine support needs be done exclusively for universal services. In fact, the opposite charge applies to Mr. Guepe's approach: not that comparing only the revenues of local exchange service (at the aggregate level) with costs would result in a fund that is too large, but that failure to "do it right" would lead to a fund that is too small. Mr. Guepe's approach would inevitably disregard the fundamental link between federal and state support shares and lead to too small a state fund (in the present instance, no fund at all).

Consequences of an Improperly sized Universal Service Fund.

Q. MR. GUEPE SUGGESTS [AT 16-17] THAT A UNIVERSAL SERVICE FUND THAT WAS "TOO LARGE" WOULD HARM CONSUMERS BECAUSE PRICES FOR TELECOMMUNICATIONS SERVICES WOULD BE TOO HIGH AND WOULD NEVER BE COMPETED AWAY. DO YOU AGREE?

A. No, I disagree. While social welfare would be greatest if the total size of the universal service fund (interstate as well as intrastate) were exactly correct—i.e., sufficient to provide complete recovery of the implicit subsidy for universal service from an explicit mechanism—the damages from a fund that was too large would be competed away. If the fund were too large at the outset, ALECs that were less efficient than the ILEC could match the ILEC's price, collect their universal service fund payments and still make profits.

Consider Mr. Gillan's example [at 8]. Suppose an ALEC had higher costs than BellSouth (say $22 per month). The correct per-line support from a universal service fund in this example would be $5 per line per month ($20 cost less $15 price). Suppose by mistake the fund were set at $8 per line per month. Then the inefficient ALEC could price basic local exchange service at $15, collect $8 from the universal service fund and still make a profit, despite the fact that its costs are (as assumed) $22 per month.

Of course, with a portable universal service fund of $8 per month, BST (and other efficient competitors) could compete by reducing their price to end users. BST's profits would be higher if it captured the retail customer (and the universal service fund payment) at any retail price equal to $12 or more: at a retail price of $12 per month, BST would just break even in this example, having revenues of $12, a universal service fund payment of $8 and economic costs of $20.

Q. WOULD A UNIVERSAL SERVICE FUND THAT WAS TOO LARGE HAVE NO NEGATIVE CONSEQUENCES?

A. No. A fund that was too large would inefficiently distort consumers' choices between (subsidized) universal services and all other (subsidizing) telecommunications services. Consumers who valued basic local exchange service less than the economic cost of supplying the service would be induced to subscribe to the service, and customers would inefficiently reduce their purchases of all non-universal telecommunications services. Thus, it is important to size the fund correctly; however it is not true that a fund that was too large would cause customers to pay more in total for telecommunications services or that the amounts

that customers pay for local exchange service would be somehow quarantined from the forces of competition.

Q. WHAT WOULD BE THE CONSEQUENCES OF AN INSUFFICIENT UNIVERSAL SERVICE FUND?

A. An insufficient universal service fund would have the effect of preventing efficient competition and harming economic efficiency. Without sufficient universal service support, a competitor's (i.e., ALEC's) incentive to provide local service to high cost areas would be diminished. If, as a consequence, an ALEC that could provide service at a lower cost than the incumbent should choose not to do so, there would be sacrifices of both allocative and technical efficiency. To be induced to provide such service, the ALEC must be not only more efficient than the ILEC but sufficiently more so in order for it to overcome the disincentive to serve created by an insufficient universal service fund.

Q. PLEASE PROVIDE AN EXAMPLE OF HOW THIS COULD HAPPEN.

A. Assume, in the example I provided above, that the per-line support available is only $4 per line, not $5 (perhaps because the federal fund is insufficient, or because the state fund does not fully recover the difference (per line) between the total implicit subsidy for universal service and the amount of federal support available, or both). In this scenario, despite being more efficient than the ILEC, the ALEC could well be dissuaded from providing universal service. With a $4 support per line and a $15 price, the ALEC would voluntarily enter only if its

incremental cost were $19 rather than $20. In other words, it would have to be not merely more efficient than the ILEC but sufficiently more so (approximately 5% more than in the example above).

