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October 25, 1999

EXECUTIVE SECRETARY

VIA HAND DELIVERY

David Waddell, Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37238

Re: *Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. pursuant to Section 252(b) of the Telecommunications Act of 1996*
Docket No. 99-00377

Dear Mr. Waddell:

Enclosed are the original and thirteen copies of the following rebuttal testimony on behalf of BellSouth Telecommunications, Inc.:

William Taylor
Alphonso Varner.

Copies of the enclosed are being provided to counsel of record for all parties.

Very truly yours,

Guy M. Hicks

GMH:ch
Enclosure

FILE

CERTIFICATE OF SERVICE

I hereby certify that on October 25, 1999, a copy of the foregoing document was served on the parties of record, via the method indicated:

[√] Hand
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BEFORE THE
TENNESSEE REGULATORY AUTHORITY

IN RE: **PETITION OF ICG TELECOM GROUP, INC. FOR ARBITRATION WITH BELLSOUTH TELECOMMUNICATIONS, INC. PURSUANT TO SECTION 252 OF THE TELECOMMUNICATIONS ACT OF 1996**	)	**DOCKET NO. 99-00377**

REBUTTAL TESTIMONY

OF

WILLIAM E. TAYLOR, Ph.D.

ON BEHALF OF

BELLSOUTH TELECOMMUNICATIONS, INC.

OCTOBER 25, 1999

n/e/r/a
Consulting Economists

REBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

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ON BEHALF OF BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 99-00377

OCTOBER 22, 1999

I. 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. HAVE YOU FILED TESTIMONY PREVIOUSLY IN THIS PROCEEDING?

A. Yes, I filed direct testimony in this proceeding on October 15, 1999.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked by BellSouth Telecommunications, Inc. ("BellSouth")—an incumbent local exchange carrier ("ILEC")—to address economic and regulatory issues raised in this proceeding to arbitrate an interconnection agreement between BellSouth and ICG Telecom Group, Inc. ("ICG")—a competitive local exchange carrier ("CLEC"). Specifically, I respond to testimony from ICG witnesses Cindy Z. Schonhaut and Michael Starkey. The issue in question is reciprocal compensation for traffic sent to Internet service providers ("ISPs").

II. INTER-CARRIER COMPENSATION FOR ISP-BOUND CALLS

Issue 1: For the purposes of this agreement, should dial-up calls to Internet service providers ("ISPs") be treated as if they were local calls for purposes of reciprocal compensation?

Q. PLEASE SUMMARIZE HOW YOUR OWN POSITION ON INTER-CARRIER

COMPENSATION FOR ISP-BOUND TRAFFIC DIFFERS FROM THAT OF THE ICG WITNESSES.

A. Contrary to the ICG position on this issue in this proceeding, my position is that reciprocal compensation should *not* be paid for ISP-bound calls. While reciprocal compensation is the proper form of inter-carrier compensation for local calls originated (on behalf of its customers) by one carrier and terminated (to its customers) by another carrier, it is *not* so if calls to Internet destinations originated by the first carrier are switched by the second carrier to an ISP which then routes those calls through the Internet's backbone network to their destination. Even though local calls and ISP-bound calls may *resemble* each other at a functional level, they are not the same in two fundamental respects: (1) the cost per minute to carry each type of call, on average, is not the same, and (2) the pattern of cost causation for the two types of calls is different and, therefore, requires different modes of cost recovery (compensation). This contrasts with the ICG position that the two types of calls are functionally identical and should, therefore, both be subject to reciprocal compensation.

The Federal Communications Commission ("FCC") has ruled that ISP-bound calls are *jurisdictionally* mixed and mostly interstate. As long as those calls are not local from a jurisdictional standpoint, they cannot be subject to reciprocal compensation, the form of inter-carrier compensation that applies to local traffic only. However, there is also a compelling *economic* basis for seeking an alternative form of inter-carrier compensation for ISP-bound calls. That is, even without the FCC's jurisdictional distinctions, one need only appreciate the incontrovertible fact that cost is caused differently for Internet traffic than for local traffic and, therefore, should be recovered differently. There is, in fact, a strong parallel between how cost is caused when an ILEC subscriber places a long distance call over the network of an inter-exchange carrier ("IXC") and the cost caused when that same subscriber places an Internet call over the network of an ISP. The salient fact is that the ISP is a carrier that facilitates access to the Internet just as the IXC facilitates long distance "access" to another telephone subscriber at a distant location. The ISP is (like the IXC) *not* an end-user of any local exchange carrier (such as a CLEC) that serves it.

Therefore, just as the IXC compensates all local carriers for partial carriage of long distance calls through switched access charges, so too should the ISP compensate all local carriers (including both the ILEC and the CLEC) for partial carriage (within the circuit-switched network) of Internet calls through analogous charges. Under this model of compensation, the cost-causing Internet customer (who is also a subscriber of the ILEC) pays for the entire cost of the Internet call to the ISP that provides Internet access, and that ISP in turn compensates the ILEC and the CLEC for all costs incurred on the ISP's behalf.

The proper form of inter-carrier compensation depends on how cost is caused, not on whether ISP-bound calls are functionally equivalent to local calls or whether they cost the same to carry. The ICG witnesses fail to make this distinction. The greatest danger in that failure is to create a set of perverse incentives under which the carrier *receiving* reciprocal compensation for ISP-bound calls (e.g., the CLEC) finds it increasingly profitable to specialize in carrying only ISP-bound traffic. As regulators in Massachusetts have already recognized, this creates opportunities for uneconomic arbitrage and entry solely to serve ISPs and collect reciprocal compensation payments. As I indicated in my direct testimony, the result is a subsidy to—and inefficient consumption of—Internet services and insufficient offerings of—and competition for—the full slate of local exchange services. The overall economic effect on society is, therefore, clearly detrimental.

Q. PLEASE COMMENT ON MR. STARKEY'S POSITIONS ON RECIPROCAL COMPENSATION FOR ISP-BOUND TRAFFIC.

A. Mr. Starkey's purported "economic" testimony tries to provide as many "reasons" as possible for the Tennessee Regulatory Authority ("Authority") to adopt reciprocal compensation for ISP-bound traffic. Unfortunately, as I demonstrate below, Mr. Starkey's arguments either miss or ignore the all-important principle of cost causation and fail to provide a sound economic perspective on inter-carrier compensation for ISP-bound traffic. As I demonstrate below, the economic illogic and contextual flaws in Mr. Starkey's arguments are readily apparent from claims like

1. Local and ISP-bound calls are functionally identical and should, therefore, subject to the same form of reciprocal compensation.

