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September 24, 1996

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

Docket No. 960847-TP

Dear Mrs. Bayo:

Enclosed for filing in the above referenced docket are an original and fifteen (15) copies of the Rebuttal Testimony of Ray Crafton, Mike Guedel, David Kasserman, Art Lerma, Ron Shurter and Don Wood.

Copies of the foregoing are being served on all parties of record in accordance with the attached Certificate of Service.

Yours truly,

Tracy Hatch

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CERTIFICATE OF SERVICE

DOCKET NOS. 960847-TP and 960980-TP

I HEREBY CERTIFY that a true copy of the foregoing has been furnished by U. S. Mail or hand-delivery to the following parties of record this 24th day of September, 1996:

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**REBUTTAL TESTIMONY OF
RAY CRAFTON
ON BEHALF OF
AT&T COMMUNICATIONS
OF THE SOUTHERN STATES, INC.**

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 960847-TP
Filed: September 24, 1996**

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ray Crafton. My business address is 1200 Peachtree Street, N.E.,
Atlanta, Georgia 30309-3579.

**Q. HAVE YOU PREVIOUSLY OFFERED TESTIMONY IN THIS
PROCEEDING?**

A. Yes. I provided direct testimony on August 16, 1996.

**Q. WHAT IS THE PURPOSE OF THE TESTIMONY YOU ARE CURRENTLY
OFFERING?**

A. I am providing rebuttal testimony that responds to the testimony of GTE Florida
Incorporated ("GTE") on selected issues. Specifically, I am responding to statements
made by Messrs. Wood, Morris, DellAngelo, Ries, Bailey and Ms. Menard. My
rebuttal testimony focuses on the provision of unbundled network elements,
collocation, access to poles, conduits and rights of way, and the appropriate number

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1 of portability arrangements.

2 **Q. HAS AT&T REQUESTED UNRESTRICTED ACCESS TO GTE'S LOOP**
3 **PLANT?**

4 A. No. On page 22 of GTE Witness Wood's testimony, he discusses the need for
5 security and reporting procedures to protect the network from physical damage,
6 compromise of privacy, and increased toll fraud. AT&T believes that reasonable
7 security and reporting procedures should be developed that do not unfairly or
8 unreasonably restrict the use of the unbundled elements and, at the same time, protect
9 the network from physical damage, compromise of privacy, and increased toll fraud.

10

11 **Q. IF SUBLOOP ELEMENTS WERE UNBUNDLED, WOULD THE**
12 **INTEGRITY OF GTE'S NETWORK BE COMPROMISED?**

13 A. No. Methods and procedures could be developed that would protect the integrity of
14 GTE's network. The potential for toll fraud and eavesdropping exist in today's loop
15 plant and would not be increased by unbundling subloop elements. GTE's network
16 will be no more vulnerable than it is today to physical access by unauthorized parties
17 once subloop elements are unbundled and made available to ALECs. It is likely that
18 more loop plant will continue to be damaged in the future by end users pushing lawn
19 mowers into cross connect enclosures and driving cars into telephone poles than by
20 trained, certified technicians carrying out their job responsibilities.

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1 Q. WILL THE UNBUNDLING OF LOOPS THAT ARE SERVED ON
2 INTEGRATED DIGITAL LOOP CARRIER (IDLC) SYSTEMS REALLY
3 COST 'MANY MILLIONS OF DOLLARS' AS GTE CONTENDS?

4 A. These costs may not be as substantial as GTE has indicated. The costs will be driven
5 by the frequency with which these systems have been deployed and by how often new
6 entrants find it cost effective to use unbundled loops. Besides use of channel banks to
7 provide unbundling of IDLC loops there are additional methods including but not
8 limited to:

- 9
- 10 1. use of copper loops that have been left in place at the time of
11 IDLC deployment,
 - 12 2. use of universal Digital Loop Carrier systems that may have
13 been left in place at the time of IDLC deployment or that can
14 be deployed alongside the IDLC, and
 - 15 3. use of next generation IDLC technology, known as Virtual
16 Remote Terminals, to provide unbundling within the IDLC
17 itself.

18

19 The benefit to the consumer of this unbundling is that the 20% of consumers who are
20 served by IDLCs in GTE's network will see the benefits of facility-based competition
21 in which new entrants like AT&T can pick up an unbundled IDLC loop and connect
22 it to the new entrant's switch. These customers can then enjoy the benefits of service
23 differentiation and lower cost afforded by the new entrant's switch and its value-
24 added features. Without such unbundling, competition in this portion of the market
25 would be limited to resale of GTE's services.

