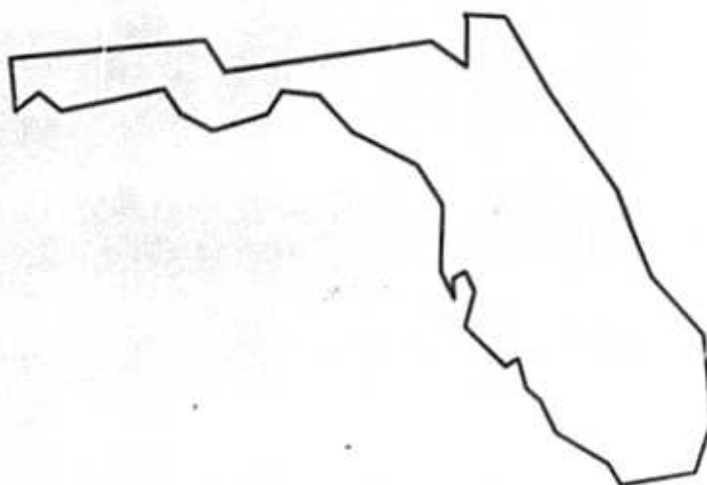


GTE TELEPHONE OPERATIONS

Florida

Project No. 980000A-SP



COMMENTS

**GTE Confidential
Information**



DOCUMENT NUMBER-DATE

10611 SEP 24 88

FPSC-RECORDS/REPORTING



BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Undocketed special project.)
Fair and reasonable residential)
basic local telecommunications)
rates)

Docket No. 980000A-TP

**COMMENTS OF
MARK S. CALNON
ON BEHALF OF
GTE FLORIDA INCORPORATED**

SEPTEMBER 24, 1998

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GTE FLORIDA INCORPORATED

DOCKET NO. 980000A-SP

COMMENTS OF MARK S. CALNON

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TITLE.

A. My name is Mark S. Calnon and my business address is 600 Hidden Ridge, Irving, Texas. I am employed by GTE as the Director of Pricing.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I received a B.A. in economics in 1978 from St. Michael's College. I also earned M.A. and Ph.D. degrees in economics from the University of Colorado at Boulder. While completing my education I worked as a research assistant for the General Services Administration in Washington, D.C. and the Solar Energy Research Institute in Golden, Colorado. In 1984, I began my career with GTE. From 1984 until 1993, I worked in the areas of forecasting, market planning, pricing, and pricing policy for GTE Service Corporation in Stamford, Connecticut (1984-1987), General Telephone of Florida in Tampa, Florida (1987-1989), and GTE Telephone Operations in Dallas, Texas (1989-1993). From 1993 until April of 1997, I worked in the electric power industry as the Pricing Policy Manager for Electrotek Concepts Inc. and as the Pricing Director for Niagara Mohawk Power

1 Corporation. In April of 1997, I returned to GTE in my current
2 position.

3

4 **Q. HAVE YOU PREVIOUSLY TESTIFIED ON BEHALF OF GTE?**

5 A. Yes. I have presented testimony on behalf of GTE before the Public
6 Service Commissions of Alabama, Illinois, Indiana, Kentucky,
7 Minnesota, Missouri, New Mexico, North Carolina, Pennsylvania,
8 South Carolina, Texas, Washington, and Wisconsin. I have also
9 participated in various workshops and settlement conferences before
10 the Public Service Commissions of Florida, New York, and Oregon.

11

12 **Q. WHAT IS THE PURPOSE OF YOUR COMMENTS IN THIS**
13 **PROCEEDING?**

14 A. My comments explain the relationships among the costs and charges
15 associated with providing the services the Commission Staff identified
16 in its June 19, 1998 Data Request. These are: (1) basic local
17 telecommunications service for residential customers; (2) business
18 services (single line business, ContraNet, PBX trunk service, and
19 multiline business); (3) intrastate switched access service; (4)
20 intraLATA toll; and (5) the vertical features designated by Staff.