Q. COULD THERE BE OTHER ADVERSE EFFECTS OF AN INSUFFICIENT FUND?

A. Yes. Continuing with this example, because of its carrier of last resort obligations, the ILEC would have to continue providing universal service despite making a loss of $1 per line. While in the past, this shortfall would likely have been made up from other revenue sources, such recourse will no longer be available to the same degree for two reasons. First, implementation of a universal service fund—even one that is insufficient—would appropriately be accompanied by mandatory and commensurate reductions in the ILEC's revenues from other services. Second, as the ILEC faces general competition, the degree to which it could rely on revenues from those other services to mitigate its universal service losses would also be reduced.

Q. PLEASE SUMMARIZE THE CONSEQUENCES OF HAVING INSUFFICIENT UNIVERSAL SERVICE SUPPORT.

A. An insufficient universal service fund would have two serious consequences for economic welfare and public policymaking. First, by reducing the incentive of more efficient competitors to provide universal service, the cost to society of providing universal service would not be minimized and economic efficiency and

welfare could suffer. The degree to which such incentives are reduced would be a function of the amount by which the per-line support *actually* available falls short of the per-line support that would be available from a *sufficient* universal service fund. Such a disincentive to compete would be especially acute in higher cost and rural areas where competing carriers would have to exceed the efficiency of incumbent carriers by even wider margins.

Second, an insufficient universal service fund could inflict (especially in high cost areas) universal service-related losses that ILECs would find increasingly difficult to offset with revenues from other services. As a consequence, those carriers could then be seriously impaired in their ability to undertake greater network investment, improve service quality, and actively seek out and promote technological advancements, particularly in high-cost areas. Again, economic efficiency and welfare would be the big loser.

There is a need for a Florida Universal Service Fund

Q. MR. GUEPE CONCLUDES [AT 20] THAT THERE IS NO NEED FOR A STATE UNIVERSAL SERVICE FUND. IS A STATE UNIVERSAL FUND NEEDED IN FLORIDA?

A. Yes. Converting the implicit subsidies currently contained in various supporting services into explicit support for the supported services requires the collective efforts of both federal and state regulators. In proposing rules for sizing the federal universal service fund, the FCC has already indicated the fraction of the current implicit subsidies that would likely be recovered in the federal jurisdiction. By design, the federal share will be insufficient to fully recover those implicit

subsidies. The FCC's current proposal is to provide federal support calculated as 25 percent of the extent to which the cost per line exceeds a revenue benchmark of $31 per line per month. Even if the revenue benchmark is chosen correctly (and my testimony shows why it is not), it is clear that the federal share will be a relatively small fraction of the required support that should come from federal sources. It is, therefore, imperative that the size of the state fund be determined on the basis of properly estimated wire center-specific universal service costs and the combined price of all supported services. Otherwise, the state fund would be of the wrong size, and either over- or underfunding (with attendant efficiency losses) could result.

Q. WHAT WOULD BE THE CONSEQUENCES OF NOT ESTABLISHING A FLORIDA UNIVERSAL SERVICE FUND?

A. Not establishing a Florida fund could have serious adverse consequences for carriers and consumers alike in the state. Federal and state laws and subsequent actions by regulators (including this Commission) have laid the foundations for telecommunications competition at all levels in Florida. This process is irreversible, and all carriers are going ahead with their business plans to adjust to and participate in the new open market reality. ILECs are seeking to enter into the provision of long distance service, and carriers that hitherto specialized in long distance service are seeking out opportunities as providers of local exchange services. There is frequent talk of the inevitability of "convergence" or "service packaging" so as to be able to satisfy "all-distance" telecommunications needs of consumers. In this environment, as entry barriers are lowered or removed by