2. BellSouth is getting free use out of ICG's network by refusing to compensate it for ISP-bound calls originated by BellSouth's subscribers.
3. ISPs are gravitating in large numbers to CLECs because, unlike ILECs, only CLECs can serve the "technologically demanding" needs of ISPs and data customers.
4. BellSouth's not being economically indifferent between terminating ISP-bound traffic itself or having it terminated by ICG shows that it has set an excessive termination rate which works to its disadvantage when the balance of ISP-bound traffic is in ICG's favor.

Q. MR. STARKEY'S BASIC PREMISE [AT 12 AND 14] IS THAT ISP-BOUND TRAFFIC AND LOCAL VOICE TRAFFIC ARE "FUNCTIONALLY IDENTICAL." THEREFORE, HE ARGUES, RECIPROCAL COMPENSATION OUGHT TO APPLY TO ISP-BOUND TRAFFIC JUST AS IT DOES FOR LOCAL VOICE TRAFFIC. DO YOU AGREE?

A. No. First, Mr. Starkey's basic premise is incorrect because it completely ignores cost causation. In my direct testimony, I explained at length the cost-causative differences between ISP-bound traffic and other local traffic despite a superficial *functional* resemblance between them. The all-important distinction between the ILEC-CLEC and ILEC-IXC models of interconnection that emerges from an analysis based on cost causation is clearly that reciprocal compensation is ill-suited to ISP-bound traffic.[1] Moreover, Mr. Starkey misses or ignores the fundamental point: cost recovery necessarily depends on who causes the cost in question, *not* on the level of cost. Technical characteristics of production or the level of cost may be items of interest in themselves, but they are totally irrelevant for determining who should be made to pay for the cost. Even if the two types of traffic were functionally identical and generated the same level of cost, it would still be economically inappropriate to apply reciprocal compensation to both.

Second, if the cost *per minute* to terminate a local voice call were truly the same as that

[1] In my direct testimony [at 6-15], I explained in great detail why the applicable "model" of interconnection for ISP-bound traffic is *not* ILEC-CLEC interconnection (for which reciprocal compensation *is* the appropriate form of inter-carrier compensation) but rather ILEC-IXC interconnection. I argued that viewing ILEC-CLEC-ISP interconnection as closely analogous to ILEC-IXC interconnection, the form of inter-carrier compensation should also be analogous to that in place for ILEC-IXC interconnection.

cost for an ISP-bound call,[2] I would have no hesitation in accepting Mr. Starkey's claim [at 13]:

> A ten minute call originated on the [BellSouth] network and directed to the ICG network travels exactly the same path, requires the use of exactly the same facilities and generates exactly the same level of cost regardless of whether that call is dialed to an ICG local residential customer or to an ISP provider.

However, as I explained in my direct testimony [at 21-22 and fn. 21], the costs per minute for the two types of calls are *not* likely to be the same because of significant differences between them in (1) average call durations and (2) customer, service, and service location characteristics. This alone would invalidate Mr. Starkey's highly simplistic premise about functional equivalence.

Q. PLEASE EXPLAIN AGAIN YOUR POINT THAT THE ECONOMICALLY APPROPRIATE FORM OF INTER-CARRIER COMPENSATION SHOULD DEPEND ON COST CAUSATION, NOT ON THE LEVEL OF COST OR FUNCTIONAL EQUIVALENCE.

A. *How* cost is recovered must always depend on cost causation, i.e., the economic decision or transaction that is the source of the cost. *How much* cost should be recovered (i.e., the level of cost) is of only incidental interest to this issue: it determines the *magnitude* of recovery but not the form of compensation or recovery itself. To explain this point, I note first that the cost-causer for both a local voice call and an Internet call is the same entity: the ILEC subscriber that places either type of call. That same subscriber is also the cost-causer when he places a *long distance* call through an IXC. Therefore, in all three cases, cost recovery must start with that subscriber (the source of the economic decision to make a call that gives rise to cost). The question is: how should the payment received from that

[2] As I noted in my direct testimony [at 5], the FCC takes the view that an Internet call, when viewed from end to end, does *not* terminate in any meaningful sense at the CLEC's switch. For this reason, I prefer to describe the function performed by the CLEC as "switching" or "delivery" to the ISP, rather than as "termination." In the rest of this testimony, any reference to "terminate" or "termination" should be understood as reflecting the *erroneous* view of what happens when an Internet-bound call traverses the CLEC's switch before reaching the ISP.

subscriber be used to compensate various carriers that participate in carrying each type of call?

The answer to that question is provided by cost causation. For a local voice call, the ILEC subscriber is also a *customer* of the ILEC (the supplier of local voice connections).[3] For a long distance call, the ILEC subscriber is a customer of the IXC (the supplier of long distance connections). And, for an Internet call, the ILEC subscriber is a customer of the ISP (the supplier of Internet connections). This trichotomy indicating how the same ILEC subscriber can be a customer of different carriers for different services is particularly important. Indeed, it determines which supplier has the right to charge (recover cost) from the end-user for each service and helps to understand how cost causation works. As a subscriber to the ILEC, that individual maintains a link to the public switched network over which all three types of services are delivered. With that link in place, that individual has the *option* to purchase various types of telecommunications services. Without that link, he cannot consume any of the three services. However, without the ILEC, the IXC, and the ISP offering and marketing the three types of services to that subscriber, there wouldn't be any service to consume.

The long practice of the IXC recovering the cost of a long distance call from the ILEC subscriber and then using that payment to compensate all facilitating carriers (e.g., those providing switched access) is economically sensible and serves as the proper model for compensation in the other two cases. For a local voice call, the ILEC must recover the cost of that call directly from its subscriber (acting as its customer) and then compensate all other facilitating carriers (e.g., the CLEC that provides interconnection if the local call crosses network boundaries). In the same vein, the ISP must recover the cost of the Internet call directly from the ILEC subscriber (acting as the ISP's customer) and then compensate all other facilitating carriers (e.g., the ILEC, the CLEC, the backbone network providers, etc.).

[3] I made, and explained, this distinction between a subscriber and a customer in my direct testimony [fn. 7].