21

22 Staff's request for these "contribution analyses" was prompted by
23 Florida legislation adopted earlier this year which requires the
24 Commission to report on existing cost-charge relationships:

25

The Legislature has determined that charges for

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intrastate switched access and other services may be set above costs and may be providing an implicit subsidy of residential basic local telecommunications service rates in this state. Therefore, the Public Service Commission shall . . . study and report to [the Legislature] the relationships among the costs and charges associated with providing basic local service, intrastate access, and other services provided by local exchange telecommunications companies.

(Chapter 98-277, sec. 2(1), Florida Laws.)

Q. PLEASE DESCRIBE THE CONTRIBUTION ANALYSES YOU WERE ASKED TO PREPARE.

A. Attachment A to these comments is GTE'S contribution analysis prepared in response to the Staff's Data Request. This Attachment shows the contribution margins generated by GTE's major intrastate services based on 1997 data. For example, line 1 of the revised summary page of Attachment A shows the contribution margin generated by flat rate residential service. Column B shows that this service generated [REDACTED] in total revenues in 1997. Column C shows that the total annual TSLRIC for this service, calculated using 1997 actual unit data, is [REDACTED]. In other words, the total annual revenues generated by flat rate residential services in

1 1997 did not even cover their TSLRICs, which, as discussed in the
2 comments of GTE witness Bert Steele, include both volume- sensitive
3 and volume-insensitive costs. In fact, Column D shows that this
4 service "generated" a *negative* contribution margin of 44%. (Witness
5 Steele supports GTE's TSLRIC calculations in this proceeding.)
6

7 In sharp contrast, intrastate switched access generated [REDACTED]
8 in total revenues, but the total annual TSLRIC for this service was
9 only [REDACTED] resulting in a positive contribution margin of 1111%
10 (see Attachment A, revised summary page, line 11). Intralata toll
11 provides an even higher contribution margin.
12

13 **Q. WHAT CONCLUSIONS DO YOU DRAW FROM THIS ANALYSIS?**

14 **A.** To paraphrase the Legislature, this analysis clearly shows that
15 "charges for intrastate-switched access and other services" are set
16 well above costs and "provid[e] an implicit subsidy of residential basic
17 local telecommunications service rates in this state."
18

19 I would also note that the Legislature, in section 364.051(6)(b) of the
20 Florida Statutes, stated that "[t]he cost standard for determining
21 cross-subsidization is whether the total revenue from a nonbasic
22 service is less than the total long-run incremental cost of the service.
23 Total long-run incremental cost means service-specific volume and
24 non-volume sensitive costs." Assuming for the sake of argument that
25 this definition is correct, when we apply the definition to GTE's

1 contribution analysis we find that residential service is, in fact, being
2 subsidized by access service and other services. These cross-
3 subsidies (or "implicit supports") may have helped promote universal
4 service, but they are not sustainable in a competitive environment.
5 In addition, the Telecommunications Act of 1996 requires that these
6 supports be made explicit and funded in a competitively neutral
7 manner.

8
9 **Q. CAN THE DATA PRESENTED IN THE CONTRIBUTION ANALYSIS
10 BE USED TO HELP SIZE AN EXPLICIT UNIVERSAL SERVICE
11 FUND?**

12 **A.** Yes. Let's return to Attachment A for an example. As shown on Line
13 No. 1, the total annual long-run incremental cost of providing flat rate
14 residential service is \$200 million *greater* than the total annual
15 revenues generated by this service. Assuming the current charges
16 for this service remain the same, then any explicit universal service
17 fund must capture this \$200 million difference *plus* a reasonable
18 allocation of GTE's common costs. This adjustment is necessary
19 because common costs are not reflected in a long-run cost
20 calculations. (Also, please note that GTE's contribution analysis is
21 based on data at a rate group level. If costs were further deaveraged,
22 the negative contribution margins for flat rate residential service
23 would be greater.)
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Q. IS IT ALSO NECESSARY TO ACCOUNT FOR COMMON COSTS IN SHOWING THE RELATIONSHIPS BETWEEN COSTS AND CHARGES AND IN DETERMINING UNIVERSAL SERVICE SUPPORT?

