

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:)
)
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. 990691-TP

Filed: August 2, 1999

DIRECT TESTIMONY

OF

CINDY Z. SCHONHAUT

ON BEHALF OF

ICG TELECOM GROUP, INC.

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DIRECT TESTIMONY AND EXHIBITS
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DIRECT TESTIMONY AND EXHIBITS
OF MICHAEL STARKEY
ON BEHALF OF ICG TELECOM GROUP, INC.
DOCKET NO. 990691-TP

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Michael Starkey. My business address is Quantitative Solutions, Inc., 857 N. LaSalle Drive, Suite 3, Chicago, Illinois 60610.

Q. WHAT IS QUANTITATIVE SOLUTIONS, INC. AND WHAT IS YOUR POSITION WITH THE FIRM?

A. Quantitative Solutions, Inc. (QSI) is a consulting firm specializing in the areas of telecommunications policy, econometric analysis and computer aided modeling. I currently serve as the firm's President.

Q. PLEASE DESCRIBE YOUR EXPERIENCE WITH TELECOMMUNICATIONS POLICY ISSUES AND YOUR RELEVANT WORK HISTORY.

A. Prior to founding QSI I was a founding partner and Senior Vice President of Telecommunications Services at Competitive Strategies Group, Ltd. (CSG). Like QSI, CSG is a consulting firm providing consulting services to international telecommunications carriers, consumer advocates and policy makers. During my tenure at CSG I represented a number of clients in regulatory proceedings across the

1 country, including numerous arbitrations held pursuant to Section 252 of the Federal
2 Telecommunications Act of 1996 (TA96).

3 Prior to joining CSG I was most recently employed by the Maryland Public
4 Service Commission as Director of the Commission's Telecommunications Division.
5 In my role as the Commission's Telecommunications Director I was responsible for
6 managing the Commission's Telecommunications Staff. My staff and I were
7 responsible for providing the Commission with telecommunications policy, economic,
8 and technical expertise. During my tenure with the Maryland Commission, I
9 managed the Commission's transition to a competitive local telecommunications
10 regulatory framework, headed the Commission's Industry Consortium on Local
11 Number Portability and represented the Commission in an industry effort aimed at
12 replenishing the supply of usable telephone numbers.

13 Prior to joining the Maryland Commission Staff I was employed by the Illinois
14 Commerce Commission as Senior Telecommunications Policy Analyst within the
15 Commission's Office of Policy and Planning (OPP). As a member of the
16 Commission's OPP Staff I was a primary witness in the Commission's "Customers
17 First" proceedings. In that capacity, I authored revisions to Commission Code Part
18 790 to incorporate "Line Side Interconnection" allowing, for the first time,
19 interconnection to unbundled network elements. I also represented the Commission
20 Staff at the Ameritech Regional Regulatory Conference (ARRC). I participated with
21 the ARRC staff in preparing a report submitted to the FCC and the U.S. Department
22 of Justice detailing Ameritech's proposal to participate in a trial waiver from the

1 Modified Final Judgement for purposes of offering in-region, inter-LATA services.
2 Before joining the Illinois Commerce Commission Staff I began my career as an
3 Economist with the Missouri Public Service Commission within the Commission's
4 Utility Operations Division. My responsibilities included recommendations to the
5 Commission with respect to the tariff filings submitted by Missouri's
6 telecommunications companies and numerous other telecommunications issues.
7 A more complete description of my relevant experience can be found in Exhibit No.
8 _____ (MS-1).

9 **Q. DO YOU HAVE DIRECT EXPERIENCE WITH THE ISSUES IN THIS CASE?**

10 A. Yes, I do. Over the past three years I have participated in a number of
11 proceedings dealing with the proper application of the Federal Communications
12 Commission's (FCC's) local competition rules and the proper implementation of
13 TA96. I have also been active in a number of cases involving the FCC's Total
14 Element Long Run Incremental Cost ("TELRIC") methodology by which prices for
15 unbundled network elements and reciprocal compensation rates must be set. I have
16 participated in arbitrations and other proceedings across the country wherein the
17 interconnection agreements and underlying incremental cost estimates of Ameritech,
18 Bell Atlantic, Southwestern Bell Telephone, Sprint, U.S. West, GTE, NYNEX, Bell
19 South and Cincinnati Bell Telephone have been at issue.

20 **Q. HAVE YOU PROVIDED TESTIMONY BEFORE STATE UTILITY**
21 **COMMISSIONS IN THE PAST?**

22 A. Yes, I have. I have over the past seven (7) years provided testimony before

1 the FCC and state utility commissions in the following states: Michigan, Illinois,
2 Maryland, Wisconsin, Indiana, Ohio, New Jersey, Pennsylvania, Massachusetts,
3 Wyoming, Hawaii, Georgia, Oklahoma, Kentucky, Mississippi and Missouri.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

5 A. The purpose of my testimony in this proceeding is to establish the economic
6 and public policy rationales supporting ICG Telecom Group, Inc.'s (ICG's) positions
7 with respect to the following issues: (1) whether traffic originated on the network of
8 one carrier and directed to an Internet Service Provider (ISP) served by another
9 carrier's network should be subject to reciprocal compensation payments, (2) the
10 appropriate reciprocal compensation rate to be paid to ICG by BellSouth
11 Telecommunications, Inc. (BST), (3) the need not only for the inclusion of
12 performance standards within the interconnection agreement, but also the inclusion
13 of liquidated damages associated with failure to meet those specified performance
14 levels and (4) the need for volume and term discounts when a company like ICG is
15 willing to commit to a given volume of unbundled network elements purchased from
16 BellSouth and/or a commitment to purchase those elements over a given period of
17 time.

18 **Q. PLEASE SUMMARIZE THE CONCLUSIONS OF YOUR TESTIMONY.**

19 A. First, though a multitude of complex legal and technical arguments have been
20 made both in support of, and in opposition to, requiring reciprocal compensation
21 payments for traffic directed to ISPs, it is simply good public policy, as well as
22 economically rational, to require payment for terminating this traffic. Second, ICG

1 efficiently deploys its network in such a way that the appropriate rate for its
2 termination of BST traffic is a rate, based upon the same rates charged by BST, that
3 compensates it for tandem switching, transport and end office switching functions.
4 Third, absent the inclusion of performance standards and liquidated damage
5 provisions for non-performance within the interconnection agreement between ICG
6 and BST, ICG will be at a distinct disadvantage in the marketplace *vis-à-vis* BST.
7 Finally, both the Telecommunications Act of 1996 and the FCC's orders in C.C.
8 Docket No. 96-98 support the need for volume and term discounts for purchases of
9 unbundled network elements when necessary to reflect underlying economic costs
10 and to maintain non-discriminatory treatment. As such, the Commission should find
11 that volume and term discounts are required when a carrier is willing to commit itself
12 to purchase a given volume of unbundled network elements or to purchase those
13 elements for a particular period of time.

14 **I. PAYMENTS FOR TERMINATING TRAFFIC TO ISPs**

15 **Q. ARE THE PARTIES IN DISAGREEMENT REGARDING SPECIFIC**
16 **LANGUAGE WITH RESPECT TO PAYMENTS FOR TERMINATING TRAFFIC TO**
17 **ISPS?**

18 A. Yes, they are. While there are still interconnection agreement drafts
19 circulating among the negotiating teams, it seems clear that BST intends to include
20 the following, or similar, language in any interconnection agreement between the
21 parties:

22 **8. Local Interconnection Compensation**

1 8.1 The Parties shall provide for the mutual and reciprocal recovery
2 of the costs of transporting and terminating local calls on each other's
3 network.

4 8.3 Interconnection with Enhanced Service Providers (ESPS) /
5 Information Service Providers (ISPs). ESP/ISP traffic shall not be
6 included in the local interconnection compensation arrangements of
7 this Agreement. (Excerpts taken from Attachment 3, Page 11 of the
8 03/15/99 draft of BellSouth's proposed interconnection agreement.)

9 ICG does not agree that the proposed language included in Section 8.3 above
10 should be included in the parties' interconnection agreement. Neither does it agree
11 that calls terminated to ISP providers should be excluded from reciprocal
12 compensation requirements. Instead, ICG requests that the Commission approve an
13 interconnection agreement between ICG and BST that excludes the language in 8.3
14 entirely and includes language that highlights the fact that calls originated on one of
15 the carriers' networks and directed to an ISP on the others' network is subject to
16 payments for reciprocal compensation.

17 **Q. CAN YOU PROVIDE SOME BACKGROUND AS TO WHY THIS ISSUE IS**
18 **IMPORTANT TO BOTH ICG AND TO BST?**

19 A. This issue is of the utmost importance to ICG because, as I am informed and
20 explain in more detail below, ICG has been notably successful in attracting ISP
21 providers and other customers requiring advanced technological services to its
22 network. BST's attempt to exclude these types of local customers from reciprocal

1 compensation obligations unfairly targets ICG's customer base and threatens to
2 leave ICG in a position of terminating a large number of BST calls without any
3 payment from BST. In essence, ICG is being asked to carry large volumes of BST
4 traffic without an ability to charge BST for its carriage.

5 While I am not attempting to speak for BST as to why it finds this issue to be
6 of such importance, I think it is safe to say that BST is oftentimes a "net payor" of
7 reciprocal compensation. This is due primarily to the fact that ALECs have been far
8 more successful in attracting ISP providers to their local service offerings than
9 BellSouth has been in retaining them. Consider that although the vast majority of
10 services and prices included in an interconnection agreement between BST and a
11 ALEC govern the rates, terms and conditions by which the ALEC will pay BST for
12 service, this is one area where BST may actually, in some circumstances, be
13 required to pay the ALEC for services the ALEC provides to BST. It is likely for that
14 reason that BST is acutely interested in the rates that will be paid for reciprocal
15 compensation and the terms and conditions under which they will be assessed.

16 **Q. HOW HAS THE FCC CHARACTERIZED CALLS TO ISPS?**

17 A. On February 26, 1999 the FCC released its *Declaratory Ruling in CC Docket*
18 *No. 96-98 and Notice of Proposed Rulemaking in CC Docket No. 96-98* (hereafter
19 "ISP Order"). At paragraph 18 of its ISP Order, the FCC states the following:

20 After reviewing the record, we conclude that, although some Internet
21 traffic is intrastate, a substantial portion of Internet traffic involves
22 accessing interstate or foreign websites.

1 Q. DOESN'T THIS FINDING BY THE FCC SUPPORT BST'S PROPOSED
2 LANGUAGE EXCLUDING ISP TRAFFIC FROM RECIPROCAL COMPENSATION?