network unbundling, resale, and interconnection agreements, competitive entry will most likely target services and consumers from whom the highest margins are currently earned. Usually, this means consumers (mainly businesses) with high volumes of demand or those for whom the cost to serve is relatively small compared to the prices they pay (mainly urban consumers). Thus, the two traditional subsidy streams that had sustained universal service in the past will be under great pressure as competitors take aim at the services that generate those subsidies. Without recourse to alternative sources of support, providers of universal service will be forced to choose between becoming uncompetitive or reneging on their universal service obligations. As dire as this may seem for carriers, the consequences for Florida consumers could be worse. The first casualty would be universal service itself, as consumers in high-cost areas would no longer be able to receive service on demand because carriers would be unable to recover the higher costs associated with those consumers. Florida could very possibly be divided between telecommunications haves and have-nots. For precisely this reason, the status quo *is not an option*. Like all other states, Florida telecommunications policy must adapt to the new competitive world. In order to protect the tradition of universal service, it must migrate to an external source of funds for universal service, and free all carriers from the burden of recovering their universal service costs in their rates even as they face intense competition. Stated another way, the days of implicit subsidies for universal service in Florida are numbered.

Q. WOULD YOU PLEASE SUMMARIZE YOUR VIEW OF MR. GUEPE'S SUBSIDY CALCULATION?

A. Yes. A service is subsidized in economics, for a firm that at least breaks even, if the service's total service incremental cost exceeds the service's incremental revenue. If the firm earns as much, or more, in total revenue as it incurs in total cost (the "break even" condition), then the only way it can price one of its services below cost is by increasing prices for one or more of its other services. Therefore, even if Mr. Guepe's estimates of aggregate costs and revenues were acceptable (which they are not), his figures are, in fact, consistent with the presence of a subsidy to residential local exchange service. To determine whether residential local exchange service *as a whole* is subsidized, it is necessary to compare the cost of *that* service with *only* the revenue attributable to it. Unfortunately, Mr. Guepe's "kitchen sink" approach leads him to include revenues from other services as well in his aggregate revenue estimate. This is plainly and simply incorrect. Without breaking down costs and revenues by their *causal sources*, it is impossible to tell from the aggregate figures whether or not a subsidy exists and to what service or group of services. More fundamentally, the logic of Mr. Guepe's approach is completely circular. Having already included the implicit subsidies on the revenue side of the comparison (and, thus, having inflated revenues relative to costs), he concludes that there is no subsidy. Frankly, I would be very surprised if he found otherwise.

Second, the entire thrust of universal service reform is to move from provision of support to *all* residential and business customers to only those for whom the cost to serve exceeds the price of supported services. The Universal Service Order makes clear its interest in only supporting customers in high-cost areas or those below a certain affordability threshold. This standard clearly requires knowing whether a subsidy is needed on *an individual line* basis. That is, a subsidy would

be required only if the cost to serve a *given* line were to exceed the price paid to obtain that line. Only such an approach could properly steer the universal service program in the direction of supporting only customers in high-cost areas or those unable to afford service. Accordingly, Mr. Guepe's approach of comparing aggregate revenues and costs to determine the need for support is fundamentally incorrect.

Third, Mr. Guepe's approach is designed to mask genuine instances of subsidy where they exist. Suppose, for example, there are three customers, one of whom lives in a high-cost area. Disregarding other services for the moment, assume the price they all pay for universal service is $20 per month. Now, suppose that the cost to serve two of the customers is $15 each and the corresponding cost for the customer in the high-cost area is $28. Properly applying economic principles for detecting subsidy, the third customer would clearly be identified as being in need of support. However, a comparison of aggregate revenues ($60) and costs ($58) will fail to show this; in fact, such a comparison would indicate no need for support.