Q. IS COST CAUSATION-BASED COMPENSATION THE ONLY FORM OF INTER-CARRIER COMPENSATION FOR ISP-BOUND CALLS THAT THE AUTHORITY SHOULD CONSIDER?

A. Yes. From the economic standpoint, any method of inter-carrier compensation for ISP-bound calls should be based on cost causation. Ideally, such compensation should occur in the form of usage-based charges (analogous to carrier access charges) paid by the ISP to the ILEC and the CLEC that transport and switch Internet calls to it. However, because the FCC currently exempts ISPs from paying access charges, the next-best cost-causative form of compensation would be an equitable sharing (between the ILEC and the CLEC) of revenues earned by the CLEC from the lines and local exchange usage that it sells to the ISP. This form of revenue sharing may not be sufficient for the ILEC and CLEC that jointly provide access service to fully recover their costs, but the degree to which they under-recover those costs (or, equivalently, subsidize Internet service) will be the same proportion of their respective costs and, hence, competitively neutral. The third-best and a reasonable interim form of compensation would be bill and keep or, in effect, exchange of ISP-bound traffic between the ILEC and the CLEC at no charge to each other. In my opinion, because it is not based on cost causation, reciprocal compensation should not be considered an option at all.

Q. DOES THIS FORM OF COMPENSATION DENY A CLEC LIKE ICG FAIR PAYMENT FOR USE OF ITS NETWORK BY AN ISP-BOUND CALL FROM AN ILEC (BELLSOUTH) SUBSCRIBER, AS ALLEGED BY MR. STARKEY [AT 12 AND ELSEWHERE]?

A. Absolutely not. Mr. Starkey appears to leave the distinct impression that BellSouth intends to deny ICG any compensation for its part in carrying an ISP-bound call. Nothing could be farther from the truth. The point at issue here is whether it should be up to *BellSouth* (the ILEC) to compensate ICG (the CLEC) for the cost the latter incurs in carrying Internet calls to ISPs it serves. As I explained both above and in my direct testimony, while ICG is entitled to recover fully the cost it incurs for ISP-bound calls, such recovery (compensation) ought to come—in accordance with cost causation—from the ISP or ISPs

it serves, not from BellSouth. To have it otherwise—particularly in current circumstances in which CLECs frequently share reciprocal compensation revenues with the ISPs they serve—would only reinforce the perverse incentive to specialize in providing termination services for ISPs, to the exclusion of virtually all other local exchange services.

Q. EARLIER YOU STATED THAT THE COST PER MINUTE TO TERMINATE A LOCAL VOICE CALL WILL LIKELY NOT BE THE SAME AS THAT FOR AN ISP-BOUND CALL. PLEASE EXPLAIN ON WHAT BASIS MR. STARKEY APPEARS TO DISAGREE WITH YOU AND WHETHER YOU ACCEPT HIS ARGUMENT.

A. The best example of Mr. Starkey's reasoning in this respect, as found in his testimony, is as follows:

> Both [local voice and ISP-bound] calls use the same path and exactly the same equipment to reach their destinations. Most importantly, the costs to terminate the calls made to the residential customer and the ISP customer are identical. As such, the rates associated with recovering those costs should identical.[4]

Unfortunately, this argument rests on generalizations and fails to consider the structure of costs. For every call, there are broadly two types of cost: a *fixed* cost (invariant to the length of the call) for call setup at both ends of the call, and an *incremental* or variable cost that arises for every minute a call passes through a switch.[5] The *per minute* cost of that call is the sum of the incremental cost of that minute plus the fixed cost averaged over the total length of the call. The latter component would obviously diminish as the fixed cost is averaged over an increasing number of minutes. Thus, if the average ISP-bound call is between five and seven times longer than the average voice call, the average *fixed* cost component for the former would be considerably smaller than that for the latter. *Even if* the incremental cost component of both types of calls were the same, the *per minute* cost of the average ISP-bound call would still end up being considerably less than that for the

[4] Direct testimony of Michael Starkey in this proceeding, at 14.

[5] It is of some interest whether that incremental cost itself declines, stays constant, or rises with the length of the call. However, I do not get into that issue here.

average voice call. A simple numerical example illustrates this fact.[6]

Suppose the incremental cost for each minute is 0.5¢. Then, a 3-minute call would have a total incremental cost of 3×0.5 = 1.5¢ and a 20-minute call would have a total incremental cost of 20×0.5 = 10¢. Suppose the fixed cost of call setup—which does not vary with the length of the call—is 2¢. Then the *total* cost of the 3-minute call (inclusive of call setup) would be 1.5+2 = 3.5¢, and that for the 20-minute call would be 10+2 = 12¢. To figure what each call costs on a per-minute basis, simply divide the total cost of each call by the respective number of minutes. Thus, the 3-minute call would cost 3.5÷3 = 1.66¢ per minute and the 20-minute call would cost 12÷10 = 1.2¢ per minute. That is, as the call duration increases, the cost per minute would fall. This is simply common sense and a conclusion reached by all who seriously consider the cost structure underlying each type of call.

Furthermore, even the incremental cost for the two types of calls may differ. The incremental cost of the local call (which is part of the foundation for BellSouth's termination rate) is itself a composite that reflects how the cost of local calls varies among different types of customers and customer locations. Unlike ICG, BellSouth must be prepared to provide local service to any or all such customers, regardless of their usage or location. In contrast, the incremental cost of an ISP-bound call is *not* a composite. Even though, at some elementary level, the two types of calls (as depicted in Exhibit No. MS-2 of Mr. Starkey's testimony) may appear to resemble each other, a more serious analysis reveals the differences in their cost structures and levels.

Q. MR. STARKEY CLAIMS [AT 18-19] THAT BELLSOUTH HAS AN INCENTIVE TO OVERESTIMATE ITS COST OF TERMINATION AND, THEREFORE, TO SET A "HIGH" TERMINATION RATE EVEN THOUGH, WITH THAT RATE SET "CORRECTLY," BELLSOUTH SHOULD BE "ECONOMICALLY

[6] For this example, I use average call durations that are typical for local and Internet calls. See, e.g., Kevin Werbach, "Digital Tornado: The Internet and Telecommunications Policy," *OPP Working Paper Series No. 29*, Federal Communications Commission, March 1997, at 59 (Figure 9).