3 A. It does not. Included in the same ISP Order, at paragraph 20, the FCC
4 includes the following language:

5 Our determination that at least a substantial portion of dial-up ISP-bound
6 traffic is interstate does not, however, alter the current ESP exemption. ESPs,
7 including ISPs, continue to be entitled to purchase their PSTN links through
8 intrastate (local) tariffs rather than through interstate access tariffs. Nor, as
9 we discuss below, is it dispositive of interconnection disputes currently before
10 state commissions. (emphasis added, footnotes removed)

11 The FCC also includes the following additional language at paragraph 25 meant to
12 ensure that state commission's aren't misled into believing that the FCC has pre-
13 empted their ability to require compensation for ISP traffic within an arbitration
14 proceeding:

15 Even where parties to interconnection agreements do not voluntarily
16 agree on an inter-carrier compensation mechanism for ISP-bound traffic, state
17 commissions nonetheless may determine in their arbitration proceedings at
18 this point that reciprocal compensation should be paid for this traffic. The
19 passage of the 1996 Act raised the novel issue of the applicability of its local
20 competition provisions to the issue of inter-carrier compensation for ISP-
21 bound traffic. Section 252 imposes upon state commissions the statutory duty
22 to approve voluntarily-negotiated interconnection agreements and to arbitrate

1 interconnection disputes. As we observed in the Local Competition Order,
2 state commission authority over interconnection agreements pursuant to
3 section 252 "extends to both interstate and intrastate matters." Thus the mere
4 fact that ISP-bound traffic is largely interstate does not necessarily remove it
5 from the section 251/252 negotiation and arbitration process. However, any
6 such arbitration must be consistent with governing federal law. While to date
7 the Commission has not adopted a specific rule governing the matter, we do
8 note that our policy of treating ISP-bound traffic as local for purposes of
9 interstate access charges would, if applied in the separate context of
10 reciprocal compensation, suggest that such compensation is due for that
11 traffic. (emphasis added, footnotes removed)

12 **Q. IF THE FCC HASN'T DECIDED THE ISSUE OF WHETHER ISP-BOUND**
13 **TRAFFIC SHOULD BE SUBJECT TO RECIPROCAL COMPENSATION, AND IF IT**
14 **IS THE STATE COMMISSIONS' RESPONSIBILITY TO DO SO, UPON WHAT**
15 **BASIS SHOULD A STATE COMMISSION MAKE SUCH A FINDING?**

16 A. First, the Commission should take special note of the following excerpt taken
17 directly from paragraph 25 of the FCC's ISP Order:

18 While to date the Commission has not adopted a specific rule governing the
19 matter, we do note that our policy of treating ISP-bound traffic as local for
20 purposes of interstate access charges would, if applied in the separate
21 context of reciprocal compensation, suggest that such compensation is due
22 for that traffic.

1 From this excerpt it seems obvious that the FCC is encouraging state commissions
2 to make findings consistent with its policy of treating ISP-bound traffic as local for
3 purposes of applying interstate access charges. That is, the FCC is encouraging
4 state commission's to require reciprocal compensation payments for ISP bound
5 traffic.

6 Second, the Commission, as always, should rely upon sound public policy and
7 economic reasoning to find that ISP-bound traffic should be subject to reciprocal
8 compensation obligations. The Commission should keep in mind that its decisions
9 in this regard will have substantial impact on the internet marketplace and the
10 investment required to realize the potential of electronic communication and
11 commerce as a whole.

12 **Q. PLEASE EXPLAIN WHY SOUND PUBLIC POLICY AND ECONOMIC**
13 **REASONING SUPPORT RECIPROCAL COMPENSATION PAYMENTS FOR ISP-**
14 **BOUND TRAFFIC.**

15 A. The list below provides an overview of the public policy and economic
16 rationale that support requiring payments for ISP bound traffic via the application of
17 transport and termination charges (*i.e.* reciprocal compensation):

18 (a) ISP providers are an important market segment for CLECs and
19 eliminating a CLEC's ability to recover its costs associated with serving them
20 is likely to distort one of the only local exchange market segments that
21 appears to be well on its way toward effective competition. ISPs have been
22 drawn to CLECs like ICG because these CLECs, unlike incumbent carriers

1 (ILECs) such as BST, have been willing to meet their unique service needs.
2 Allowing ILECs to direct calls to the ISPs by using the CLEC network without
3 compensating them for its use, penalizes the CLEC for attracting customers
4 *via* innovative and customer service focused products.

5 (b) Despite complex legal arguments and historical definitions, the simple
6 fact remains that calls directed to ISPs are functionally identical to local voice
7 calls for which BST agrees to pay termination charges. Applying different
8 termination rates or, even worse, compensating a carrier for one type of call
9 and not for the other, will generate inaccurate economic signals in the
10 marketplace, the result of which will drive firms away from serving ISPs. This
11 result could have a dire impact on the growing electronic communication and
12 commerce markets.

13 (c) Requiring carriers to pay reciprocal compensation rates for the
14 termination of ISP bound traffic is economically efficient. Indeed, because
15 termination rates must be based upon their underlying costs, BST should be
16 economically indifferent as to whether it itself incurs the cost to terminate the
17 call on its own network or whether it incurs that cost through a reciprocal
18 compensation rate paid to ICG. The fact that BST is not economically
19 indifferent stems from its incentive to impede ICG's entry into the marketplace
20 instead of an incentive to be as efficient as possible in terminating its traffic.

21 (d) Because BST is required to pay, as well as receive, symmetrical
22 compensation for local exchange traffic based upon its own reported costs,

1 its payments to other carriers in this regard are an important check on BST's
2 cost studies used to establish rates for the termination of traffic. Unless BST
3 is required to pay the costs that it itself has established *via* its own cost
4 studies, it has every incentive to over-estimate those costs for purposes of
5 raising barriers to competitive entry. By removing large traffic volume
6 categories such as ISP bound traffic from BST's obligation to pay terminating
7 costs, the Commission would be removing an important disciplining factor
8 associated with ensuring that BST's reported termination costs are
9 reasonable.

10 **Q. PLEASE EXPLAIN IN GREATER DETAIL YOUR CONTENTION THAT**
11 **BECAUSE ISP PROVIDERS ARE AN IMPORTANT MARKET SEGMENT FOR**
12 **ALECS, ELIMINATING AN ALEC'S ABILITY TO RECOVER ITS COSTS**
13 **ASSOCIATED WITH SERVING THEM IS LIKELY TO DISTORT THE MARKET.**

14 A. Transitionally competitive markets like the local exchange market have shown
15 that new entrants are usually most successful in attracting customers that (1) are
16 most disaffected by the services or quality offered by the incumbent, (2) have
17 technological, capacity or other specific requirements that are not easily met by the
18 incumbent's oftentimes inflexible service offerings and/or (3) don't have a long history
19 of taking service from the incumbent. ISP providers fall directly into all three of these
20 categories. Many of them have been unable to reach agreement with incumbent
21 LECs in areas such as pricing for high capacity lines, provisioning intervals,
22 collocation of their equipment in ILEC central offices or even, in some circumstances,

1 the ability to purchase service in sufficient quantity to meet their own end-user
2 customer demands. Likewise, most ISP organizations are fairly new and have begun
3 their enterprise at a time when competitive alternatives for local exchange services
4 are available. Hence, it is reasonable to expect that these types of businesses are
5 less restricted by long term agreements, a long storied business relationship or other
6 circumstances that often breed loyalty to the incumbent. The fact that these
7 customers are far more likely to explore competitive opportunities than more
8 traditional residential and/or business customers has made them an extremely
9 important customer base for ALECs.

10 Likewise, ALECs, like ICG, because of their oftentimes unproven track record
11 and non-existent customer base in new markets, have been forced to target
12 customers that require services specifically tailored to their strengths (*i.e.* customer
13 service, new technology deployment and substantial spare capacity). Given these
14 characteristics, ISP providers and ALECs are often times "made for one another."
15 ISP's have flocked to new entrant ALECs in increasing numbers. Likewise, ALECs
16 have worked with ISPs to design new and innovative services and have provided
17 ISPs the capacity they need to meet their customers' increasing demands.

18 **Q. IS THE FACT THAT ALECS SERVE ISPS IN GREATER PROPORTION**
19 **THAN A MATURE INCUMBENT LIKE BST THE RESULT OF A MARKET**
20 **FAILURE?**

21 **A.** Not at all. The relationships between ALECs and ISPs, as described above,
22 are the direct result of how a competitive market is meant to work. Carriers who are

1 unwilling to meet the demands of their customers-as ILECs have shown an
2 unwillingness to work with ISPs-lose those customers to carriers who are more
3 accommodating. Likewise, carriers who provide customer focused services and
4 supply the capacity required to meet their customers' demands are rewarded. The
5 fact that relatively new customers who require specific technological support have
6 embraced new, competitive local carriers is one of the most promising outcomes of
7 the local exchange market's transition to competition. Indeed, ISPs and other
8 technologically reliant customer groups are, in many cases, providing the revenue
9 and growth potential that will fund further ALEC expansion into other more traditional
10 residential and business markets.

11 **Q. IF THE COMPETITIVE MARKETPLACE FOR ISP CUSTOMERS APPEARS**
12 **TO BE WORKING WELL, WHY IS ICG ASKING THE COMMISSION FOR ITS**
13 **ASSISTANCE IN THIS ARBITRATION?**

14 A. Within the interconnection agreement at issue in this proceeding, BST is
15 refusing to pay for traffic that originates on its network and is directed to a local ISP
16 customer served by ICG. Simply put, BST is asking that ICG avail its facilities for the
17 use of BST's customers without compensation for its efforts. Traffic originated on the
18 BST network and directed to ICG's local ISP customers is no different, either from a
19 technical or cost basis, than other types of traffic for which BST has agreed to
20 provide reciprocal compensation (*e.g.*, calls to ICG local business and residential
21 customers). Given this, and the fact that ICG has agreed to pay BST for traffic
22 originating on the ICG network and directed to a BST local ISP customer, ICG

1 believes that the Commission should require BST to compensate it for such calls.

2 **Q. EARLIER YOU MENTIONED THAT ALLOWING BST TO REMOVE ITS**
3 **OBLIGATION TO COMPENSATE ICG FOR TRAFFIC DIRECTED TO ITS LOCAL**
4 **ISP CUSTOMERS WOULD DISTORT ONE OF THE ONLY LOCAL EXCHANGE**
5 **MARKET SEGMENTS THAT APPEARS TO BE WELL ON ITS WAY TOWARD**
6 **EFFECTIVE COMPETITION. CAN YOU EXPLAIN THIS CONCEPT IN GREATER**
7 **DETAIL?**

8 A. As I described above, ALECs have been successful in attracting a number of
9 ISP customers because they have offered those customers innovations and
10 reasonably priced advanced services at a level of customer care that BST was
11 unable or unwilling to provide. As such, BST has lost a number of these customers
12 to ICG and other ALECs resulting in this particular market segment exhibiting some
13 of the most competitive characteristics of any segment in the local market.

14 It is no coincidence that BST refuses to pay reciprocal compensation for calls
15 directed to this particular customer group. If BST can successfully remove itself from
16 an obligation to compensate ALECs for calls directed to their ISP customers, BST will
17 have accomplished two goals very dangerous to the competitive marketplace.

18 First, BST will have been successful in branding ISP customers as
19 "unattractive" customers from a local provider's standpoint because only ISP
20 customers will generate costs for their local service provider without providing the
21 reciprocal compensation revenues required to recover those costs. By branding ISP
22 customers as unattractive customers, BST will have significantly diminished the hard-

1 earned victories made by its competitor ALECs. This result stems from the fact that
2 a disproportionate percentage of BST's competitors' customer base (ISPs) will
3 immediately turn from highly valued customers to customers that are likely to be
4 unprofitable. This will have a significant impact on the viability of many competitive
5 carriers and may, at least in the short term, significantly impact their ability to attract
6 capital and other resources necessary to further penetrate the BST market.

7 Second, without the reciprocal compensation revenues necessary to recover
8 costs caused by BST's customers directing traffic to the ICG network, ICG and other
9 ALECs will have no choice but to raise rates charged specifically to ISP local
10 customers to recover their costs (e.g., a DS-1 service provided to a business
11 customer could be provided at a lower rate than the same DS-1 provided to an ISP
12 simply because the rate charged to the ISP must recover costs of terminating traffic
13 that originate from the BST network). At a minimum, this will disrupt the ISP
14 marketplace and is likely to send many ISPs back to BST where BST's more mature
15 customer base can be used to offset the costs of terminating the ISPs traffic without
16 raising ISP local rates.