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Q. WHAT IS THE APPROPRIATE DEFINITION OF TECHNICAL FEASIBILITY?

A. According to Section 251(c)(3) of the Act, ILECs are required to provide “nondiscriminatory access to network elements on an unbundled basis at any technically feasible point” (emphasis added). In other words, if it is operationally possible to provide access to an unbundled element at any given point in GTE’s network, GTE is required to provide such access at the request of a telecommunications carrier. This Commission, like the FCC, should not permit GTE to use economic, space or site considerations to avoid its obligations under the Act. GTE’s concerns about the costs of providing access to unbundled elements, the possibility that some of its space may need to be expanded, and other site considerations are logistical issues that GTE should not be permitted to hide behind to hinder the development of competition in the local exchange markets. If there are costs that are incurred due to ALECs’ requests to obtain access to unbundled elements, these issues can be properly addressed by the Commission through the establishment of an appropriate cost recovery mechanism.

Q. WHY IS IT IMPORTANT THAT THIS COMMISSION ORDER GTE TO PROVIDE CUSTOMIZED ROUTING?

- A.
1. It allows an operator services call for the new entrant to be branded as that entrants call when it is handled on the GTE operator services platform.
 2. It allows an operator services call for the new entrant to be routed to that entrant’s operator services platform.
 3. It allows GTE to unbundle its local switching network

1 element from both the operator systems network element and the
2 interoffice transport network elements thereby meeting the FCC
3 order's definition of these elements and the order's requirement that
4 these elements be made available separately or in any combination.

5
6 **Q. IS IT TECHNICALLY FEASIBLE FOR GTE TO PROVIDE CUSTOMIZED**
7 **ROUTING?**

8 A. Contrary to the assertions of GTE witness Wood, it is technically feasible for GTE to
9 provide customized routing functions. Most switches within a LECs network under-utilize
10 the number of available Line Class Codes ("LCCs"). On most switches there are usually
11 hundreds, sometimes thousands, of spare LCCs. Only a small percentage of LCCs are
12 needed to provide the type of customized routing described in my direct testimony. Indeed,
13 several state commissions, including Georgia, Illinois and New York, have found that it is
14 technically feasible for ILECs to provide customized routing. The FCC also concluded that
15 "customized routing...is technically feasible in many LEC switches." If a particular switch
16 within GTE's network has limited capacity, GTE should be required to make the
17 appropriate demonstration to this Commission. Even the FCC concluded that an incumbent
18 LEC must prove to the state commission that customized routing in a particular switch is
19 not technically feasible.

20 **Q. HAS GTE ALWAYS CONTENDED THAT IT IS NOT TECHNICALLY**
21 **FEASIBLE TO USE LINE CLASS CODES TO PROVIDE CUSTOMIZED**
22 **ROUTING ON THEIR SWITCHES?**

23 A. No. In a letter dated April 25, 1996, Mr. Dan Bennett, GTE's national manager for
24 the AT&T account wrote to Terry Casey, a manager on AT&T's negotiating team
25 that:

26

1 GTE also acknowledges the apparent technical feasibility of routing
2 AT&T customers to the AT&T OS platform via "0+/0"- dialing
3 utilizing the Line Class Code (LCC) functionality of the 5ESS® end
4 office switch. Further, GTE conceptually agrees that LCC and/or
5 enhanced/special route indexes are basic switch processing
6 capabilities and the potential for utilizing similar functionality may
7 (or could be made to) exist within some or all of GTE's other switch
8 types.

9
10 **Q. WOULD PROVISION OF CUSTOMIZED ROUTING LEAD TO AT&T'S**
11 **AVOIDANCE OF ACCESS CHARGES AS GTE CONTENDS?**

12 **A.** Contrary to GTE's contention, implementation of these routing capabilities will not
13 lead to AT&T's illegal avoidance of any access charges whatsoever. AT&T intends
14 to pay those access charges which are applicable to a given call.