INDIFFERENT" BETWEEN EITHER TERMINATING AN ISP-BOUND CALL ITSELF OR HAVING IT TERMINATED BY ICG. DO YOU ACCEPT EITHER THIS CLAIM OR HIS INFERENCE THAT BELLSOUTH'S REFUSAL TO PAY RECIPROCAL COMPENSATION MUST MEAN THAT THE TERMINATION RATE IS NOT SET CORRECTLY?

A. No. Mr. Starkey's reasoning and inference are rather convoluted. The confusion stems from failure on two fronts:

1. Failure to distinguish between the per-minute cost to terminate an average local call (upon which BellSouth bases its termination rate) and the *lower* per-minute cost to terminate an ISP-bound call (which ICG experiences).
2. Failure to understand that BellSouth has no economic incentive to set (i.e., nothing to gain from setting) a termination rate in excess of cost. When only a single and symmetrical termination rate (based on the *higher* cost experienced by BellSouth) is used to compensate both carriers, *any* termination rate in excess of the CLEC's per-minute cost to terminate ISP-bound traffic will create a strong economic incentive for the CLEC to specialize only in serving ISPs or to engage in some form of profitable arbitrage.

Q. PLEASE EXPLAIN MR. STARKEY'S FAILURE TO APPRECIATE THE DIFFERENCES IN COST.

A. Mr. Starkey starts out by reasoning [at 16] that the

> only difference between a call made between two BellSouth local customers and the call made from a BellSouth customer to an ICG customer is that ICG's central office serves the terminating switching function that was originally performed by the BellSouth switch. In this way, BellSouth avoids those terminating switching costs and ICG incurs them. Hence, if BellSouth has accurately established its terminating reciprocal compensation rate based upon its own costs of terminating a call, it should be economically indifferent with respect to whether a call both originates and terminates on its own network or whether a call terminates on the ICG network.

This reasoning would be correct if Mr. Starkey were to compare BellSouth's with ICG's per minute cost of termination *for exactly the same type of local call.* However, the comparison at issue here is not what Mr. Starkey apparently believes it is. Rather, while the single, symmetrical rate for reciprocal compensation is based on BellSouth's cost to terminate an average local call, it reflects neither BellSouth's nor ICG's cost to terminate

specifically an ISP-bound call. As I explained earlier, these two termination costs can be quite different with the cost to terminate an ISP-bound call being lower on a per-minute basis. Hence, the termination cost BellSouth incurs when it terminates an average local call itself is *not* the same as that it incurs upon terminating an ISP-bound call. More importantly, it is also not the termination cost BellSouth *avoids* when ICG, not BellSouth, terminates the ISP-bound call instead.

By overlooking this subtle but all-important difference, Mr. Starkey reaches his erroneous inference about economic "indifference." He also reaches the mistaken conclusion [at 18] that BellSouth "has a competitive interest in not providing a cost recovery mechanism for its competitors regardless of the extent to which it is economically indifferent on any given call." From an economic perspective, even if reciprocal compensation were the right form of inter-carrier compensation for ISP-bound traffic (which it is not), the culprit is the single, symmetrical termination rate. When termination costs differ between the two interconnecting carriers, a single rate applied both ways cannot prevent inefficient subsidies or opportunities for uneconomic but profitable arbitrage.

Q. PLEASE EXPLAIN MR. STARKEY'S APPARENT FAILURE TO APPRECIATE THIS POINT.

A. Mr. Starkey looks for clues about potential BellSouth behavior in all the wrong places. First, he speculates [at 18-19] that BellSouth set a termination rate on the basis—in his opinion—of an overestimated cost because doing so would allow BellSouth to (1) increase its revenues and (2) raise its competitor's (i.e., CLEC's) costs. Second, he surmises [at 19] that when that high rate works to BellSouth's detriment (such as when BellSouth becomes a net payer of reciprocal compensation), BellSouth would simply refuse to pay compensation to the CLEC. Mr. Starkey is wrong on both counts.

In the first place, BellSouth's alleged anti-competitive strategy of raising rivals' costs by setting a high reciprocal compensation rate would not simply raise BellSouth's rivals' costs to terminate traffic. It would also raise their *revenues*, because CLECs collect the reciprocal compensation rate for every minute of local traffic they terminate on their

networks. And for CLECs which terminate far more traffic than they originate, BellSouth's alleged anti-competitive strategy (of setting a high termination rate) would amount to raising rivals' profits, not their costs.

Second, Mr. Starkey's surmise implies that by setting a high interconnection rate, BellSouth was gambling on the balance of local traffic being in its favor and on receiving, as a result, substantial revenues from local compensation. The flip side of that surmise is that BellSouth's refusal to pay reciprocal compensation to ICG must indicate that the balance of local traffic has gone in favor of ICG instead, thus making BellSouth a net payer. This is too sweeping a conclusion because it is based on Mr. Starkey's mistaken belief that BellSouth's avoided cost for all local traffic terminated by a CLEC, avoided cost of ISP-bound traffic terminated by a CLEC, and the CLEC's actual incremental cost of terminating ISP-bound traffic are all the same. When BellSouth's own cost to terminate exceeds a CLEC's cost to terminate ISP-bound calls and, as I explain below, BellSouth cannot choose its customers or influence the mix of terminating to originating traffic the way ICG or any CLEC can, then BellSouth faces the strong possibility that the balance of traffic (fueled in large part by ISP-directed traffic) will not be in its favor. Hence, it cannot have a strong economic incentive to play anti-competitive games based on an excessive termination rate. Such a game would be too risky and too fraught with prospects of adverse financial results for BellSouth.

Mr. Starkey misses the obvious reasons for BellSouth's refusal to pay reciprocal compensation for ISP-directed traffic: (1) from a jurisdictional standpoint, most of such traffic is not local and, therefore, not subject to inter-carrier compensation mechanisms designed for local traffic, and (2) from an economic standpoint, reciprocal compensation wrongly shifts the burden of the CLEC's termination cost recovery from the cost-causer (namely, ISPs and their customers) to the ILEC that originates ISP-bound traffic.

Q. PLEASE EXPLAIN WITH A NUMERICAL EXAMPLE YOUR POINT THAT WHEN ACTUAL TERMINATION COST (FOR ISP-BOUND CALLS) DIFFERS BETWEEN THE ILEC AND THE CLEC, A SINGLE SYMMETRICAL TERMINATION RATE CAN ACTUALLY FAVOR THE CARRIER WITH THE

LOWER TERMINATION COST AND DISCOURAGE THE OTHER CARRIER FROM OVERSTATING ITS TERMINATION COST.