17 Further, because their local exchange rates are increasing, ISPs who do not
18 return to BST will have little choice but to raise the rates charged to their individual
19 end users. This will in turn make *BellSouth.net*, BST's ISP retail service, more
20 attractive to individual end users, further stifling competition. All of these
21 circumstances would disrupt a competitive segment of the local exchange
22 marketplace that seems to be operating more effectively than most other more

1 traditional segments. The fact that each of these disruptions happens to benefit BST
2 should not be lost on the Commission when it considers BST's rationale for refusing
3 to pay reciprocal compensation for ISP bound traffic.

4 **Q. PLEASE EXPLAIN IN GREATER DETAIL YOUR CONTENTION THAT**
5 **CALLS DIRECTED TO ISPS ARE FUNCTIONALLY IDENTICAL TO LOCAL VOICE**
6 **CALLS FOR WHICH BST HAS AGREED TO PAY TERMINATION CHARGES.**

7 A. A ten minute call originated on the BST network and directed to the ICG
8 network travels exactly the same path, requires the use of exactly the same facilities
9 and generates exactly the same level of cost regardless of whether that call is dialed
10 to an ICG local residential customer or to an ISP provider. The simplistic diagram,
11 attached as Exhibit No. ____ (MS-2), details one scenario by which such a call might
12 travel.

13 As you can see from the diagram, regardless of whether the originating
14 customer dials either the ICG residential customer or the ICG ISP customer, the call
15 travels from the originating customer's premises to the BST central office switch,
16 which then routes the call to the BST/ICG interconnection point and ultimately to the
17 ICG switch. From the ICG switch the call is then transported to either the residential
18 customer or the ISP customer depending upon the number dialed by the BST caller.
19 Both calls use the same path and exactly the same equipment to reach their
20 destinations. To single out the ISP call and suggest that \$0 compensation should be
21 paid for purposes of carrying that particular call and some other, non-zero rate
22 should be applied to all other calls ignores the simple economic reality that both calls

1 generate costs that must be recovered by the reciprocal compensation rate paid for
2 their carriage.

3 **Q. WOULD THERE BE NEGATIVE ECONOMIC RESULTS FROM ALLOWING**
4 **BST TO PAY \$0 FOR CALLS DIRECTED TO ISPS WHILE PAYING A NON-ZERO**
5 **RATE FOR ALL OTHER CALLS?**

6 A. Of course. Given the option of receiving an amount greater than zero for
7 carrying a non-ISP call and \$0 for carrying an ISP call, any reasonable carrier would
8 fill its switch with non-ISP calls to the extent possible. Likewise, any carrier that
9 currently served a larger proportion of ISP customers would be a less profitable
10 network than a network that served a smaller proportion of ISP customers. In effect,
11 allowing BST to skirt its obligation to pay for the use of an interconnecting carrier's
12 network for purposes of terminating its local customers' calls to ISP providers will
13 skew the supply substitutability of ISP services versus other local services, thereby
14 making other local exchange services more attractive production alternatives. This
15 will in turn raise ISP prices in relation to other local exchange services thereby
16 impairing an ISP's ability to receive services at rates comparable to other local end
17 users. Not only is this in direct conflict with the FCC's decision to treat ISP traffic as
18 local, so as to place ISPs on a level playing field with other local customers, it also
19 is likely, all else being equal, to suppress ISP communication demand versus other
20 types of non-ISP communication. This price discrimination effect will mean electronic
21 communication and commerce demand will undoubtedly grow at a slower pace than
22 if there were no discrimination. Any difference between the unrestricted growth of

1 electronic communication and the suppressed growth caused by the uneconomic
2 price discrimination described above would result in a net welfare loss due to the
3 inefficient market consequences of BST's failure to pay reciprocal compensation
4 rates.

5 **Q. PLEASE EXPLAIN IN MORE DETAIL THROUGH EXHIBIT NO. ___ (MS-3)**
6 **YOUR CONTENTION THAT BECAUSE TERMINATION RATES MUST BE BASED**
7 **UPON THEIR UNDERLYING COSTS, BST SHOULD BE ECONOMICALLY**
8 **INDIFFERENT AS TO WHETHER IT ITSELF INCURS THE COST TO TERMINATE**
9 **THE CALL ON ITS OWN NETWORK OR WHETHER IT INCURS THAT COST**
10 **THROUGH A RECIPROCAL COMPENSATION RATE PAID TO ICG.**

11 A. Assume that a BST customer calls another BST customer within the same
12 local calling area. The path the call travels will be very similar to the path detailed
13 earlier in Diagram 1, except that both end offices will now be owned by BST as
14 shown below:

15 In such a circumstance, BST incurs costs associated both with originating the
16 call and terminating the call for which it is paid, by its originating customer, a local
17 usage fee (either a flat fee per month or a per message or per minute charge). When
18 compared to our original diagram, it is easy to see that the only difference between
19 a call made between two BST local customers and the call made from a BST
20 customer to an ICG customer is that ICG's central office serves the terminating
21 switching function that was originally performed by the BST switch. In this way, BST
22 avoids those terminating switching costs and ICG incurs them. Hence, if BST has

1 accurately established its terminating reciprocal compensation rate based upon its
2 own costs of terminating a call, it should be economically indifferent with respect to
3 whether a call both originates or terminates on its own network or whether a call
4 terminates on the ICG network. BST will either incur the terminating cost via its own
5 switch or it will incur that cost via a cost based rate paid to ICG for performing the
6 termination function. Either way, the extent to which a particular call is directed to
7 a residential or business customer, or an ISP provider is irrelevant to the economics
8 of the call.

9 **Q. WHY IS THIS POINT IMPORTANT TO UNDERSTAND IN TERMS OF THE**
10 **DISPUTE REGARDING PAYMENT FOR ISP BOUND TRAFFIC AT ISSUE IN THIS**
11 **PROCEEDING?**

12 A. This point is important for two reasons. First, assume that neither ICG nor any
13 other ALEC existed and that BST provides local services to 100% of the customer
14 base. Assume further that ISP traffic is occurring at today's levels and has
15 experienced significant growth over the past few years with future growth expected
16 to be even greater. In such a circumstance, BST would be responsible not only for
17 originating every call but also for terminating every call, including calls made to ISP
18 providers. BST would undoubtedly need to reinforce its network to accommodate the
19 additional capacity requirements associated with this increase in traffic and would
20 undoubtedly be asking state commissions and the FCC for rate increases intended
21 to recover those additional investment costs. It seems highly unlikely under such a
22 circumstance that BST would be arguing that terminating traffic to an ISP provider

1 should be done for free, indeed, it would be the only carrier to suffer. However, that
2 is exactly what BST is asking this state commission to do in this case. The
3 arbitration issue before the Commission in this case differs from our hypothetical
4 above in that instead of only BST investing in its network to meet the capacity
5 requirements of the traffic volume increases that have occurred over the past few
6 years, new entrants have also invested capital and have deployed their own
7 switching capacity to accommodate this growth. Likewise, as BST would have
8 undoubtedly argued in our hypothetical above that it should be compensated for its
9 additional investment to meet this growth, those carriers should also be compensated
10 for terminating that traffic such that their investments can be recovered.

11 The second reason is of paramount importance because it is at the heart of
12 the dispute between the parties in this case. As I have shown above, BST should be
13 indifferent as to whether it terminates the traffic or it avoids the costs of termination
14 and pays someone else, namely a ALEC, to do so. Yet we know that BST is not
15 indifferent because it has refused to agree to such a compensation framework. The
16 question is: Why? The answer lies in one of two reasons. Either (1) BST's rate for
17 call termination is not representative of its actual underlying costs and it realizes that
18 paying an ALEC for terminating traffic actually makes it economically "worse off" than
19 terminating the traffic itself, or (2) it has a competitive interest in not providing a cost
20 recovery mechanism for its competitors regardless of the extent to which it is
21 economically indifferent on any given call.

22 **Q. DO YOU BELIEVE THAT EITHER OF YOUR CONTENTIONS ABOVE IS**

1 **LIKELY TO BE AT THE ROOT OF BST'S REFUSAL TO PAY COMPENSATION**
2 **FOR CALLS DIRECTED TO ISP PROVIDERS SERVED BY AN ALEC?**

3 A. Obviously, I can't speak to what motivates BST's position in this respect.
4 However, I can speak to the economic incentives that are at work in the local
5 exchange marketplace and how participants within that marketplace react to them.
6 And, in this case, BST has an incentive (though an incentive steeped in self-interest)
7 to refuse payment for traffic directed to an ISP served by an ALEC for both of the
8 reasons described above.

9 As I mentioned earlier, with respect to 99% of the services included in the
10 interconnection agreement between BST and ICG, ICG will be required to pay BST
11 for services rendered. Hence, BST has every incentive to overestimate its
12 underlying costs associated with the services it provides to ICG. By doing so, it not
13 only increases its revenues from providing these services, it also raises the costs of
14 its competitor thereby protecting its retail prices and slowing its competitor's entry
15 into the marketplace. However, in the case of reciprocal compensation, it has come
16 to BST's attention that it has become, in many cases, a net payor of termination
17 charges because ALECs have been successful in attracting ISP providers and other
18 technologically demanding customers. Hence, if indeed its rates for traffic transport
19 and termination are overstated, it becomes the party most likely to be harmed. Given
20 this scenario it has two basic options, either (1) reduce its charges to more
21 appropriately cost based rates, or (2) remove from the equation the reason for its
22 "net payor" status. It is apparent that BST has opted for the second option by

1 refusing to pay reciprocal compensation for calls directed to ISP providers served by
2 its ALEC competitors.

3 Likewise, even if BST's rates for transport and termination of traffic are in line
4 with its actual costs, and it should be truly economically indifferent with respect to
5 who terminates any given call, it still has an economic incentive to limit the amount
6 of reciprocal compensation it pays to its competitors. By paying reciprocal
7 compensation to its competitor, BST is in effect providing its competitor a revenue
8 stream by which it can recover its investments and ultimately, extend its operation.
9 Obviously, this is not in BST's self interest regardless of the extent to which those
10 competitors reduce its own termination costs. Said another way, given the option of
11 providing services more efficiently and at lower costs in a market full of competitors
12 or providing higher cost services as a monopolist, it is easy to see which option most
13 rational profiteers would chose.

14 **Q. YOU MENTION ABOVE THAT ALECS LIKE ICG HAVE BEEN**
15 **SUCCESSFUL IN ATTRACTING ISPS AND OTHER TECHNOLOGICALLY**
16 **DEMANDING CUSTOMERS. WHAT DO YOU MEAN BY "OTHER**
17 **TECHNOLOGICALLY DEMANDING CUSTOMERS?"**

18 A. The New York Public Service Commission is currently in the midst of a
19 proceeding to address the issue of whether ISP bound traffic should be subject to
20 reciprocal compensation. One of the issues that has surfaced in that proceeding is
21 that ALECs have been successful in attracting not only ISP providers, but more
22 generally, customers that manage large call volumes (both inward and outward) and

1 have unique or advanced technological needs. As I discussed earlier, that isn't
2 surprising given that innovation, technological expertise and advanced service
3 offerings are the strengths of many ALECs -ICG included. The fact that these types
4 of customers have flocked to ALECs is simply the workings of a transitionally
5 competitive marketplace matching supply and demand in the most efficient manner.
6 However, the presence of these other large volume customers highlights the fact that
7 ISPs are not alone in generating larger inbound than outbound traffic. A growing
8 number of mail order companies, customer service centers and local chat lines are
9 also relying upon the ALEC's ability to manage their complex telecommunications
10 needs and provide the capacity they require at reasonable prices. A great number
11 of these organizations also elicit disproportionate inbound calling volumes similar,
12 if not more disproportionate, than ISP providers. Singling ISP providers out and
13 holding that only the calls directed to them should be refused compensation would
14 unfairly distinguish them not only from all other local exchange customers in general,
15 but also from other local customers that have exactly the same calling
16 characteristics. If we follow BST's logic in this regard far enough, we must eventually
17 find payments for reciprocal compensation are available only for customers that have
18 calling patterns wherein they receive no greater number of calls than they originate.
19 This is obviously absurd.