15
16 **Q. WILL THE INTEGRITY OF GTE'S SS7 NETWORK BE COMPROMISED**
17 **IF ALECS ARE PERMITTED TO INTECONNECT WITH GTE'S AIN**
18 **NETWORK?**

19 **A.** No. As GTE witness Morris correctly points out on page 20 of his testimony, the
20 Signal Transfer Points ("STPs") in the SS7 network provide the mediation function.
21 Mediation at the STPs adequately protects both the switch and the database
22 applications in the signaling network. Based on AT&T's AIN trial with BellSouth,
23 this mediation is sufficient to protect AIN applications in the SS7 network as long as
24 the interconnecting carriers have run a rigorous set of AIN network validation tests.
25 This testing has become standard procedure in the interconnecting of SS7 networks

1 and their applications.

2

3 **Q. GTE WITNESS DELLANGELO ASSERTS THAT AIN END OFFICE**
4 **TRIGGERS CANNOT BE SHARED BY MULTIPLE PROVIDERS. IS THIS**
5 **CORRECT?**

6 **A.** No. For a single customer his statement is true. But for a single switch serving
7 multiple customers, the statement is false. AIN standards expressly permit an AIN
8 query for a given subscribed trigger to be routed to a different AIN SCP database
9 depending on the customer subscribing to that trigger. Thus, an AT&T local
10 customer served by a GTE local switch can have their AIN queries routed to the
11 AT&T AIN SCP database while a GTE customer on the same switch subscribing to
12 the same triggers will have their AIN queries routed to the GTE AIN SCP database.
13 It is in this sense that the AIN triggers within a GTE switch can be accessed by
14 multiple providers. The key here is that the two providers' sets of customers are
15 distinct and separate. The architecture proposed by AT&T in the AT&T-AIN test
16 report of November 1995 concluded that the sharing of subscribed triggers between
17 multiple service providers is technically feasible.

18

19 **Q. DOES THE NATURE OF AIN DEMAND FURTHER MEDIATION, AS GTE**
20 **CONTENDS?**

21 **A.** No. GTE Witness DellAngelo points to a number of network fault conditions that
22 may be inadvertently triggered if further mediation of AIN is not put in place.
23 However, it is just as likely for GTE to cause a network fault in its AIN applications
24 as it is for another user, like AT&T, to cause them. Thus, if the Florida Commission
25 concludes that access to GTE's AIN network requires further mediation then the same

1 mediation functions should apply to all users including GTE.

2

3 **Q. GTE CONTENDS THAT IT IS NOT TECHNICALLY FEASIBLE TO**
4 **UNBUNDLE THE SIGNALING ELEMENTS. IS THAT CORRECT?**

5 **A.** No. Incumbent LECs and some signaling aggregators already provide access to the
6 various signaling elements on an unbundled basis. Several state commissions,
7 including Colorado, Michigan, and Texas, recognized the technical feasibility of
8 providing unbundled elements of SS7 networks and already require incumbent LECs
9 to provide such unbundled elements. The FCC in its recent Order gave considerable
10 weight to the findings of these state commissions in reaching the conclusion that
11 access to unbundled signaling links and STPs is technically feasible.

12

13 **Q. IN YOUR EXPERIENCE IS THERE ANY REASON THAT SIGNALING**
14 **LINKS CANNOT BE UNBUNDLED?**

15 **A.** None whatsoever. Signaling links are nothing more than digital interoffice
16 transmission facilities which can be purchased today as private lines. Their only
17 peculiarity is that they must be acquired in sets of 2 or 4 links at a time and that the
18 routing of the links within each of these sets must remain physically diverse to ensure
19 signaling network redundancy and reliability.

20

21 **Q. GTE WITNESS RIES ASSERTS ON PAGE 11 OF HIS TESTIMONY THAT**
22 **AT&T IS SEEKING TO COLLOCATE MORE THAN THAT EQUIPMENT**
23 **NECESSARY FOR INTERCONNECTION OR ACCESS TO UNBUNDLED**
24 **NETWORK ELEMENTS. IS THAT A FAIR CHARACTERIZATION OF**
25 **AT&T'S POSITION?**