A. At issue here is whether, under the circumstances described, the ILEC can benefit *at the CLEC's expense* by overstating its termination cost (and setting a "high" termination rate) when the CLEC, in fact, has a lower termination cost for ISP-bound traffic. The answer is "no," as the following numerical example using hypothetical termination costs, rates, and volumes demonstrates.

For this example, the parameters of interest are the unit prices charged by either carrier for "local" (including ISP-bound) calls, the unit origination cost of each carrier, the unit termination cost of each carrier, and the total volume of calls and each carrier's share of that volume. I assume that the CLEC is more efficient than the ILEC, i.e., has lower unit costs than the ILEC and can, consequently, charge a slightly lower price for calls it originates.[7] Second, I assume that all calls originating with one carrier are terminated by the other carrier, i.e., no call is terminated within the network in which it originates.[8] Finally, I assume that the unit price charged by either carrier is compensatory and equals (or exceeds) the sum of its respective unit origination and termination costs. Specifically, I assume the following hypothetical values (all expressed *per minute of call*):

1. ILEC's unit price:	2¢	CLEC's unit price:	1.5¢
2. ILEC's unit origination cost:	1¢	CLEC's unit origination cost:	0.5¢
3. ILEC's unit termination cost:	1¢	CLEC's unit termination cost:	0.5¢

Next, I consider three scenarios about the volume of "local" (ISP-bound) calls terminated:

1. ILEC terminates 10,000 minutes, CLEC terminates 0 minutes (all traffic one-way toward the ILEC),
2. ILEC terminates 0 minutes, CLEC terminates 10,000 minutes (all traffic one-way

[7] The background assumption is that all entry is efficient, i.e., the entrant must have the same or lower costs as the incumbent in order for its entry to be socially beneficial. In particular, I assume that the entrant can choose its customers, service locations, and the services it offers (including the option of offering only termination services for ISPs). In contrast, the ILEC cannot be selective about customers, service locations, and services offered. For these reasons, the unit costs of the ILEC may be higher.

[8] This assumption helps to simplify the example while putting a sharper focus on the outcomes of greatest interest. It also creates a scenario in which all ISP-bound calls cross network boundaries.

toward the CLEC), and

3. ILEC and CLEC terminate 5,000 minutes each (balanced traffic).

These three scenarios depict the two extremes and the mid-point in the possible distribution of traffic between the two carriers. It is easy to extend the analysis to scenarios which lie in the range between either extreme and the mid-point (e.g., the ILEC terminates 2,500 minutes and the CLEC terminates 7,500 minutes).

Suppose, at first, that the ILEC sets the termination rate (which is applied both ways) at its *true* termination cost of 1¢ per minute. The revenue, cost, and profit outcomes of each carrier would then take into account what either carrier would

1. receive in revenue from its own customers by originating their calls,
2. receive in revenue from the other carrier by terminating calls from its customers,
3. incur in cost by originating calls by its own customers, and
4. incur in cost by terminating calls from customers of the other carrier.

Those revenue, cost, and profit outcomes of the two carriers would then be as follows:

	Scenario 1: ILEC terminates all traffic		Scenario 2: CLEC terminates all traffic		Scenario 3: Balanced traffic	
	ILEC	CLEC	ILEC	CLEC	ILEC	CLEC
Revenue	$100	$150	$200	$100	$150	$125
Cost	$100	$150	$200	$50	$150	$100
Profit	$0	$0	$0	$50	$0	$25

This table makes the obvious point that as long as the single, symmetrical termination rate is set equal to the ILEC's true termination cost, the ILEC cannot profit *from its termination service*. For it to earn any profit at all, the ILEC's unit price would have to exceed the sum of its unit origination and termination costs. Given my assumptions above, that possibility too is ruled out. Hence, the ILEC makes no profit in any of the three scenarios, i.e., regardless of whether the traffic terminated is balanced or skewed or, in the extreme, all one-way.

In contrast, if (as assumed above) the CLEC's cost to terminate ISP-bound calls is lower than the ILEC's true termination cost (therefore, lower than the termination rate), then that CLEC can actually make a profit in the second and third scenarios (CLEC terminates all traffic and balanced traffic, respectively). In fact, even with balanced traffic (the mid-point), the CLEC would earn a positive profit that would actually *increase* as the traffic

becomes increasingly one-way in the direction of that CLEC. Going the other way (traffic increasingly one-way in the direction of the ILEC), the CLEC's profit would decline but still stay positive. While at that other extreme (all one-way traffic to the ILEC), the CLEC's profit would fall eventually to zero, the CLEC would never be at risk of making a negative profit (i.e., loss).

Next consider what would happen if (as Mr. Starkey alleges) the ILEC were to overstate its termination cost and, consequently, set a higher (inflated) termination rate, say, 1.5¢ per minute. Assuming that all other costs and volumes remain the same, the revenue, cost, and profit outcomes of each carrier in the three scenarios would now be as follows:

	Scenario 1: ILEC terminates all traffic		Scenario 2: CLEC terminates all traffic		Scenario 3: Balanced traffic	
	ILEC	CLEC	ILEC	CLEC	ILEC	CLEC
Revenue	$150	$150	$200	$150	$175	$150
Cost	$100	$200	$250	$50	$175	$125
Profit	$50	-$50	-$50	$100	$0	$25

This table shows revised outcomes with a termination rate that the ILEC deliberately sets higher than it should be. First, note that with balanced traffic there is *no* change in the profit performance of *either* carrier.[9] For the ILEC, that is because its revenue from termination of traffic from the CLEC is exactly equal to its cost of terminating that traffic, regardless of the actual *level* of the termination rate. In this scenario, the ILEC's revenue rises by $25—from $150 to $175—due to a higher termination rate (as correctly claimed by Mr. Starkey) but *so does its cost* (a fact overlooked by Mr. Starkey). For the CLEC, although the termination rate is now even higher than its true termination cost, its cost rises by $25—from $100 to $125—(as correctly claimed by Mr. Starkey) but *so does its revenue* (a fact overlooked by Mr. Starkey). Therefore, at least with balanced traffic, neither carrier experiences any net gain or loss from a higher or "overstated" termination rate.