20 **Q. IF IT ISN'T FEASIBLE, OR ECONOMICALLY RATIONAL, TO ALLOW**
21 **CARRIERS TO REFUSE PAYMENT FOR LOCAL CUSTOMERS THAT GENERATE**
22 **LARGER INBOUND CALLING VOLUMES THAN OUTBOUND CALLING**

1 **VOLUMES, HOW CAN A CARRIER ENSURE THAT IT IS NOT A NET PAYOR OF**
2 **RECIPROCAL COMPENSATION PAYMENTS?**

3 A. First, as I've described above, except for competitive concerns regarding the
4 provision of funds to a competitor for recovery of its costs, a carrier should be
5 economically indifferent with respect to whether it terminates a call or another carrier
6 terminates the call *on its behalf*. However, even if this were not true, every carrier
7 has the opportunity to compete for the business of customers that generate more
8 inbound than outbound calling. Hence, any carrier can actively target ISPs, mail
9 order companies, customer care centers or even pizza delivery stores that generate
10 significant inbound calling. This is no different than the long distance marketplace
11 where charges are generally assessed on outbound calls. Long distance companies
12 for years have targeted large outbound calling users such as research firms, direct
13 marketers and large businesses. The appropriate way for BST to mitigate its "net
14 payor" status for reciprocal compensation is not to simply refuse to pay for its
15 customers' use of the ICG network, but instead to follow the demands of the
16 competitive marketplace just as ICG and the long distance companies have (*i.e.*, to
17 actively compete for customers that use its own network and require other carriers
18 to use it as well).

19 **Q. IN COMMENTS TO THE FCC, AND A NUMBER OF OTHER DOCUMENTS,**
20 **ILECS HAVE ARGUED THAT IT IS UNFAIR TO FORCE THEM TO PAY ALECS**
21 **FOR TERMINATING TRAFFIC TO ISPS WHEN THEY ARE UNABLE TO**
22 **RECOVER THOSE RECIPROCAL COMPENSATION PAYMENTS EITHER**

1 THROUGH ACCESS CHARGES ASSESSED ON THE ISP OR FOR USAGE
2 CHARGES ASSESSED TO THEIR OWN LOCAL CUSTOMERS. DO YOU HAVE
3 ANY COMMENTS REGARDING THIS ISSUE?

4 A. Yes, I do. First, I've already discussed the fact that calls to ISPs are really
5 indistinguishable from calls to any other local customer. Hence, the fact that a call
6 is directed to an ISP or to a local residential customer is really irrelevant to this
7 argument. This argument does not support BST's position that it will pay termination
8 charges for calls made to residential and business customers yet not for calls
9 directed to an ISP provider.

10 Second, however, there seems to be some indication in this argument that
11 ALECs are to blame for the increased costs the ILECs contend they are facing in
12 meeting calling volume requirements associated with electronic communication and
13 commerce. This simply isn't accurate. It is the public's seemingly unquenchable
14 thirst for the internet and other electronic communications mediums that have caused
15 the increased calling volumes which generate costs associated with carrying local
16 traffic to the internet. And, it is important to note that companies like BST are on the
17 front lines marketing these services to feed the public's demand. For example, BST
18 aggressively markets its own internet product *BellSouth.net* by offering customers
19 reduced rates when they purchase the company's internet services in combination
20 with its local access line and vertical feature packages. Indeed, *BellSouth.net*
21 provides an "unlimited usage" package to its customers at prices (\$12.95 per month)
22 far below its most notable competitor America Online (approximately \$20.95).

1 To suggest that BST has no method by which to recover costs associated with
2 increased internet traffic is also somewhat disingenuous. BST, more than any other
3 ILEC in the nation, has been advantaged by the electronic communications
4 revolution as it has significantly increased the demand for second access lines
5 ordered and used by its local customers. According to a BST news release:

6 Second lines increased 21 percent, and accounted for nearly half of all new
7 residential hook-ups in 1995. With 1.3 million second lines, BellSouth has the
8 most of any telephone company in the U.S. BellSouth markets additional lines
9 to satisfy the growing customer demand for access to the internet,
10 telecommuting and home offices, in-home fax machines, and children's
11 phones. (*BellSouth Reports Record Quarter, Year*, taken from
12 <http://www.bellsouthcorp.com/proactive/documents/render/10191.html>)

13 Likewise, it appears that since 1995, second access line growth has increased at an
14 ever more impressive pace according to BST's 1998 10K Report to the Securities
15 and Exchange Commission:

16 Switched residence lines increased by 3.9% in the period ended December
17 31, 1998, compared to a growth rate of 4.6% in 1997. In addition to continued
18 economic growth in the region, the growth rate reflects demand for additional
19 lines related to home office purposes, access to on-line computer services
20 and children's phones. The number of such additional lines increased by
21 375,000 (19.9%) to 2,259,000 and accounted for approximately 61% of the
22 overall increase in switched residence lines since December 31, 1997.

1 (Taken from page 27 of the electronic version of BellSouth Corporation's 10K
2 Report filed with the Securities and Exchange Commission for operations in
3 1998.)

4 The suggestion that BST should be allowed to reap large windfalls for second
5 lines and enjoy profitability from its own retail internet service offering while at the
6 same time refusing to pay for the use of ICG's network for carrying traffic originating
7 by its growing customer base to ICG's ISP providers is without merit and should be
8 rejected by the Commission.

9 **II. BST SHOULD PAY ICG A RECIPROCAL COMPENSATION RATE BASED**
10 **UPON THE RECOVERY OF TANDEM, TRANSPORT AND END OFFICE**
11 **TERMINATION COSTS**

12 **Q. PLEASE DESCRIBE IN MORE DETAIL WHAT YOU MEAN WHEN YOU**
13 **STATE THAT BST SHOULD COMPENSATE ICG FOR TERMINATING TRAFFIC**
14 **BASED UPON THE RECOVERY OF TANDEM, TRANSPORT AND END OFFICE**
15 **TERMINATION COSTS?**

16 A. This issue is most effectively framed by the FCC in its Local Competition
17 Order at paragraph 1090 (*First Report and Order*, CC Docket No. 96-98, Released
18 August 8, 1996, ¶ 1090.):

19 1090. We find that the "additional costs" incurred by a LEC when
20 transporting and terminating a call that originated on a competing carrier's
21 network are likely to vary depending upon whether tandem switching is
22 involved. We, therefore, conclude that states may establish transport and

1 termination rates in the arbitration process that vary according to whether the
2 traffic is routed through a tandem switch or directly to an end-office switch.
3 In such event, states shall also consider whether new technologies (e.g. fiber
4 ring or wireless networks) perform functions similar to those performed by an
5 incumbent LEC's tandem switch and thus, whether some or all calls
6 terminating on the new entrant's network should be priced the same as the
7 sum of transport and termination via the incumbent LEC's tandem switch.
8 Where the interconnecting carrier's switch serves a geographic area
9 comparable to that served by the incumbent LEC's tandem switch, the
10 appropriate proxy for the interconnecting carrier's additional costs is the LEC
11 tandem interconnection rate.

12 **Q. DOES ICG'S SWITCH SERVE A GEOGRAPHIC AREA COMPARABLE TO**
13 **THAT SERVED BY THE INCUMBENT LEC'S (BST'S) TANDEM SWITCH?**

14 A. Yes, it does. ICG, like many new entrant ALECs, generally deploys its
15 individual switches to cover a large geographic area served by a common transport
16 network. The advent of fiber optic technologies and multi-function switching
17 platforms have, in many cases, allowed carriers like ICG to serve an entire statewide
18 or LATA-wide customer base from a single switch platform. Likewise, the ability to
19 aggregate unbundled loops from collocations within a number of ILEC central offices
20 while transporting that traffic to a single location allows these carriers to originate,
21 switch and terminate traffic between callers located many miles apart with a single
22 switch. The diagram in Exhibit No. ____ (MS-4) provides a more detailed look at how

1 the ICG switch platform and its multiple collocation arrangements allows it to
2 maximize the geographic capabilities of its switching platform:

3 As Diagram 3 depicts, ICG uses its single switching platform not only to
4 transfer calls between multiple ILEC central offices and the customers that are
5 served by those central offices, but also to transfer calls between the ICG and ILEC
6 network. In this way, the ICG switch provides services to customers in a geographic
7 area at least as large as that serviced by the ILEC tandem.

8 **Q. DOES THE ICG SWITCHING PLATFORM PERFORM THE SAME**
9 **FUNCTIONS AS AN ILEC TANDEM SWITCH?**

10 A. Yes, it does. Although the FCC order requires only that a ALEC's switch
11 serve a geographic area comparable to that served by an ILEC tandem to qualify for
12 tandem termination rates, in the case of ICG, its switch also performs many of the
13 same functions that the ILEC tandem performs, further indicating that tandem
14 termination rates are appropriately paid for its use. Tandem switches (what are
15 commonly called Class 4 switches in the traditional AT&T hierarchy), generally
16 aggregate toll traffic from a number of central office switches (Class 5 switches) for
17 purposes of passing that traffic to the long distance network. The tandem switch is
18 also a traditional focal point for other purposes as well, including the aggregation
19 and processing of operator services traffic, routing traffic that is to be transferred
20 between the trunk groups of two separate carriers and measuring and recording toll
21 traffic detail for billing. While ILECs have traditionally employed two separate
22 switches to accomplish these Class 4 and Class 5 functions, ICG's Lucent 5ESS

1 platform performs all of these functions in addition to a number of others within the
2 same switch.

3 **Q. HOW CAN ICG PROVISION SO MANY OF THE SAME FUNCTIONS FROM**
4 **A SINGLE SWITCH WHEN BST REQUIRES ADDITIONAL SWITCHES?**

5 A. Simply put, the economics of network construction have changed since the
6 time that the majority of the BST network was put in place, allowing new and very
7 different network architectures. Because of their monopoly status and their ability to
8 serve the entire local exchange customer base, ILECs have generally placed local
9 end office switches in generous numbers in an attempt both to accommodate the
10 number of individual access lines that require service within a finite geographic area
11 as well as to minimize the length of the copper facilities needed to serve an individual
12 customer. The dynamics of this network architecture have generally been governed
13 by what is commonly referred to as the "switch/transport tradeoff." The
14 switch/transport tradeoff is an economic give-and-take recognizing that ILECs, when
15 building and maintaining their networks, generally have a choice between building
16 very long copper loops from end users to a small number of centrally located end
17 office switches or, deploying numerous switches across their service territory for
18 purposes of limiting the amount of copper plant required to serve customers at their
19 geographically dispersed locations. At the time the majority of the ILEC network was
20 built, switches were very limited in the number of individual lines they could service
21 and copper plant was the most expensive portion of the network to deploy.
22 Therefore, ILECs chose to trade switching costs for copper plant costs by deploying

1 greater numbers of switches and shorter copper loops. However, with the advent of
2 relatively inexpensive fiber optic transport facilities and the enormous switching
3 capacity available in today's switching platforms, the economics of the
4 switch/transport tradeoff have changed. ALECs today are able to perform many of
5 the same functions with a single switch that may be performed by at least two
6 switches in the BST network.