A. Yes. As noted above, the Legislature recognized that access and other services may well be providing an implicit subsidy to residential basic local rates. The directive to report on the current cost/charge relationships grew from this concern.

The term "cost" as used by the Legislature must mean the *total* cost of the local provider. This cost includes (1) direct cost plus (2) a mark-up over direct costs (we can designate this component common costs) so that the company has an opportunity to recover its total costs. This is how companies operate in the competitive environment. In competitive markets, prices are closely aligned with the total cost of providing a service. In the local telecommunications market, however, the prices for some services, e.g., access and toll services, are set well above their costs and thus provide--to use the Legislature's phrase--"implicit subsidies" for residential service.

Moreover, one of the criteria the Commission is to consider in arriving at its conclusions as to the "fair and reasonable" residential basic rate is the cost of providing the service. The Legislature prescribed that this cost of service was to include "the proportionate share of joint

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and common costs." (Ch. 98-277, sec. 2(2)(a), Fla. Laws.)

In sum, in order to analyze the cost-charge relationships among services we must account for a firm's total costs, not just long-run incremental (direct) costs. When we do so, we can more accurately calculate universal service requirements by (1) taking the total costs of providing a supported service, and subtracting (2) the current charge for that service.

Q. HAVE YOU PREPARED AN ANALYSIS THAT ACCOUNTS FOR GTE'S TOTAL COSTS?

A. Yes. Attachment B is similar to the contribution analysis set forth in Attachment A. Attachment A shows revenues and TSLRICs for intrastate services only, whereas Attachment B is based on total company data. By subtracting total company revenues (Column (B)) from total company TSLRICs (Column (C)), we can calculate GTE's total company common costs. We then calculate the total cost for a given service by allocating a share of common costs to the TSLRIC of each service. I've performed this allocation using a uniform mark-up approach. This mark-up approach is simply (1) total common costs plus total direct costs, divided by (2) total direct costs. As shown in Attachment B, GTE's uniform mark-up equals 28%.

In sum, we've simply modified the contribution analysis shown in Attachment A to account for GTE's total costs.

1 Q. WHAT CONCLUSIONS DO YOU DRAW FROM THIS ANALYSIS?

2 A. Attachment B shows that residential service receives significant
3 implicit support from GTE's other services. For example, Attachment
4 B shows that residential flat rate service receives over \$329 million
5 a year in implicit support. Looking at only this service (at a rate group
6 level of detail) demonstrates that today's implicit supports are
7 substantial. These supports are not sustainable in a competitive
8 environment, and must therefore be made explicit and funded in a
9 competitively neutral manner. Again, assuming residential rates
10 remain the same, GTE's universal service funding requirements for
11 residential flat rate service alone would exceed \$329 million per year.

12
13 This funding requirement does *not* mean that GTE's total costs
14 have increased, or that GTE would earn additional revenue, or that
15 a residential subscriber's total bill would necessarily increase
16 drastically. It simply means that the charges for some services would
17 decrease while charges for other services would increase (with the
18 level of increases dependent upon establishment of an explicit and
19 sufficient universal fund).

20
21 Q. HOW DOES YOUR ANALYSIS RELATE TO THE TESTIMONY
22 REGARDING AFFORDABLE RATES SPONSORED BY
23 WITNESSES PERRY AND HARRIS?

24 A. GTE's analysis illustrates the disorientation that currently exists in
25 GTE's retail rate structure and reflects the implicit support mechanism

1 that today satisfies the public policy goal of affordable, universally
2 available service. To ensure that this goal is not jeopardized as a
3 result of the pro-competitive provisions of the Telecommunication Act
4 of 1996 ("the Act"), state Commissions and the FCC are in the
5 process of establishing explicit and competitively neutral support
6 mechanisms to replace the current system of implicit supports.