How does this finding change when traffic is not balanced? The outcomes for the other

[9] I first discussed this outcome in my direct testimony, at 21 (lines 17-33).

two (extreme) scenarios provide the answer. When the direction of traffic gets skewed toward the ILEC, the inflated termination rate increasingly benefits that ILEC (profit gain) and hurts the CLEC (profit reduction and an eventual loss). However, when the direction of traffic goes the other way, i.e., is skewed toward the *CLEC*, precisely the opposite picture emerges: the ILEC increasingly loses money while the CLEC gains additional profit. These results for the ILEC and the CLEC are best seen by comparing the profit outcomes for the two carriers under scenarios 1 and 2 (the two extremes).

Q. PLEASE EXPLAIN THE SIGNIFICANCE OF THESE OUTCOMES FROM YOUR NUMERICAL EXAMPLE.

A. These findings are significant for two reasons. First, they expose the fallacy in Mr. Starkey's arguments that BellSouth has a financial incentive to overstate its termination cost and that the effect of an inflated termination rate on ICG is necessarily detrimental. Instead, as the example clearly shows, the outcomes also depend on other factors that Mr. Starkey neglects to consider in his analysis. Most importantly, BellSouth cannot use an inflated termination rate to its financial advantage *and to ICG's detriment* unless the traffic in question is badly skewed in the direction of BellSouth. The example also clearly shows that when traffic is skewed in the direction of ICG, BellSouth would do itself harm rather than good by overstating its termination cost and setting an inflated termination rate. Having noted this possibility himself, Mr. Starkey chooses to explain BellSouth's refusal to pay reciprocal compensation for ISP-bound calls thus:

> Hence, if indeed [BellSouth's] rates for traffic transport and termination are overstated, it becomes the party most likely to be harmed. Given this scenario it has two basic options, either (1) reduce its charges to more appropriately cost-based rates, or (2) remove from the equation the reason for its "net payor" (sic) status. It is apparent that BellSouth has opted for the second option by refusing to pay reciprocal compensation for calls directed to ISP providers served by its CLEC competitors.[10]

This brings me to the second reason that my findings are significant. BellSouth has not

[10] Direct testimony of Michael Starkey, at 19.

only recognized that there is nothing to be gained from an inflated termination rate but also that because of the fundamental asymmetry between its own circumstances and those of any CLEC, it will always be at a significant financial disadvantage if reciprocal compensation were required for the termination of ISP-bound calls. As I explained earlier, BellSouth is not free to select its customers, service locations, and the type of local services it offers. With the considerable latitude and freedom enjoyed by a CLEC in these respects, it is possible for any equally or more efficient CLEC to turn reciprocal compensation for ISP-bound calls to its financial advantage by deliberately skewing the balance of traffic in its direction (to the point of making it one-way). The CLEC can accomplish this by choosing to specialize in providing only termination services for ISPs and minimizing its offer of other, more traditional local exchange services. My numerical example clearly shows that a powerful incentive for that course of action exists whenever reciprocal compensation is required for ISP-bound calls. Moreover, the more inflated the termination rate is, the greater that incentive is likely to be. But, even with the termination rate set equal to BellSouth's true termination cost, as long as a single, symmetrical termination rate is applied to ISP-bound traffic and the CLEC has a lower cost of termination *for ISP-bound traffic*, reciprocal compensation for such traffic will almost guarantee an uneven playing field for a regulation-constrained ILEC relative to its unconstrained competitors.

Q. MR. STARKEY CLAIMS [AT 17] THAT WERE BELLSOUTH TO ORIGINATE AND TERMINATE ALL LOCAL CALLS, IT WOULD BE ASKING THIS AUTHORITY AND THE FCC FOR RATE INCREASES TO PAY FOR ADDITIONAL CAPACITY INVESTMENTS. WHAT INFERENCE DOES MR. STARKEY DRAW FROM THIS, AND DOES THAT INFERENCE MAKE SENSE?

A. Mr. Starkey's point is that BellSouth's refusal to pay reciprocal compensation to ICG for local traffic it terminates from BellSouth smacks of a double standard. If BellSouth had to terminate the calls that are presently terminated by ICG, BellSouth would supposedly have to invest in new network facilities. To pay for those facilities, Mr. Starkey believes, BellSouth would seek rate increases from regulators. Therefore, BellSouth's refusal to pay reciprocal compensation to ICG amounts, in Mr. Starkey's opinion, to denying ICG a

legitimate opportunity to recover the costs that it incurs (and BellSouth avoids) whenever ICG terminates local traffic from BellSouth.

The inference that BellSouth would seek any means possible to recover its costs but deny ICG the same opportunity does not make sense. To recover the cost of additional facilities, BellSouth need *not* seek rate increases from regulators. The additional cost of those facilities would be recovered from the source of that cost: from BellSouth's own subscribers for a local call and from the ISP for an ISP-directed call. The incremental revenue from the additional service provided would be expected to recover the incremental cost of capacity expansion. There is nothing automatic about seeking cost recovery through rate increases. Similarly, a CLEC that incurs network facility costs should ideally seek recovery of those costs from the appropriate cost-causers. If the calls it terminates are ISP-bound, then the CLEC should recover its costs with usage-based charges levied on the ISP, rather than from BellSouth in the form of reciprocal compensation payments. BellSouth has never contended that a CLEC should be denied the chance to recover its costs to terminate ISP-bound traffic. Its refusal to pay reciprocal compensation for such traffic merely reflects BellSouth's economically correct belief that the CLEC (here, ICG) should seek recovery from the cost-causer (here, the ISP and its customers) rather than from BellSouth.

Q. DOES THE INFERENCE DRAWN BY MR. STARKEY LEAD TO OTHER ERRONEOUS CONCLUSIONS?

A. Yes. Perhaps the most telling is Mr. Starkey's conclusion [at 13] that were ICG to be denied reciprocal compensation payments for ISP-bound traffic by BellSouth, it would be forced to raise its rates for lines leased by ISPs and that, in turn, would drive those ISPs back into the arms of BellSouth where somehow "[BellSouth's] more mature customer base can be used to offset the costs of terminating the ISPs' traffic without raising ISP local rates." Also, according to Mr. Starkey, the ISPs that do not move back to BellSouth would then be compelled to raise their rates to their customers (for Internet service) and, in the process, fail to remain competitive with *BellSouth.net*, BellSouth's ISP service. This is an excellent example of tortured logic and of an unmitigated doomsday scenario.