7 **Q. IF BST REQUIRES TWO SWITCHES TO TERMINATE A CALL WHEN ICG**
8 **REQUIRES THE USE OF ONLY ONE, WHY SHOULD ICG BE PAID THE SAME**
9 **TANDEM TERMINATION RATE AS THAT PAID TO BST?**

10 A. ICG should receive the same tandem termination rate as that paid to BST
11 because ICG's switch serves a comparable geographic area and performs the same
12 functionality as the BST tandem switch and end office switch combined. Likewise,
13 transport and termination rates paid to ICG recover costs in addition to those
14 incurred by its switch. If we refer back to Diagram 3 above, the dotted circular line
15 represents the fiber optic ring that ICG either owns or leases for purposes of
16 transmitting traffic amongst its collocation locations and between itself and other
17 carriers. For example, assume a BST customer served by ILEC Central Office C
18 calls an ICG customer served *via* ICG's collocation at ILEC Central Office A. In this
19 scenario BST will pass the call to ICG at the two carriers' point of interconnection.
20 From that point, ICG's switching platform will direct the call to another piece of
21 equipment located at ICG's collocation cage at ILEC central office A. This piece of
22 equipment works as an extension of the ICG switch for purposes of terminating the

1 call to the proper unbundled loop serving the called customer. Hence, in addition to
2 switching costs associated with identifying the appropriate termination point for BST's
3 call, ICG has also transported the call to the proper collocation point using its fiber
4 optic transport network (many times miles away from the ICG switch) and identified
5 the appropriate unbundled loop to which the call must be completed. This process
6 is no different than the process BST would follow to terminate a similar call originated
7 on the ICG network and terminated to its own Central Office A.

8 **Q. WHAT RATE SHOULD BST PAY TO ICG FOR TERMINATION OF ITS**
9 **TRAFFIC?**

10 A. BST should pay to ICG a combined rate equal to the rate ICG pays to BST for
11 terminating its traffic *via* the following individual rate elements: tandem switching,
12 transport and end office switching.

13 **Q. SHOULD THE COMMISSION RELY UPON BST'S COSTS FOR TANDEM**
14 **SWITCHING, TRANSPORT AND END OFFICE SWITCHING TO SET THE RATE**
15 **THAT ICG WILL CHARGE BST FOR TERMINATING ITS TRAFFIC?**

16 A. Yes, it should. As the FCC points out at paragraphs 1085 thru 1089 in its
17 *Local Competition Order*, BST should pay ICG rates for reciprocal compensation
18 equal to its own reported costs for tandem switching, transport and end office
19 switching. For example, the following excerpt is taken from paragraph 1085 of the
20 Commission's *Local Competition Order*:

21 Regardless of whether the incumbent LEC's transport and termination prices
22 are set using a TELRIC-based economic cost study or a default proxy, we

1 conclude that it is reasonable to adopt the incumbent LEC's transport and
2 termination prices as a presumptive proxy for other telecommunications
3 carriers' additional costs of transport and termination. Both the incumbent
4 LEC and the interconnecting carriers usually will be providing service in the
5 same geographic area, so the forward-looking economic costs should be
6 similar in most cases.

7 Likewise, the Commission further addresses this issue at paragraph 1087,
8 specifically addressing a concern I raised earlier in my testimony:

9 We also find that symmetrical rates may reduce an incumbent LEC's ability
10 to use its bargaining strength to negotiate excessively high termination
11 charges that competitors would pay the incumbent LEC and excessively low
12 termination rates that the incumbent would pay interconnecting carriers. As
13 discussed by commenters in the *LEC-CMRS Interconnection* proceeding,
14 LECs have used their unequal bargaining position to impose asymmetrical
15 rates for CMRS providers and, in some instances, have charged CMRS
16 providers origination as well as termination charges. On the other hand,
17 symmetrical rates largely eliminate such advantages because they require
18 incumbent LECs, as well as competing carrier's, to pay the same rate for
19 reciprocal compensation.

20 **III. PERFORMANCE STANDARDS AND ASSOCIATED DAMAGES**

21 **Q. WHAT IS ICG'S POSITION ON PERFORMANCE STANDARDS AND**
22 **ASSOCIATED DAMAGES?**

1 A. As explained in Ms. Notsund's testimony, these issues are important on an
2 industry-wide basis and require separate in-depth consideration apart from any
3 particular individual arbitration. Therefore, rather than deal with these important
4 issues here, ICG believes the Commission should conduct a generic proceeding.
5 The testimony that follows in this section will provide a brief overview of some of the
6 issues the Commission should consider in a generic proceeding.

7 **Q. WHAT IS THE ECONOMIC RATIONALE FOR THE ADOPTION OF**
8 **PERFORMANCE STANDARDS AND DAMAGES ASSOCIATED WITH A FAILURE**
9 **TO MEET THOSE STANDARDS?**

10 A. A contract (including an interconnection agreement) is, in its essential form,
11 a promise to perform in a way, or at a level, consistent with the parties' agreement.
12 Indeed, a contract is little more than a detailed account specifying the manner by
13 which one of the parties, or both of the parties, will perform, given a particular set of
14 circumstances. Therefore, specific standards of performance should be included in
15 an interconnection agreement.

16 **Q. WHAT IS THE FUNCTION OF A DAMAGE PROVISION WITHIN A**
17 **CONTRACT?**

18 A. In the simplest terms, a damage provision's basic function is to be a deterrent
19 from non-performance. Damage provisions are generally determined within a
20 contract based primarily on two considerations:

- 21 1. the likelihood of non-performance and
- 22 2. the damages caused by non-performance.

1 Such a provision is critical to ensure performance in an interconnection agreement.

2 **Q. HOW DO THESE CONCEPTS RELATE TO THE NEED FOR INDUSTRY-WIDE**
3 **STANDARDS?**

4 A. There is a need for an industry-wide set of performance measures for BellSouth
5 as well as damages provisions in interconnection agreements to ensure the
6 performance of the parties and to compensate one party or the other for some
7 *circumstance of non-performance*. This is because the relationship between the
8 parties yields both (1) a high likelihood of non-performance, and (2) a likelihood that
9 damages resulting from non-performance will be substantial. The details of the
10 performance measures and damages provisions should be considered in a generic
11 proceeding.

12 **IV. VOLUME AND TERM DISCOUNTS FOR UNBUNDLED NETWORK**
13 **ELEMENTS**

14 **Q. PLEASE DESCRIBE ICG'S POSITION WITH RESPECT TO VOLUME AND**
15 **TERM DISCOUNTS FOR UNBUNDLED NETWORK ELEMENTS.**

16 A. A number of ICG's requests of BST in their negotiations for an interconnection
17 agreement are aimed at arriving at a commercial relationship similar to that ICG
18 enjoys with its other suppliers, customers and business partners. The contractual
19 relationship between ICG that currently exists and that BST would prefer in the
20 future, however, is without a number of common commercial arrangements that
21 would undoubtedly exist if BST weren't participating in the agreement only as a result
22 of its legal requirement to do so. One of those arrangements is a commitment to

1 passing on cost savings associated with providing services in larger volume and
2 commitments for longer term use of the BST network for carriers willing to commit
3 themselves to volume and term purchases. ICG believes that BST's refusal to
4 provide such discounts is a direct result of the fact that it is ICG's main competitor
5 and that quite frankly, ICG has no alternative supplier for these services. Hence,
6 BST doesn't have the same incentive that a normal commercial participant in a
7 competitive transaction has to pass on some portion of its savings in this regard. For
8 this reason, ICG requires the Commission to intervene and serve as a proxy for a
9 competitive marketplace, thereby requiring BST to enter into what is an important,
10 commonplace and sensible arrangement whereby cost savings associated with a
11 carrier's willingness to commit to volume and term purchases from BST are shared,
12 at least in some part, with the purchaser (e.g., ICG).

13 **Q. WHAT IS BELL SOUTH'S POSITION IN THIS REGARD?**

14 A. In other jurisdictions, BST has held that it should not be required to provide
15 volume and term discounts for UNEs because neither the Act nor any FCC order or
16 rule requires volume and term discount pricing for UNEs. Likewise, BellSouth has
17 argued that both the nonrecurring and monthly UNE recurring rates that ICG will pay
18 are cost based in accordance with the requirements of Section 252(d) and are
19 derived using least cost, forward looking technology consistent with the FCC's rules."

20 **Q. ARE THESE TWO POINTS ACCURATE?**

21 A. Only partially. First, I would disagree that neither the Act nor any FCC order
22 or rule requires volume and term discount pricing. Section 252(d)(1) of the TA96

1 provides two primary criteria by which prices for unbundled network elements "shall
2 be" established; (1) rates must be based on the cost of providing the unbundled
3 elements, and (2) rates must be nondiscriminatory:

4 (d) PRICING STANDARDS. -

5 (1) INTERCONNECTION AND NETWORK ELEMENT CHARGES.-

6 Determinations by a State commission of the just and reasonable rate
7 for the interconnection of facilities and equipment for purposes of
8 subsection (c)(2) of section 251, and the just and reasonable rate for
9 network elements for purposes of subsection (c)(3) of such section-

10 (A) shall be-

11 (i) based on the cost (determined without reference to a rate-of-
12 return or other rate-based proceeding) of providing the
13 interconnection or network element (whichever is applicable),
14 and

15 (ii) nondiscriminatory, and

16 (B) may include a reasonable profit.

17 Likewise, the FCC in its Local Competition Order at paragraph 743 interprets this
18 portion of the Act as follows:

19 743. We conclude, as a general rule, that incumbent LECs' rates for
20 interconnection and unbundled elements must recover costs in a manner that
21 reflects the way they are incurred. This will conform to the 1996 Act's
22 requirement that rates be cost-based, ensure requesting carriers have the

1 right incentives to construct and use public network facilities efficiently, and
2 prevent incumbent LECs from inefficiently raising costs in order to deter entry.
3 We note that this conclusion should facilitate competition on a reasonable and
4 efficient basis by all firms in the industry by establishing prices for
5 interconnection and unbundled elements based on costs similar to those
6 incurred by the incumbents, which may be expected to reduce the regulatory
7 burdens and economic impact of our decision for many parties, including both
8 small entities seeking to enter the local exchange markets and small
9 incumbent LECs. [emphasis added]

10 The requirement that BST price its unbundled network elements based upon its
11 costs, and the FCC interpretation that rates must recover costs in a manner that
12 reflects the way they are incurred by BST, requires BST to reflect in its rates any
13 reductions in cost that result from volume or term purchases. The most reasonable
14 way to accomplish this requirement is to offer carriers volume and term discounts.