7
8 Our analysis, adjusted to reflect actual cost recovery, can be used to
9 identify the changes that would result if current rates were rebalanced
10 and all services covered their own direct costs and made a
11 reasonable contribution to common cost recovery. At a general level,
12 this rebalancing would produce increases for basic local service for
13 residential and single line business customers and decreases for
14 usage (local measured, intralata toll and switched access), vertical
15 features and access rates for multi-line business. To the extent that
16 policy makers deem basic rate increases of this level to be
17 undesirable from a public policy perspective, Messrs. Perry and
18 Harris offer guidance to the Legislature as it seeks to establish the
19 proper balance between the prices consumers pay for basic service
20 and the level of funding that must be generated from all providers of
21 telecommunications services through a competitively neutral funding
22 mechanism.

23
24 **Q. WHAT IS THE DISTINCTION BETWEEN AFFORDABLE RATES**
25 **AND JUST AND REASONABLE RATES?**

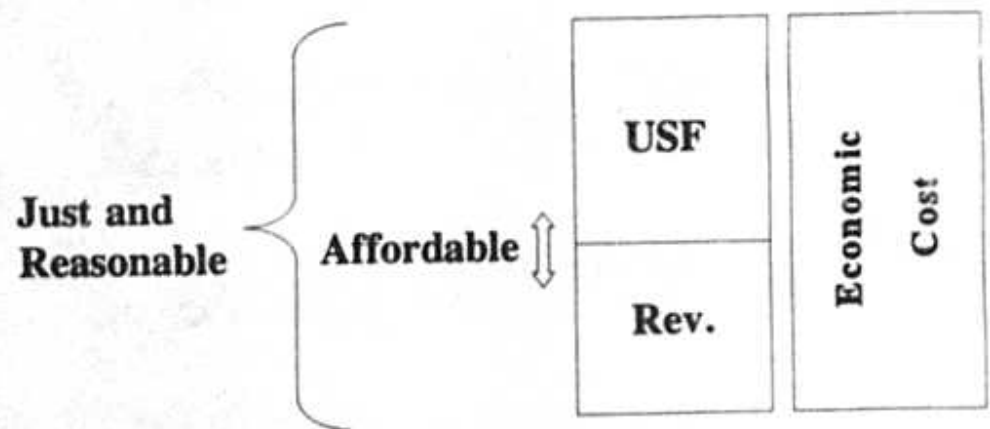
1 A. From the statutory perspective, affordability is just one of the four
2 criteria the Commission must consider in reporting on the fair and
3 reasonable rate (the other three are value of service, basic residential
4 rates in other states; and the cost of providing residential basic
5 service in Florida). (Ch. 98-277, sec. 2(2)(a), Florida Laws.) In a
6 more generic sense, as Mr. Perry points out, an evaluation of
7 affordability is from the consumer's perspective (*i.e.*, whether the rate
8 consumers are charged for essential telecommunication services is
9 affordable). But an evaluation of whether rates are just and
10 reasonable must consider the perspective of the telecommunications
11 provider (*i.e.*, whether the telecommunications provider is allowed the
12 reasonable opportunity to recover its total actual costs). As
13 demonstrated in Figure 1 below, rates can be both "affordable" to the
14 consumer and "just and reasonable" to the telecommunications
15 provider if the revenues of the firm plus the explicit universal service
16 support equals the firm's economic cost.

17
18 **Q. PLEASE DESCRIBE THE INTERPLAY BETWEEN JUST,**
19 **REASONABLE, AND AFFORDABLE RATES AND THE**
20 **IMPLEMENTATION OF AN EXPLICIT, SUFFICIENT, AND**
21 **PREDICTABLE UNIVERSAL SERVICE FUND.**

22 A. As highlighted in Figure 1, just and reasonable rates for the
23 telecommunications provider and affordable rates for the consumer
24 can be ensured through the implementation of an explicit, sufficient,
25 and predictable universal service fund.