As I have explained, if cost recovery follows cost causation as is economically appropriate, then ISPs should certainly be asked to bear the share of costs they cause when they market to and sign up customers for Internet service from among BellSouth's subscribers. The central problem with applying the ILEC-CLEC local interconnection view to ISP-bound traffic (as Mr. Starkey would have the Authority do) is that cost-causers would not be held responsible and the burden of cost recovery would be shifted instead to the ILEC which, for Internet service, is *not* the cost-causer. This would be no different from asking the ILEC to bear the costs caused when a subscriber uses an IXC's network to place long distance calls.

Ironically, the situation that Mr. Starkey laments is, in fact, the economically efficient and socially desirable outcome. Otherwise, if BellSouth is forced to bear a cost that should legitimately be borne by the ISP and its customers, an unwarranted subsidy is created for Internet use. As I explained earlier in my direct testimony [at 18-24], this subsidy not only distorts economic efficiency (by encouraging over-consumption of Internet service and under-consumption of other services), it also enables arbitrage-seeking CLECs to specialize in serving only ISPs and thereby distorts competition in the local exchange market. If ISPs were to face the true cost of their operations (including the cost of their leased lines) rather than be subsidized, uneconomic and inefficient entry by ISPs—created specifically for the purpose of generating reciprocal compensation revenues—would not be possible.

Mr. Starkey implies that *BellSouth.net*, BellSouth's ISP service, will gain an unfair competitive advantage if the ISPs served by ICG (or other CLECs) were asked to pay more for their leased lines. Quite the opposite is true. The *current* situation which calls for reciprocal compensation payments by BellSouth for ISP-bound traffic is competitively unfair. That is so because the ISPs that do not bear the full share of cost caused by them are being subsidized, even though *BellSouth.net* receives no such subsidy.[11] That is why

[11] Mr. Starkey alleges [at 22] that BellSouth has been able to offer a promotional price of $12.95 for the *BellSouth.net* ISP service by bundling its purchase with BellSouth's local access line and vertical services. In other words, Mr. Starkey implies that BellSouth has used such bundling to lower the price of its ISP service (if

(continued...)

ISPs seem so naturally to gravitate to CLECs (and not because, as Mr. Starkey claims, CLECs are inherently superior at meeting ISPs' needs). Removal of that subsidy would allow *BellSouth.net* to compete more evenly with other ISPs in the provision of Internet service, and BellSouth to compete more evenly with ICG and other CLECs to provide termination service to ISPs.

Finally, ISPs that return to BellSouth for call termination service would not be at a disadvantage relative to *BellSouth.net*. All call termination services received from BellSouth by *BellSouth.net* are tariffed and available on non-discriminatory terms to any ISP that competes with *BellSouth.net*.

Q. MR. STARKEY APPARENTLY BELIEVES [AT 21] THAT ALL CARRIERS HAVE THE SAME OPPORTUNITY TO COMPETE FOR "THE BUSINESS OF CUSTOMERS THAT GENERATE MORE INBOUND THAN OUTBOUND CALLING." IS THAT TRUE?

A. Absolutely not. The significant asymmetry—to which I have alluded—in the manner in which the ILEC and its CLEC competitors serve customers clearly implies that, in a regime of reciprocal compensation for ISP-bound traffic, CLECs would find it to their advantage to maximize inbound relative to outbound calling. This would most likely mean a greater emphasis on serving ISPs than on serving any other type of customer. In contrast, an ILEC like BellSouth is *obliged* to serve any individual or entity that demands service and cannot manipulate the mix of terminating and originating traffic in the manner that CLECs can. The advantage enjoyed by CLECs in this respect is two-pronged. First, by maximizing

(...continued)

not actually subsidize it). This implication is false. The fact of bundling alone is not evidence of any commingling of revenues from BellSouth's regulated and ISP services. In fact, the promotional discount offered for its ISP service stands on its own and is not made possible by any revenue support from the regulated services. BellSouth is obliged to account for its regulated and unregulated (e.g., ISP) services separately and, therefore, does not have any opportunity to cross-subsidize its unregulated services. While Mr. Starkey is careful not to claim that *BellSouth.net*'s price is predatory (i.e., below incremental cost), he relies on innuendo to create the impression that it is. Ironically, examples abound of other carriers offering discounted Internet service in packages with other services (e.g., AT&T and AllTel bundle discounted Internet service with long distance and wireless services in Florida). In fact, a CLEC could quite easily resell BellSouth's access line and vertical services along with its own discounted Internet access service.

terminating relative to originating traffic, CLECs can also maximize their revenues from reciprocal compensation. Second, by selecting customers (such as ISPs) for whom the per minute cost to terminate is lower than for the average local call, CLECs can ensure the greatest possible profit margin between the going termination rate and their lower termination cost. Because of this reality, it is clearly disingenuous to suggest, as Mr. Starkey does [at 21], that:

> The appropriate way for BellSouth to mitigate its "net payor" (sic) status for reciprocal compensation is not simply to refuse to pay for its customer's use of the ICG network, but instead to follow the demands of the competitive marketplace just as ICG and the long distance companies have (i.e., to actively compete for customers that use its own network and require other carriers to use it as well).

As I explained before, BellSouth subscribers that use the ICG network to receive Internet service are customers of the ISPs that ICG serves, not of BellSouth. The analogy with long distance companies is fortuitous because it makes precisely the opposite point from the one Mr. Starkey intends to make. When the IXCs market to end-users for the provision of long distance service, those end-users become customers of the IXCs even though they may subscribe to BellSouth for network access. Similarly, ISPs that market to end-users for the provision of Internet service turn those end-users into their customers.

Q. MR. STARKEY CLAIMS REPEATEDLY [AT 5, 8-9, 10, 12, 20, AND ELSEWHERE] THAT ICG (AND OTHER CLECs) HAVE BEEN FAR MORE SUCCESSFUL AT SECURING THE BUSINESS OF ISPs THAN BELLSOUTH BECAUSE THEY ARE BETTER ABLE TO MEET THE NEEDS OF THOSE ISPs. IS THAT A CREDIBLE CLAIM?