15 Likewise, the second criteria established by the Act requires that BST's rates
16 for unbundled network elements be "nondiscriminatory." Again, the FCC interpreted
17 the phrase "nondiscriminatory" as follows:

18 315. The duty to provide unbundled network elements on "terms, and
19 conditions that are just, reasonable, and nondiscriminatory" means, at a
20 minimum, that whatever those terms and conditions are, they must be offered
21 equally to all requesting carriers, and where applicable, they must be equal
22 to the terms and conditions under which the incumbent LEC provisions such

1 elements to itself. [footnote omitted, emphasis added]

2 Hence, if BST experiences any reductions in cost as a result of a carrier's purchase
3 of unbundled elements in volume or as the result of the carrier's commitment to
4 purchase those elements over a period of time, BST is required to reflect that cost
5 reduction in a non-discriminatory fashion to the carrier purchasing those facilities.
6 Otherwise, BST would incur a lower cost per unit of providing UNEs than was
7 reflected in the price charged to its competitors. This would undoubtedly conflict with
8 its obligation to provide cost-based, non-discriminatory rates.

9 **Q. DOES THE FACT THAT BST'S PRICES FOR ACCESS TO UNBUNDLED**
10 **NETWORK ELEMENTS ARE BASED UPON THE TOTAL ELEMENT LONG RUN**
11 **INCREMENTAL COST ("TELRIC") STANDARD ADOPTED BY THE FCC LIMIT**
12 **THE EXTENT TO WHICH COST SAVINGS WILL RESULT FROM LARGER**
13 **VOLUME PURCHASES AND TERM COMMITMENTS?**

14 A. Only slightly. The TELRIC methodology does require that prices for
15 unbundled network elements reflect the *economies of scale* that are enjoyed by
16 providing the "total element." To a certain extent, this reduces the likelihood that as
17 BST sells greater volumes of specific unbundled network elements, its TELRIC costs
18 go down as a result of the economies of scale it experiences. This results from the
19 fact that these *economies of scale* have, to some extent, already been accounted for
20 in the derivation of TELRIC costs.

21 However, there are a number of other areas where per-unit costs will
22 undoubtedly fall with increases in volume purchases and commitments to longer

1 purchase times and where the TELRIC methodology as applied does not account for
2 such reductions. For example, one of the most important steps in developing a
3 TELRIC study is the process of "unitizing" network investments into costs attributable
4 to individual UNEs. For example, the investment associated with a given piece of
5 equipment that can support 100 loops (assume \$1,000) must be allocated among
6 some portion of those 100 loops in order to develop a "per unit investment." The
7 FCC addressed this process at paragraph 682 of its Local Competition Order as
8 follows:

9 *Per unit costs shall be derived from total costs using reasonably accurate "fill*
10 *factors" (estimates of the proportion of the facility that will be "filled" with*
11 *network usage); that is, the per unit cost associated with a particular element*
12 *must be derived by dividing the total cost associated with the element by a*
13 *reasonable projection of the actual total usage of the element.*

14 The FCC did not require that incumbent LEC's derive per unit investments based
15 upon the capacity of the equipment they were deploying (i.e. to divide the \$1,000 by
16 its entire 100 loop capacity). Instead, the incumbent LEC's were allowed to use a
17 projected level of actual usage to allocate those costs. Hence, instead of arriving at
18 \$10 of investment per unit in our example above ($\$1,000 / 100$) it is likely that BST
19 was allowed to attribute far more than \$10 to each unit (likely in the neighborhood
20 of \$20 based upon a "fill factor" of 50% - i.e. $\$1,000 / 50$).

21 This analysis is important for two reasons. First, it becomes obvious that as
22 the volume of UNE purchases increases, the "actual fill" associated with the

1 underlying BST equipment will rise, thereby altering the "actual" usage by which total
2 investments are allocated. Returning to our example above, it is obvious that if ICG
3 were willing to commit to 80 loops served by the particular piece of equipment
4 described above and BST had developed its TELRIC costs based upon a 50% fill
5 factor, BST's actual costs would fall on a per unit basis from \$20 per loop ($\$1,000 /$
6 50) to \$12.50 per loop ($\$1,000 / 80$). However, as BST's rates are set today (i.e.
7 without any volume or term discount), ICG would not recognize any of this reduction
8 in cost resulting from its volume purchase. Instead, whatever reduction in cost is
9 achieved would simply be enjoyed by BST. This conflicts directly with the FCC's
10 requirement that UNE rates recover costs in the manner in which they are incurred
11 as well as the Act's specific requirement that BST's rates be non-discriminatory.

12 **Q. ARE THERE OTHER WAYS IN WHICH VOLUME PURCHASES CAN/WILL**
13 **AFFECT THE COSTS INCURRED BY BST IN THE PROVISION OF**
14 **INTERCONNECTION AND UNES?**

15 A. Yes there are. At paragraphs 694-698 of its Local Competition Order the FCC
16 requires that ILECs be allowed to recover their "forward looking common costs
17 attributable to operating the wholesale network." Common costs are by nature, not
18 incremental to any given level of volume. That is, as the volume of goods sold
19 increases or decreases, common costs are unlikely to change. For example, if BST
20 were assumed to have \$1,000,000 in common costs attributable to unbundled
21 network elements and it sold 1,000,000 elements, its common costs per element sold
22 would be \$1.00 ($\$1,000,000 / 1,000,000$). However, now assume that BST were to

1 sell 1,500,000 unbundled network elements. By definition, BST's common costs
2 would not rise they would remain at \$1,000,000. Now instead of \$1.00 reasonably
3 attributable to each unbundled element, however, only \$0.67 would be attributable
4 to each element ($\$1,000,000 / 1,500,000$). In this situation volume purchases reduce
5 BST's costs of providing UNEs, however, without volume and term discounts
6 included in its UNE rates, BST would be the only beneficiary of these decreasing
7 costs. Again, this is inconsistent with the FCC's rules requiring that UNE rates
8 recover costs in a manner in which they are incurred and that they be non-
9 discriminatory.

10 **Q. YOUR DISCUSSION ABOVE APPEARS TO FOCUS SOLELY ON THE**
11 **NEED FOR DISCOUNTS RECOGNIZING COSTS SAVINGS RESULTING FROM**
12 **GREATER VOLUME PURCHASES. WHY WOULD DISCOUNTS FOR TERM**
13 **COMMITMENTS BE NECESSARY?**

14 A. At paragraph 687 of the Local Competition order the FCC specifically
15 addresses term discounts and suggests that this is one way that ILECs could mitigate
16 the increased costs that result from normal business risk:

17 As noted, we also agree that, as a matter of theory, an increase in risk due to
18 entry into the market for local exchange service can increase a LEC's cost of
19 capital. We believe that this increased risk can be partially mitigated,
20 however, by offering term discounts, since long-term contracts can minimize
21 the risk of stranded investment.

22 **Q. DOES BST UTILIZE BOTH VOLUME AND TERM DISCOUNTS IN ITS**

1 **NORMAL COURSE OF BUSINESS WITH ITS RETAIL CUSTOMERS?**

2 A. Yes. BST, along with the majority of other incumbent LEC's across the nation,
3 uses both volume and term discount structures pervasively in pricing its retail
4 services and has begun to employ these discounts with increasing frequency as local
5 competitive alternatives increase. These discount structures are a good way for BST
6 to "retain" its current customers, thereby stalling its customers' desire to pursue a
7 competitor's service. This is perfectly logical on the part of BST and is a profit-
8 maximizing strategy. Competitive markets require that BST pass along some level
9 of savings it enjoys from large service volumes in an effort to retain the volume of
10 services its customers represent and the associated economies of scale (cost
11 savings) they provide. Absent BST's willingness to provide such discounts, it is likely
12 that some number of its customers would pursue alternatives, thereby reducing
13 BST's service volume and the economies of scale it enjoys. Instead of losing the
14 entire cost savings associated with losing these customers, BST is willing to pass
15 along a portion of those savings in an effort to retain at least some portion of the
16 savings for itself.

17 However, when competitors partake in contributing to BST's service volume
18 (and hence its economies of scale) by buying unbundled elements, BST has no such
19 incentive to pass along some portion of the savings. It realizes that its competitors
20 really have no alternative for the majority of the unbundled elements they purchase
21 from BST and hence, BST can retain the entire cost savings for itself. Unfortunately,
22 absent intervention by the Commission in requiring volume and term discounts for

1 purchases of UNEs, BST prevails. It can retain the entire cost savings for itself.
2 Even worse, by doing so it can improve its position with respect to its competitors in
3 the marketplace at the same time. As competitors purchase more and more
4 unbundled elements from BST, its volumes increase and its cost per unit of service
5 fall. Hence, BST can provide its retail customers even greater discounts that position
6 its services in an ill-gained, advantageous position in relation to competitors, who
7 must buy unbundled elements, while receiving no such discount, to provide services
8 in competition with BST. This is exactly the type of discriminatory behavior that both
9 the Act and the FCC were attempting to foreclose by requiring that rates for UNE's
10 be based upon the costs of their provision.

11 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

12 **A. Yes, it does.**

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Current Position

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Professional Experience

Competitive Strategies Group, Ltd.
Founding Partner
Senior Vice President and Managing Director of Telecommunications Services

Maryland Public Service Commission
Telecommunications Division
Director

Illinois Commerce Commission
Office of Policy and Planning
Senior Telecommunications Policy Analyst

Missouri Public Service Commission
Utility Operations Division
Telecommunications Department
Economist

Education

B.S. Economics / International Marketing
- Southwest Missouri State University, Springfield, Missouri
- *Cum Laude* Honor Graduate

Graduate Coursework, Finance
- Southwest Missouri State University, Springfield, Missouri
- Lincoln University, Jefferson City, Missouri

Michael Starkey **Quantitative Solutions, Inc.**

Professional Activities

- Former member of the Missouri Public Service Commission's Task Force on FCC Docket Nos. 91-141 and 91-213 regarding expanded interconnection, collocation, and access transport restructure
- Former member of the AT&T / Missouri Commission Staff, *Total Quality Management Forum* responsible for improving and streamlining the regulatory process for competitive carriers
- Former member of the Missouri, Oklahoma, Kansas, Texas, and Arkansas five state Southwestern Bell Open Network Architecture (ONA) Oversight Conference
- Former delegate to the Illinois, Michigan, Indiana, Ohio, and Wisconsin Ameritech Regional Regulatory Conference (ARRC) charged with the responsibility of analyzing Ameritech's "Customers First" local exchange competitive framework for formulation of recommendations to the FCC and the U.S. Department of Justice
- Former member of both the Illinois and Maryland Local Number Portability Industry Consortiums responsible for developing and implementing a permanent data-base number portability solution

Testimony Profile and Experience

Before the Missouri Public Service Commission

Case No. TO-99-370

Petition of BroadSpan Communications, Inc. for Arbitration of Unresolved Interconnection Issues Regarding ADSL with Southwestern Bell Telephone Company
On behalf of BroadSpan Communications, Inc.

Before the Michigan Public Service Commission

Case No. U-11831

In the Matter of the Commission's own motion, to consider the total service long run incremental costs for all access, toll, and local exchange services provided by Ameritech Michigan.
On behalf of MCIWorldCom, Inc.

Before the Illinois Commerce Commission

Docket Nos. 98-0770, 98-0771 cons.

Proposed Modifications to Terms and Conditions Governing the Provision of Special Construction Arrangements and, Investigation into Tariff Governing the Provision of Special Construction Arrangements
On behalf of AT&T Communications of Illinois, Inc.

Before the Michigan Public Service Commission

Case No. U-11735

In the matter of the complaint of BRE Communications, L.L.C., d/b/a PHONE MICHIGAN, against Michigan Bell Telephone Company, d/b/a AMERITECH MICHIGAN, for violations of the Michigan Telecommunications Act
On behalf of BRE Communications, L.L.C.

Before the Indiana Utility Regulatory Commission

Cause No. 40830

In the Matter of the request of the Indiana Payphone Association for the Commission to Conduct an

Michael Starkey Quantitative Solutions, Inc.