To summarize, Mr. Guepe's approach confuses the real situation with respect to support needs at two levels. First, as the example above demonstrates, his approach can easily mask the need for support in high-cost areas or for customers below a certain affordability threshold. Second, by adding revenues from other services into the comparison, that masking effect would only be expanded, leaving a system of implicit support flows among services instead of making all support flows explicit.

GEOGRAPHIC AGGREGATION

Q. MR. GUEPE [AT 11] AND MR. GILLAN [AT 20] BOTH ASSERT THAT COSTS SHOULD BE AGGREGATED FOR A UNIVERSAL SERVICE FUND TO THE SAME GEOGRAPHIC BASIS ON WHICH UNEs ARE PRICED. DO YOU AGREE?

A. No. In principle, all three relevant costs and prices—retail prices, wholesale prices and universal service costs—should be measured and determined at a consistent geographic level of aggregation which is as small as possible, consistent with the need to control transactions costs. Thus, all prices—retail and wholesale—should be permitted to differ over any geographic unit for which costs or demand conditions differ sufficiently to warrant differences in market prices. If wholesale and retail prices were set in this fashion, then calculating the required universal service fund size at this level of geographic aggregation would make sense because the UNE prices that ALECs must pay in a given wire center—and the ILEC retail prices against which they compete—would be based on costs calculated consistently with the universal service payment they would receive for serving customers in that wire center. Note that inconsistency in this respect is not necessarily anti-competitive. Because the Universal Service Fund is portable (and whichever ALEC or ILEC serves the customer receives the same payment from the fund), it doesn't matter for competitive equity whether the fund is too big or too small in a particular region.

However, it makes no sense to measure the subsidy to universal service at a statewide level of geographic aggregation. Because retail prices are set at

carriers to serve high-cost exchanges and would overcompensate carriers for serving low-cost exchanges. Such a plan would be a windfall for carriers that intend to serve primarily low-cost metropolitan areas and would correspondingly be a disaster for carriers that chose or were required to serve high-cost rural areas.

Q. MR. GILLAN DISCUSSES [AT 20] AN EXAMPLE THAT PURPORTS TO ILLUSTRATE "WHY THE SAME GEOGRAPHIC ZONES SHOULD BE USED FOR NETWORK ELEMENT PRICES AND UNIVERSAL SERVICE SUPPORT." DO YOU AGREE WITH HIS INTERPRETATION OF THIS EXAMPLE?

A. No. In Mr. Gillan's example, there are two wire centers: a high-cost wire center with a cost of $30 per month and a low-cost wire center with costs of $10. Mr. Gillan assumes that UNE prices are the same across the two wire centers (at $20), and I assume that retail prices are identical across the two wire centers (at $15). This assumption is justified because, in Florida, retail prices are averaged across the state and prices for UNEs are set at state-wide averages. If they were not, ALECs would be unable to compete efficiently in high-cost rural areas (where deaveraged UNE costs would be high but retail prices would be average) and would be artificially induced to compete in low-cost urban areas (where deaveraged UNE costs would be low but retail prices would be average).

Given Mr. Gillan's and my assumed figures, a universal service fund based on geographically averaged wire center costs and prices would pay $5 per line in both wire centers, while a deaveraged universal service fund would pay $15 in the high-cost wire center and nothing in the low-cost wire center.

While Mr. Gillan's preferred solution of averaging the subsidy calculation across wire centers does permit the ALEC to break even in both the high-cost and low-cost wire center in this example, it does not work as well for the ILEC. Under these assumptions, the ILEC charges a $15 retail price and receives a $5 universal service fund payment in both the high-cost and low-cost wire centers, which leaves it $10 short in the high-cost wire center and $10 ahead in the low-cost wire center. As long as the ILEC's costs vary across wire center and retail and wholesale prices do not, there is no reason necessarily to size the universal service fund at the same level of aggregation as UNEs are priced.