A. Such a claim may never be possible to verify. I do not have direct evidence on the strengths and weaknesses of BellSouth's efforts to serve ISPs relative to the efforts of ICG and other CLECs, and Mr. Starkey certainly does not offer any. While his claim may appear to put a clever spin on the observation that CLECs are increasingly signing up to serve ISPs (sometimes to the exclusion of all other local customers), it may also be a good example of putting the cart before the horse. A more likely explanation, in my opinion, is

the one I offered earlier. The combination of a lower termination per minute cost for ISP-bound traffic and a healthier profit margin from ISP termination services produces a bountiful harvest of reciprocal compensation revenues. As long as CLECs can receive reciprocal compensation for ISP-bound traffic, choose their customers, and manipulate their mix of terminating-to-originating traffic (all of which an ILEC cannot do), arbitrage in the form of ISP specialization will continue to be most profitable for CLECs. Even though such specialization is undesirable from the standpoint of overall social welfare, CLECs only bent on maximizing their private profits may continue to seek out such opportunities, perhaps to the point of vertically integrating with the ISPs they currently serve. ISPs too can benefit from such a relationship by receiving a subsidy on their leased lines (in the form of a share of the reciprocal compensation revenues earned by the CLECs that serve them) which, in turn, they can use to lower their monthly charges to their customers and further stimulate the demand for Internet service. Greater Internet usage by the ILEC's subscribers will then reinforce this cycle by generating even greater reciprocal compensation revenues for CLECs and, through sharing, for ISPs as well. Because of this, I sincerely doubt that CLECs are somehow inherently better at serving ISPs than BellSouth. Indeed, Mr. Starkey's own fear that any increase in the CLEC's line charges to ISPs would drive those ISPs back to BellSouth suggests that there is very little outside of a subsidized price to bind those ISPs to ICG and other CLECs. My belief is that the apparent trend of ISPs signing up with CLECs reflects merely arrangements of convenience that are based on arbitrage opportunities created by the requirement of reciprocal compensation for ISP-bound traffic.

Q. IN A SIMILAR VEIN, MS. SCHONHAUT CLAIMS [AT 4-5] THAT "ICG HAS FREQUENTLY BEEN ABLE TO OFFER ISPs SERVICE PAKAGES THAT ARE CAREFULLY TAILORED TO THE ISPs' OPERATIONS" AND THAT "WITH RECIPROCAL COMPENSATION FOR CALLS TO ISPs PRECLUDED AS A SOURCE OF REVENUE, ICG WOULD FIND IT NECESSARY TO WEIGH WHETHER IT WOULD BE A WISE DECISION TO PROVIDE SERVICE IN TENNESSEE." HOW DO YOU RESPOND?

A. While ICG's efforts to provide customized service to ISPs may be laudable, it does not—and should not—follow that, in the absence of reciprocal compensation for ISP-bound calls, all of those efforts would mean nothing or that ICG would even cease operations in Tennessee. The latter "implication" is, in my reading, a veiled threat that ICG's continued competitive presence in Tennessee can only be assured if the Authority were to keep in place the lucrative money pump that reciprocal compensation for ISP-bound calls has become. While I agree with Ms. Schonhaut's request [at 5] that ICG "be allowed to recoup its costs incurred on behalf of other carriers," it would be unwise to allow such cost recoupment through reciprocal compensation, rather than on a cost-causative basis. Also, Ms. Schonhaut confuses certain economically distinct issues: cost recovery must follow cost causation, and can have nothing to do with whether ICG provides a different kind of value-adding service. The essence of competition is that rival firms attempt to interest potential customers by differentiating their product, pricing the product attractively, providing customer service, etc. But they must still recover their costs from cost-causers, not from other entities (as I have explained in my direct testimony) that are neither cost-causers nor their agents. Instead of insisting that ICG receive "fair compensation" from BellSouth for ISP-bound calls, ICG should insist on receiving such compensation from the ISPs it serves and their customers.

Q. CALLING IT "NOT ACCURATE" TO BLAME CLECs FOR THE INCREASED COSTS THAT ILECs ARE EXPERIENCING IN THE FACE OF INCREASED INTERNET CALL VOLUMES, MR. STARKEY [AT 22] ATTRIBUTES THAT INCREASE TO THE "PUBLIC'S SEEMINGLY UNQUENCHABLE THIRST FOR THE INTERNET AND OTHER ELECTRONIC COMMUNICATIONS MEDIUMS ...." IS THAT ATTRIBUTION ACCURATE?

A. Of course not. Again, Mr. Starkey is quick to shift attention from what is causing possibly a significant part of the rapid growth in demand for the "Internet and other electronic communications mediums." For example, Mr. Starkey asserts [at 22] that "... it is important to note that companies like [BellSouth] are on the front lines marketing these services to feed the public's demand." It is clearly disingenuous to suggest that only

"companies like [BellSouth]" are caught up in this gold rush or feeding frenzy, and that the ISPs themselves or the CLECs that serve them have relatively less interest or a less direct role in stimulating the public's demand for the Internet or electronic media. While much of the growth of such demand is typical and characteristic of the early stages of growth of a useful and popular product, as I explained earlier, it is also in part the result of subsidies to the use of the Internet and other electronic media. Those subsidies owe themselves in large part to the sharing of reciprocal compensation revenues among CLECs and ISPs. It is precisely because CLECs receive reciprocal compensation for ISP-bound calls that their rates to ISPs (and the ISPs' monthly access charges to ISP customers) are below economically correct (cost-based) levels. That is also why possible removal of those subsidies leads Ms. Schonhaut to fear [at 5] that "ICG and other CLECs would be left to raise their rates to absorb their costs."[12] There is nothing wrong with asking each competing firm to absorb its true costs. If providing a subsidy to end-users is still in the public interest, then that subsidy should be made explicit and competitively-neutral, not selectively channeled through CLECs by means of an ill-advised reciprocal compensation scheme.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

[12] Ms. Schonhaut also contends [at 6] that denying ICG reciprocal compensation for ISP-bound calls would force ICG to raise its rates to ISPs and, in the process, depress the growth of demand for Internet use in Tennessee. Taken to its logical extreme, this argument suggests that the growth of demand for Internet use could only be maximized by making such use essentially free (i.e., zero price). Economic efficiency is best served by putting valuable scarce resources to their best possible use and pricing resources to at least recover their true costs. Giving something away for free or at a price below cost (subsidy) is necessarily economically inefficient, unless it can be proved that various unmeasured benefits from the subsidy is enough to overcome the loss of economic efficiency. That demonstration has not been made by any party in this proceeding.