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Figure 1
Interplay Between Just, Reasonable, and Affordable Rates and
Universal Service

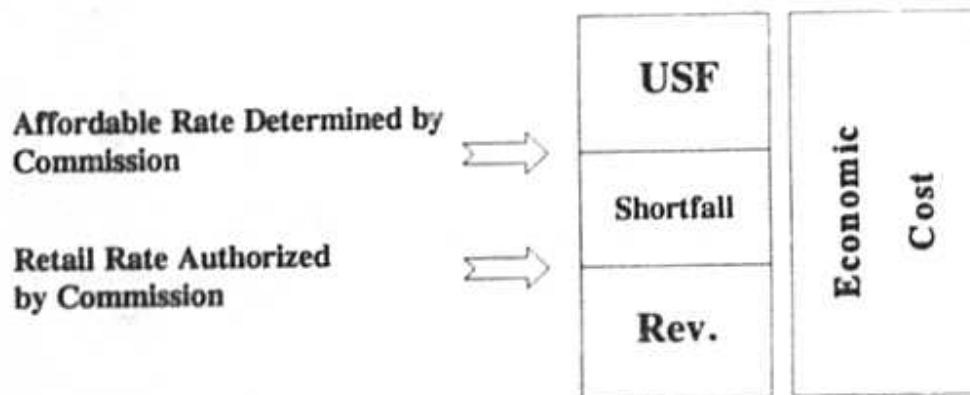


In a competitive market, the price for basic local service would tend to equal economic cost, but as a matter of public policy, the Commission or the Legislature may determine that a price equal to economic cost is not affordable. As a result, a below-cost affordable rate for basic local service may be established ("Affordable" in Figure 1). Regardless of the Commission's conclusions as to affordability, GTE still must be given a reasonable opportunity to recover its economic costs. If the affordable rate for basic local service is below cost, then the difference between the resulting revenues ("Rev." in Figure 1) and economic cost must be recovered from an explicit universal service fund ("USF" in Figure 1). That is, revenues plus universal service support must equal economic cost. If the combination equals economic cost, it is just and reasonable and satisfies section

1 254(b)(1) and Section 254(l) of the Act. Conversely, if the combination falls
2 short of economic costs, it will not be just and reasonable nor will it result in
3 any explicit and sufficient universal service support as required by Section
4 254 of the Act.

5
6 An important premise of the interplay described in Figure 1 is that the
7 maximum retail rate the Commission allows telecommunications providers
8 to charge for basic local service must be the same as the "affordable rate"
9 determined by this Commission and used to determine the amount of
10 universal service support available. If the Legislature treats an "affordable"
11 rate for purposes of determining universal service support as a concept
12 separate from the rate the telecommunications provider is allowed to charge,
13 then it will have failed to set just and reasonable rates, as illustrated in
14 Figure 2.

15 **Figure 2**



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24 **Result If Affordable Rate Does Not Equal Maximum Retail Rate**

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As illustrated in Figure 2, treating the "affordable" rate used to determine the universal service support amount as something different from the maximum retail rate a telecommunications provider is permitted to charge denies the telecommunications carrier the reasonable opportunity to recover its economic costs.

Q. HOW SHOULD THE COMMISSION INTEGRATE THE FINDINGS OF THIS PROCEEDING WITH ONGOING DOCKET 980696-TP?

A. The selection of a proxy cost model (and inputs) for the purpose of universal service funding in that proceeding will produce a set of deaveraged cost estimates associated with the provision of "supported" services. These cost estimates, when combined with a revenue estimate, will produce fund size estimates for each ILEC. In the testimony of Mr. Seaman, fund size estimates are produced from a comparison of BCPM-derived costs and current tariffed rates for basic service and the End User Common Line Charge ("EUCL")¹

If the Commission determines in this proceeding that rate levels other than those currently charged to residential and single-line business customers satisfy the "fair and reasonable" standard, it will be necessary to re-estimate the funding requirements presented in Mr.

¹ GTE does not support the inclusion of revenues for other services such as switched access, intralata toll, and vertical services in fund size calculations. This process is self-defeating as the revenues for these services currently contain the very implicit supports that are to be eliminated through the establishment of a universal service fund.