1 A. No. AT&T is seeking to collocate only the equipment necessary to interconnect with
2 GTE. This can sometimes require collocation of small amounts of switching
3 equipment. For example, GTE states that at least 20% of the customers on GTE's
4 local network are served by a digital loop carrier system. When AT&T wishes to
5 connect a GTE unbundled loop serving one of these customers to an AT&T local
6 switch, it will usually require AT&T to haul that traffic over many miles. (As a new
7 entrant, AT&T likely will begin with few switches and few customers scattered over a
8 wide area.) Faced with this situation, AT&T could deploy its own digital loop carrier
9 system to minimize line haul costs from the collocation cage back to the AT&T
10 switch. However, use of an AT&T digital loop carrier system back-to-back with a
11 GTE loop carrier system leads to a significant deterioration in transmission quality
12 for that customer. If, on the other hand, AT&T does not deploy its own digital loop
13 carrier system, the cost of serving the customer is increased because each and every
14 individual loop must be hauled back to the AT&T switch. The best answer in these
15 situations is to deploy a remote switch module instead of a digital loop carrier system
16 and to switch the call at the collocation cage. This avoids both a deterioration in call
17 quality and much of the backhaul costs. GTE has remarked of its network that "one
18 size does not fit all". And this is true of the interconnection equipment AT&T must
19 deploy to interconnect with their GTE network.

20
21 **Q. SHOULD THE FLORIDA COMMISSION LIMIT WHERE COLLOCATION**
22 **MAY OCCUR?**

23 A. No. The Commission should order GTE to allow collocation at all collocation
24 facilities that house GTE network facilities, unless GTE makes an appropriate
25 showing before this Commission that it is not technically feasible to allow collocation

1 at a given facility requested by an ALEC. By adopting this policy approach, the
2 Commission will ensure that competition will not be stifled and consumers will
3 benefit from reduced interconnection cost. The FCC recognized that there is a broad
4 array of points at which interconnection is permitted as GTE witness Ries observes:

5

6 GTE recognizes that the FCC's Order requires collocation to be
7 provided at all structures that house GTE network facilities,
8 including "any structures that house LEC network facilities on public
9 rights-of-way, such as vaults containing loop concentrators or similar
10 structures."

11

12 The FCC also interpreted the Act as requiring the incumbent LEC to prove that a
13 given point is not feasible .

14

15 **Q. GTE ASSERTS THAT THIS COMMISSION SHOULD ALLOW IT TO**
16 **RESERVE POLE AND CONDUIT CAPACITY FOR ITS OWN FUTURE**
17 **NEEDS AND SHOULD PERMIT IT TO DENY SUCH RESERVE**
18 **CAPACITY TO ALECS. DO YOU AGREE WITH GTE'S POSITION?**

19 **A.** No. GTE witness Bailey beginning on page 15 of his testimony is essentially advocating
20 that this Commission sanction GTE's desire to discriminate between itself and ALECs.
21 GTE is willing to provide ALECs with the same access to poles and conduits that GTE
22 provides to other ALECs but is not willing to provide such access on the same terms and
23 conditions afforded to GTE. This is inappropriate because such a policy will allow GTE to
24 manipulate the development of competition by increasing its reserves to foreclose the use of
25 pole and conduit capacity by its competitors. Moreover, GTE's position is directly at odds

1 with the Act which requires "nondiscriminatory" access to poles, conduits and rights of
2 way. The FCC also prohibited any reservation of pole and conduit capacity by incumbent
3 LECs.

4

5 **Q. IS IT NECESSARY FOR GTE TO PROVIDE THE FOUR INTERIM**
6 **NUMBER PORTABILITY OPTIONS REQUESTED BY AT&T?**

7 **A.** Yes. Maximum flexibility with respect to INP is necessary given the technical
8 limitations of all switch-based options and the attendant impacts to various
9 customer segments. Given that no single INP option will achieve parity between
10 GTE and its potential competitors, AT&T must be able to choose the option for
11 each switch and for each of its customers, that can most closely approximate parity
12 with the call processing GTE provides to its own customers.

13

14 **Q. IS ROUTE INDEXING (RI-PH) TECHNICALLY FEASIBLE?**

15 **A.** Yes. In a 1995 presentation to the Illinois Commerce Commission LNP workshop, an
16 Ameritech speaker, Barry Bishop, proposed RI-PH (SPNP-Hub [utilizing SS7]) as an
17 INP solution which was demonstrated to provide numerous advantages and to be
18 technically feasible. The handout stated that RI-PH "has been tested with the 5ESS,
19 DMS 100, EWSD, and 1AESS." Ameritech went on to say, "It is Ameritech's
20 opinion that the RI-PH offers a viable, proven and less burdensome near term
21 alternative for number portability and one which does not involve a lot of throw away
22 development and implementation costs . . ." BellSouth has agreed to provide RI-PH
23 to AT&T. Therefore, it appears that RI-PH is technically feasible and should be
24 made available to AT&T as an INP solution.