Investigation of Local Exchange Company Pay Telephone tariffs for Compliance with Federal Regulations, and to Hold Such Tariffs in Abeyance Pending Completion of Such Proceeding
On behalf of the Indiana Payphone Association

Before the Michigan Public Service Commission
Complaint Pursuant to Sections 203 and 318 of the Michigan Telecommunications Act to Compel Respondents to Comply with Section 276 of the Federal Telecommunications Act
On behalf of the Michigan Pay Telephone Association

Before the Missouri Public Service Commission
Case No. TO-98-278
In the Matter of the Petition of Birch Telecom of Missouri, Inc., for Arbitration of the Rates, Terms, Conditions, and Related Arrangements for Interconnection with Southwestern Bell Telephone Company
On behalf of Birch Telecom of Missouri, Inc.

Before the Public Service Commission of the Commonwealth of Kentucky
Administrative Case No. 361
Deregulation of Local Exchange Companies' Payphone Services
On behalf of the Kentucky Payphone Association

Before the Public Utilities Commission of Ohio
Case No. 96-899-TP-ALT
The Application of Cincinnati Bell Telephone Company for Approval of a Retail Pricing Plan Which May Result in Future Rate Increases
On behalf of the MCI Telecommunications Corporation

Before the Public Utilities Commission of the State of Hawaii
Docket No. 7702
Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii
On behalf of GST Telecom Hawaii, Inc.

Before the Michigan Public Service Commission
Case No. U-11410
In the Matter of the Petition of the Michigan Pay Telephone Association to initiate an investigation to determine whether Michigan Bell Telephone Company d/b/a Ameritech Michigan and GTE North Incorporated are in compliance with the Michigan Telecommunications Act and Section 276 of The Communications Act of 1934, as amended
On behalf of the Michigan Pay Telephone Association

Before the Indiana Utility Regulatory Commission
Cause No. 40849
In the matter of Petition of Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana for the Commission to Decline to Exercise in Whole or in Part its Jurisdiction Over, and to Utilize Alternative Regulatory Procedures For, Ameritech Indiana's Provision of Retail and Carrier Access Services Pursuant to I.C. 8-1-2.6 Et Seq.
On behalf of AT&T Communications of Indiana, Inc.

Before the Federal Communication Commission
C.C. Docket No. 97-137
In the Matter of Application by Ameritech Michigan for Authorization under Section 271 of the

Michael Starkey Quantitative Solutions, Inc.

Communications Act to Provide In-Region, InterLATA Service in the State of Michigan.
On behalf of the AT&T Corporation

Before the Indiana Utility Regulatory Commission

Cause No. 40611

In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes

On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio

Case No. 97-152-TP-ARB

In the matter of the petition of MCI Telecommunications Corporation for arbitration pursuant to section 252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Cincinnati Bell Telephone Company

On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-11280

In the matter, on the Commission's own motion to consider the total service long run incremental costs and to determine the prices of unbundled network elements, interconnection services, and basic local exchange services for AMERITECH MICHIGAN

On behalf of the MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 96-0486

Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic

On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio

Case No. 96-922-TP-UNC

In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic

On behalf of the MCI Telecommunications Corporation

Before the New Jersey Board of Public Utilities

Docket No. TX95120631

In the Matter of the Investigation Regarding Local Exchange Competition for Telecommunications Services

On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-11104

In the matter, on the Commission's Own Motion, to Consider Ameritech Michigan's Compliance With the Competitive Checklist in Section 271 of the Telecommunications Act of 1996

On behalf of AT&T Communications of Indiana, Inc.

Before the Public Utility Commission of Ohio

Case Nos. 96-702-TP-COI, 96-922-TP-UNC, 96-973-TP-ATA, 96-974-TP-ATA, Case No. 96-1057-TP-

Michael Starkey Quantitative Solutions, Inc.

UNC

In the Matter of the Investigation Into Ameritech Ohio's Entry Into In-Region InterLATA Services Under Section 271 of the Telecommunications Act of 1996.

On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission

Docket No. 96-0404

Investigation Concerning Illinois Bell Telephone Company's Compliance With Section 271(c) of the Telecommunications Act of 1996

On behalf of AT&T Communications of Illinois, Inc.

Before the Commonwealth of Massachusetts Department of Public Utilities

In the Matter of: D.P.U. 96-73/74, D.P.U. 96-75, D.P.U. 96-80/81, D.P.U. 96-83, D.P.U. 96-94, NYNEX - Arbitrations

On behalf of the MCI Telecommunications Corporation

Before the Pennsylvania Public Utility Commission

Docket No. A-31023670002

In the Matter of the Application of MCI Metro Access Transmission Services, Inc. For a Certificate of Public Convenience and Necessity to Provide and Resell Local Exchange Telecommunications Services in Pennsylvania

On behalf of MCI metro Access and Transmission Services, Inc.

Before the New Jersey Board of Public Utilities

Docket No. TO96080621

In the Matter of MCI Telecommunications Corporation for Arbitration with Bell Atlantic-New Jersey, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996

On behalf of the MCI Telecommunications Corporation

Before the Wisconsin Utility Regulatory Commission

Cause No. 40571-INT-01

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Wisconsin Bell Telephone Company d/b/a Ameritech Wisconsin

On behalf of AT&T Communications of Wisconsin, Inc.

Before the Public Utility Commission of Ohio

Case No. 96-752-TP-ARB

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Ohio Bell Telephone Company d/b/a Ameritech Ohio

On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission

Docket No. 96-AB-003

Docket No. 96-AB-004 *Consol.*

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Illinois Bell Telephone Company d/b/a Ameritech Illinois

On behalf of AT&T Communications of Illinois, Inc.

Before the Michigan Public Service Commission

Case No. U-11151

Michael Starkey Quantitative Solutions, Inc.

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Michigan Bell Telephone Company d/b/a Ameritech Michigan
On behalf of AT&T Communications of Michigan, Inc.

Before the Indiana Utility Regulatory Commission

Cause No. 40571-INT-01

In the Matter of the Petition of AT&T Communications of Indiana, Inc. Requesting Arbitration of Certain Terms and Conditions and Prices for Interconnection and Related Arrangements from Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana Pursuant to Section 252 (b) of the Communications Act of 1934, as Amended by the Telecommunications Act of 1996.
On behalf of AT&T Communications of Indiana, Inc.

Before the Missouri Public Service Commission

Case No. TT-96-268

Application of Southwestern Bell Telephone Company, Inc. to Revise P.S.C. Mo.-No. 26, Long Distance Message Telecommunications Service Tariff to Introduce the Designated Number Optional Calling Plan
On behalf of the MCI Telecommunications Corporation

Before the Corporation Commission of the State of Oklahoma

Cause No. PUD 950000411

Application of Southwestern Bell Telephone Company for an Order Approving Proposed Revisions in Applicant's Long Distance Message Telecommunications Service Tariff
Southwestern Bell Telephone Company's Introduction of 1+ Saver Directsm
On behalf of the MCI Telecommunications Corporation

Before the Georgia Public Service Commission

Docket No. 6415-U and 6537-U cons.

Petition of MCImetro to Establish Nondiscriminatory Rates, Terms and Conditions for the Unbundling and Resale of Local Loops
On behalf of MCImetro Access Transmission Services

Before the Public Service Commission of the State of Mississippi

Docket No. 95-UA-358

Regarding a Docket to Consider Competition in the Provision of Local Telephone Service
On behalf of the Mississippi Cable Television Association

Before the Maryland Public Service Commission

Docket No. 8705

In the Matter of the Inquiry Into the Merits of Alternative Plans for New Telephone Area Codes in Maryland
On behalf of the Staff of the Maryland Public Service Commission

Before the Maryland Public Service Commission

Docket No. 8584, Phase II

In the Matter of the Application of MFS Intelenet of Maryland, Inc. for Authority to Provide and Resell Local Exchange and Inter-Exchange Telephone Service; and Requesting the Establishment of Policies and Requirements for the Interconnection of Competing Local Exchange Networks

In the Matter of the Investigation of the Commission on its Own Motion Into Policies Regarding Competitive Local Exchange Telephone Service

On behalf of the Staff of the Maryland Public Service Commission

Michael Starkey Quantitative Solutions, Inc.

Before the Illinois Commerce Commission

Docket No. 94-0400

Application of MCImetro Access and Transmission Services, Inc. For a Certificate of Exchange Service Authority Allowing it to Provide Facilities-Based Local Service in the Chicago LATA

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0315

Petition of Ameritech-Illinois for 708 NPA Relief by Establishing 630 Area Code

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0422

Complaints of MFS, TC Systems, and MCI against Ameritech-Illinois Regarding Failure to Interconnect

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket Nos. 94-0096, 94-0117, and 94-301

Proposed Introduction of a Trial of Ameritech's Customers First Plan in Illinois, et al.

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0049

Rulemaking on Line-Side and Reciprocal Interconnection

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 93-0409

MFS-Intelenet of Illinois, Inc. Application for an Amendment to its Certificate of Service Authority to Permit it to Operate as a Competitive Local Exchange Carrier of Business Services in Those Portions of MSA-1 Served by Illinois Bell Telephone and Central Telephone Company of Illinois

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0042, 94-0043, 94-0045, and 94-0046

Illinois Commerce Commission on its own motion. Investigation Regarding the Access Transport Rate Elements for Illinois Consolidated Telephone Company (ICTC), Ameritech-Illinois, GTE North, GTE South, and Central Telephone Company (Centel)

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 93-0301 and 94-0041

GTE North Incorporated. Proposed Filing to Restructure and Consolidate the Local Exchange, Toll, and Access Tariffs with the Former Centel of Illinois, Inc.

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Public Service Commission of the State of Missouri

Case No. TC-93-224 and TO-93-192

In the Matter of Proposals to Establish an Alternate Regulation Plan for Southwestern Bell Telephone Company

Michael Starkey Quantitative Solutions, Inc.