The HAI Model is the Wrong Choice for Estimating Costs

Q. HOW WOULD THE COSTS PRODUCED BY THE HAI MODEL AFFECT THE CALCULATION OF THE FLORIDA UNIVERSAL SERVICE FUND?

A. The HAI Model, Release 5.0a, (a direct successor to the Hatfield Model) underestimates the forward-looking incremental cost of network facilities, often seriously. Mr. Guepe's insistence that the same cost methodology be employed for calculating both the cost of network facilities and for sizing the universal service fund merely confirms my belief that his (and AT&T's) intent is to make the universal service fund as small as possible and to minimize the contribution obligations of interexchange carriers like AT&T. The combination of a seriously overestimated revenue benchmark and seriously underestimated costs could go a long way to contrive precisely that result. The Commission should, therefore, reject the methodology proposed by Mr. Guepe in favor of sizing the state universal service fund in accordance with correct economic principles.

Q. HOW SHOULD THE COST OF UNIVERSAL SERVICE BE DETERMINED FOR THE PURPOSE OF ESTABLISHING A STATE FUND IN FLORIDA?

A. The cost of universal service should be determined separately for each wire center. The cost estimated for that purpose should be that of an efficient service provider using forward-looking technologies and operating practices. The specific cost *model* adopted for that purpose, however, should reflect actual serving conditions in each wire center, use realistic network design and financial parameters, and recognize that the primary components of universal service are retail (rather than wholesale) services. The HAI Model is unsuitable on all these counts. It is my understanding that the BCPM Model (Release 3.1) is far better suited for the purpose of estimating universal service costs.

Q. WHAT WOULD BE THE CONSEQUENCE OF FAILING TO PROPERLY ESTIMATE UNIVERSAL SERVICE COSTS?

A. The most important consequence of that failure would be a universal service fund of the wrong size. Underestimated costs are just the mirror image of overestimated revenue benchmarks: both lead to inefficient underfunding of universal service. Given the HAI Model's tendency to underestimate costs, my fear is that any use of that model will result in finding that universal service is not presently subsidized in some wire centers when, in fact, it is. With an insufficient fund, competitive entry in high-cost areas even by more efficient carriers will be discouraged. Moreover, incumbent carriers that have universal service obligations presently would not

receive enough support and would sustain losses that, in the face of increasing competition and thinning margins for their other services, would become increasingly difficult to offset. Those carriers would, over time, find it increasingly difficult to undertake new network investments, improve service quality, or promote new services and technologies.

Summary and Conclusions

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

A. Mr. Guepe's proposal to use a seriously overestimated revenue benchmark (based on a "kitchen sink" approach to accounting for the revenues associated with universal service) and the seriously underestimated costs produced by the HAI Model will undoubtedly result in too small a state universal service fund in Florida. In addition, any adherence to Mr. Guepe's suggestion for determining whether a subsidy exists by comparing aggregate revenues with aggregate costs will likely have the absurd conclusion that *no* state universal service fund is necessary in Florida. Nothing could be more detrimental for telecommunications customers in Florida than that conclusion.

The sizing of the state fund cannot be done outside the overall context in which the federal fund plays an important part. That task will certainly be made even harder by any failure to use the proper economic basis to calculate the subsidy associated with universal service. One such failure would be to adopt Mr. Guepe's view that the cost of the loop is common to both components of universal service and other services.

My recommendation to the Commission is to reject the HAI Model as the basis for calculating the cost associated with universal service. If a cost proxy model is to be used, the BCPM represents a better source for forward-looking incremental costs, and should be used instead of the HAI Model. At the same time, as the process of setting up a universal service fund in Florida gets under way, it would be necessary to be mindful of the following two additional issues:

1. The implicit subsidy at the state level should be determined as the difference between the cost associated with the Florida legislature-defined components of universal service and the combined price of those services. Revenues from other services should not be included for making this comparison.
2. The only level of geographic aggregation that is relevant for establishing and sizing a state universal service fund is that of the wire center. The cost of providing universal service and the need for any universal service support should both be determined at that level.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.