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Seaman's testimony in Docket 980696-TP. It is critical to understand that if rates other than those currently in effect are used in fund size calculations, the Commission must implement those new rates concurrently with the establishment of the fund. To do otherwise would violate the just and reasonable rate principle discussed above.

Q. DOES THIS CONCLUDE YOUR COMMENTS?

A. Yes.

**GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS**

SUMMARY

| Line No. | Data Request | (A) Service Categories | (B) Annual Revenues | (C) Annual ISLRIC | (D) | (E) |
|----------|--------------|-----------------------------|------------------------|----------------------|---------------------------------|--------------------------------|
| | | | | | Contribution Margin \$ (B-C) | Contribution Margin % (D/C) |
| 1 | 1a. | Residence - Flat Rate | [REDACTED] | [REDACTED] | | -44% |
| 2 | | | [REDACTED] | [REDACTED] | | |
| 3 | 1c. | Business - Flat Rate | [REDACTED] | [REDACTED] | | 38% |
| 4 | | | [REDACTED] | [REDACTED] | | |
| 5 | 1e. | CentraNet Service | [REDACTED] | [REDACTED] | | -9% |
| 6 | | | [REDACTED] | [REDACTED] | | |
| 7 | 1g. | PBX Trunk Service | [REDACTED] | [REDACTED] | \$11,493,978 | 101% |
| 8 | | | [REDACTED] | [REDACTED] | | |
| 9 | 1i. | Multi-line Business Service | [REDACTED] | [REDACTED] | | 71% |
| 10 | | | [REDACTED] | [REDACTED] | | |
| 11 | 2a. | IntraState Switched Access | [REDACTED] | [REDACTED] | \$140,304,428 | 1111% |
| 12 | | | [REDACTED] | [REDACTED] | | |
| 13 | 3a. | IntraLATA Toll Service | [REDACTED] | [REDACTED] | \$32,639,140 | 1159% |
| 14 | | | [REDACTED] | [REDACTED] | | |
| 15 | 4a. | Vertical Services | [REDACTED] | [REDACTED] | \$44,064,360 | 937% |
| 16 | | | [REDACTED] | [REDACTED] | | |
| 17 | | Total | [REDACTED] | [REDACTED] | | 13% |

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CONFIDENTIAL INFORMATION

Project No. 980000-A
Comments of Mark S. Cannon
Attachment A
PRIC Exhibit No. —
Page 1 of 18
Revise