On behalf of the Telecommunications Department, Missouri Public Service Commission

Before the Public Service Commission of the State of Missouri

Case No. TO-93-116

In the Matter of Southwestern Bell Telephone Company's Application for Classification of Certain Services as Transitionally Competitive

On behalf of the Telecommunications Department, Missouri Public Service Commission

Selected Reports, Publications and Presentations

Telecommunications Pricing in Tomorrow's Competitive Local Market
Professional Pricing Societies 9th Annual Fall Conference
Pricing From A to Z
Chicago, Illinois, October 30, 1998

Recombining Unbundled Network Elements: An Alternative to Resale
ICM Conferences' Strategic Pricing Forum
January 27, 1998, New Orleans, Louisiana

MERGERS - Implications of Telecommunications Mergers for Local Subscribers
National Association of State Utility Consumer Advocates Mid-Year Meeting,
Chicago, Illinois, June 24 1996

Unbundling, Costing and Pricing Network Elements in a Co-Carrier World
Telecommunications Reports' Rethinking Access Charges & Intercarrier Compensation
Washington, D.C., April 17, 1996

Key Local Competition Issues Part I (novice)
Key Local Competition Issues Part II (advanced)
with Mark Long
National Cable Television Associations' 1995 State Telecommunications Conference
Washington, D.C., November 2, 1995

Competition in the Local Loop
New York State Telephone Association and Telephone Association of New England Issues Forum
Springfield, Massachusetts, October 18, 1995

Compensation in a Competitive Local Exchange
National Association of Regulatory Utility Commissioner Subcommittee on Communications' Summer Meetings
San Francisco, California, July 21, 1995

Fundamentals of Local Competition and Potential Dangers for Interexchange Carriers
COMPTEL 1995 Summer Business Conference
Seattle, Washington, June 12, 1995



Diagram 1

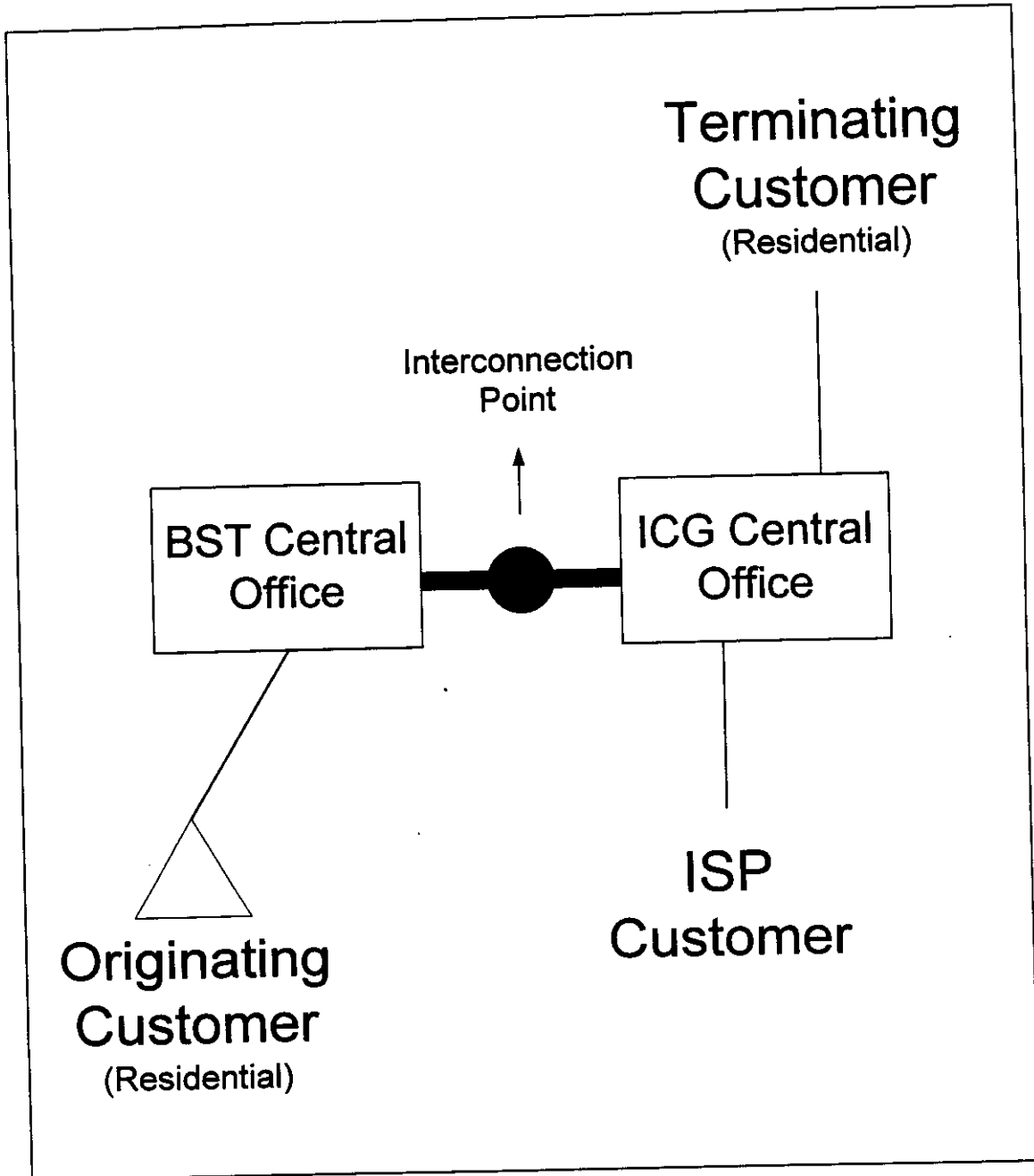




Diagram 2

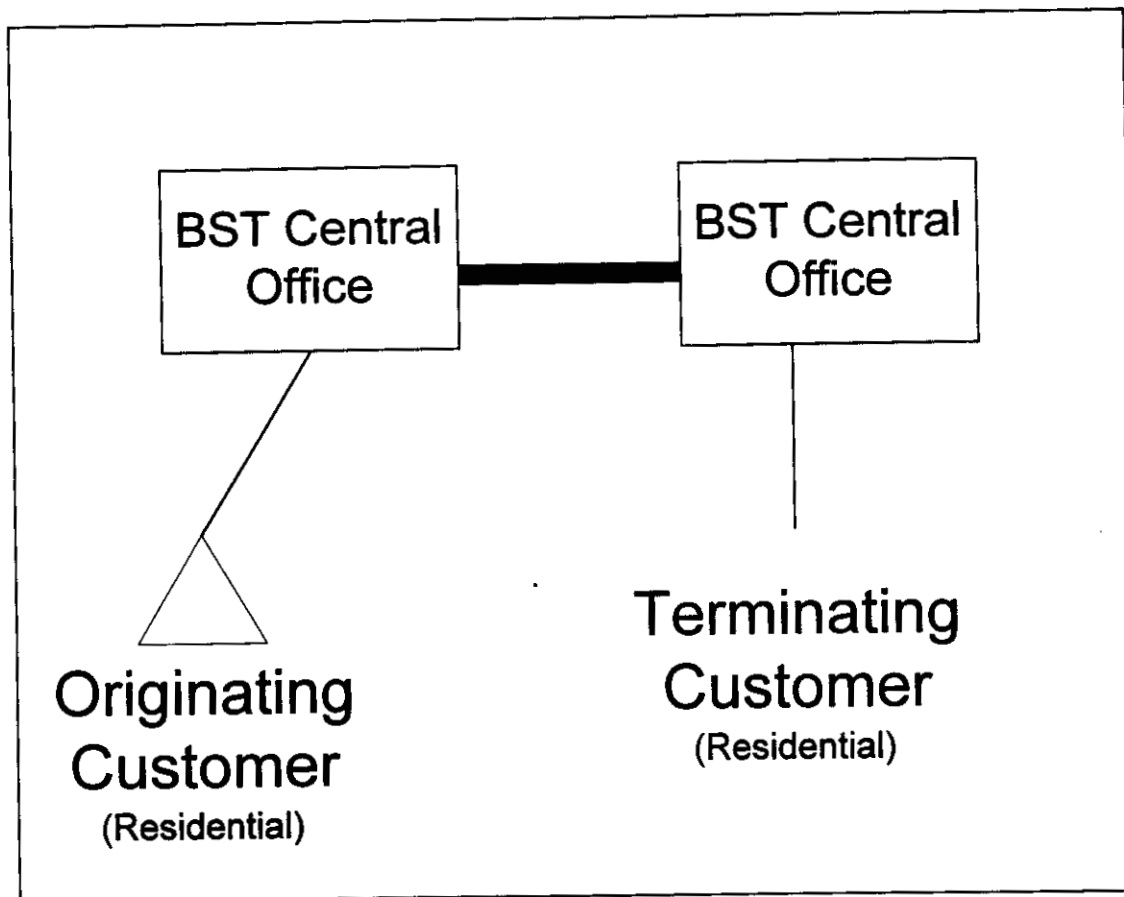
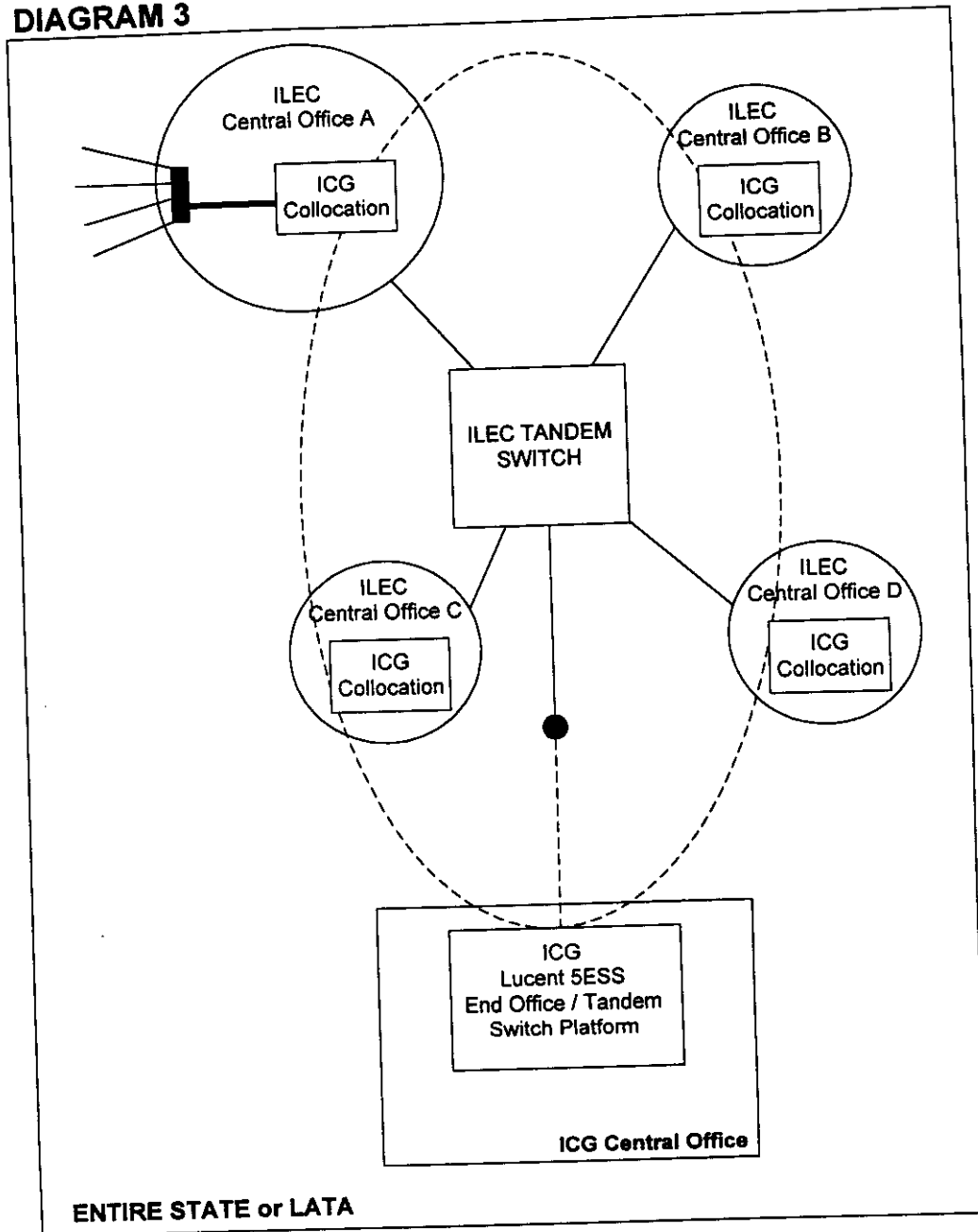




DIAGRAM 3

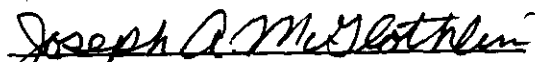


CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the ICG Telecom Group, Inc.'s Testimony and Exhibits of Michael Starkey have been furnished by hand-delivery this 2nd day of August, 1999 to:

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