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Q. GTE HAS OFFERED FLEX-DID AS AN INP SOLUTION. ARE THERE LIMITATIONS OF FLEX-DID THAT MAKE IT AN UNDESIRABLE SOLUTION IN CERTAIN INSTANCES?

A. Yes. Flex-DID has several limitations. First, since it is a PBX-oriented feature, Flex-DID generally supports only dial pulse or Touch Tone (DTMF) signaling. SS7 is not supported, and thus it may not be possible to pass calling line identification CgPN (or Automatic Number Identification "ANI") to the AT&T office.

Second, as a PBX interface, Flex-DID requires direct trunking between the GTE and AT&T offices. This solution thus appears to be both inefficient and uneconomical in the instance when only a few numbers are ported from a given GTE office.

Finally, Flex-DID uses analog (MF) signaling. Flex-DID using MF trunks would introduce additional post-dialing delay (as contrasted to SS7) and is clearly below parity with GTE's own customers.

Q. IS LERG REASSIGNMENT USEFUL AS AN INP OPTION?

A.. Yes, in limited cases. In cases where AT&T desires to provide number portability for the entire number block (NXX) and other INP options are not available to AT&T, such as Route Indexing-Portability Hub, LERG reassignment is the only "efficient" means remaining to route the numbers to the new service provider's switch. LERG does not contribute to the reduction of numbering resources and uses

1 more efficient routing technology. While the industry LERG reassignments
2 normally avoids splitting NXXs across different offices, sometimes it is necessary,
3 and it is done. Migrating of NXXs is done in the normal course of business when,
4 for instance, an existing switch is retired.

5

6 **Q. PLEASE COMMENT ON GTE'S RESPONSE TO AT&T IN REGARD TO**
7 **INP.**

8 **A. AT&T is disappointed and frustrated with GTE 's policy position, not to provide INP**
9 **options that would enable AT&T to better serve its customers. Furthermore, AT&T**
10 **does not agree with GTE's statement that its current INP offerings, especially Flex-**
11 **DID "... is a good choice for INP because it is a reliable, proven method and is easily**
12 **provisioned by service providers today without costly network modifications." As I**
13 **mentioned earlier, Flex-DID would require trunks to every GTE collocated end office,**
14 **even if traffic volumes did not justify this arrangement; and it would require MF**
15 **trunks, which clearly are inferior to the trunks with SS7 signaling, between those**
16 **offices. Clearly, Flex-DID is the least effective INP option. Most significantly,**
17 **AT&T disputes GTE's statement that RI-PH has not been tested, since Ameritech**
18 **has, in fact, stated publicly that it has been tested and has recommended it in industry**
19 **forums.**

20

21

22

23 **Q. PLEASE COMMENT ON GTE'S RESPONSE TO AT&T IN REGARD TO**
24 **PERMANENT NUMBER PORTABILITY (PNP).**

1 A. AT&T has requested GTE to support the development of an industry wide permanent
2 number portability solution. PNP is currently being worked in industry forums,
3 including, Florida docket No. 960100-TP. To the extent that this issue is resolved in
4 Docket No. 960100-TP, this issue need not be addressed in this arbitration
5 proceeding. However, if this issue is not resolved in that docket, it is AT&T's
6 position that this Commission should implement PNP in accordance with the FCC's
7 regulations promulgated in FCC Docket 95-116. The FCC set forth certain criteria
8 that a PNP must meet. It is AT&T's position that the LRN solution is the only
9 solution that currently meets the FCCs criteria. Therefore, the Commission should
10 adopt LRN as the PNP solution for the State of Florida.

11
12 Q. PLEASE SUMMARIZE AT&T'S POSITION WITH RESPECT TO
13 NUMBER PORTABILITY.

14 A. AT&T believes that Number Portability is a necessary and essential component of
15 effective local competition. Congress, the Florida legislature and the FCC have also
16 reached this firm conclusion. AT&T, recognizing the delay in the availability of a
17 permanent number portability solution, seeks to obtain from GTE four distinct INP
18 solutions, each of which is technically feasible. In addition, AT&T seeks the
19 necessary operational interfaces and flexibility to implement these INP options, so
20 that AT&T can best meet the needs of its various customer segments.

21

22 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

23 A. Yes.