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

Category Analysis

| Line No. | Service Description | No. of Monthly Units | Tariff Rate | Pre 7/95 ECS | EUL | Revenue Par.Ln | ISLRIC | Contribution Margin.\$ | Contribution Margin.% | Annual Revenue | Annual Costs | Contribution Margin.\$ | Contribution Margin.% |
|----------|---------------------------|----------------------|-------------|--------------|--------|----------------|---------|------------------------|-----------------------|----------------|--------------|------------------------|-----------------------|
| | | | | | | | | | | | | | |
| 1 | 1a. Residence - Flat Rate | | | | | | | | | | | | |
| 2 | A. Rate Group 1 | | | | | | | | | | | | |
| 3 | Flat Rate | | \$0.51 | | \$3.50 | \$13.01 | | (\$51.94) | -60% | | | | |
| 4 | Flat Rate with Rotary | | \$13.78 | | \$3.50 | \$17.28 | | (\$47.70) | -73% | | | | |
| 5 | Vacation | | \$5.68 | | \$3.50 | \$9.18 | \$2.33 | (\$33.15) | -67% | | | | |
| 6 | Vacation with Rotary | | \$7.82 | | \$3.50 | \$11.32 | \$2.26 | (\$31.04) | -62% | | | | |
| 7 | Lifeline | | \$6.01 | | \$3.50 | \$9.51 | | (\$35.44) | -67% | | | | |
| 8 | Employee Concession 50% | | \$4.75 | | \$3.50 | \$8.25 | | (\$68.70) | -67% | | | | |
| 9 | Employee Concession 100% | | \$0.00 | | \$3.50 | \$3.50 | | (\$61.45) | -65% | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | Subtotal - Rate Group 1 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | B. Rate Group 2 | | | | | | | | | | | | |
| 15 | Flat Rate | | \$10.41 | \$1.60 | \$3.50 | \$15.51 | \$2.82 | (\$17.31) | -53% | | | | |
| 16 | Flat Rate with Rotary | | \$14.68 | \$1.60 | \$3.50 | \$19.78 | \$2.84 | (\$13.06) | -40% | | | | |
| 17 | Vacation | | \$5.68 | | \$3.50 | \$9.18 | \$29.91 | (\$0.73) | -60% | | | | |
| 18 | Vacation with Rotary | | \$7.82 | | \$3.50 | \$11.32 | \$28.63 | (\$18.61) | -62% | | | | |
| 19 | Lifeline | | \$8.91 | \$1.60 | \$3.50 | \$12.01 | | (\$20.81) | -63% | | | | |
| 20 | Employee Concession 50% | | \$5.30 | | \$3.50 | \$9.50 | | (\$23.32) | -71% | | | | |
| 21 | Employee Concession 100% | | \$0.00 | | \$3.50 | \$3.50 | | (\$29.32) | -60% | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | Subtotal - Rate Group 2 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 25 | C. Rate Group 3 | | | | | | | | | | | | |
| 26 | Flat Rate | | \$10.88 | \$1.60 | \$3.50 | \$15.98 | \$34.24 | (\$18.28) | -53% | | | | |
| 27 | Flat Rate with Rotary | | \$15.15 | \$1.60 | \$3.50 | \$20.23 | \$34.26 | (\$14.03) | -41% | | | | |
| 28 | Vacation | | \$5.68 | | \$3.50 | \$9.18 | \$31.33 | (\$22.15) | -71% | | | | |
| 29 | Vacation with Rotary | | \$7.82 | | \$3.50 | \$11.32 | \$31.35 | (\$20.03) | -64% | | | | |
| 30 | Lifeline | | \$7.38 | \$1.60 | \$3.50 | \$12.48 | \$34.24 | (\$21.78) | -64% | | | | |
| 31 | Employee Concession 50% | | \$5.48 | | \$3.50 | \$9.78 | | (\$24.48) | -71% | | | | |
| 32 | Employee Concession 100% | | \$0.00 | | \$3.50 | \$3.50 | \$34.24 | (\$30.74) | -60% | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | Subtotal - Rate Group 3 | | | | | | | | | | | | |

Project No. 980000-A
Comments of Mark S. Calson
Attachment A
FFSC Exhibit No. _____
Page 2 of 18

CONFIDENTIAL INFORMATION

Revised

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Service Analysis

Category Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) Pvs 7/95 EDCS | (E) ELCL | (F) Revenue Per Line (C+D+E) | (G) ISL/RC | (H) Contribution Margin & (F-G) | (I) Contribution Margin % (H/F) | (J) Annual Revenue (B*F) | (K) Annual Costs (B*G) | (L) Contribution Margin \$ (J-K) | (M) Contribution Margin % (L/J) |
|----------|-----------------------------------|--------------------------|-----------------|-------------------|----------|------------------------------|------------|---------------------------------|---------------------------------|--------------------------|------------------------|----------------------------------|---------------------------------|
| | | | | | | | | | | | | | |
| 1 | 1a. Residence - Flat Rate (cont.) | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | D. Rate Group 4 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | Flat Rate | | \$11.20 | | \$3.50 | \$14.68 | | (\$15.61) | -11% | | | | -11% |
| 6 | Flat Rate with Rotary | | \$15.05 | | \$3.50 | \$18.13 | | (\$11.39) | -27% | | | | -27% |
| 7 | Vacation | | \$5.08 | | \$3.50 | \$9.18 | \$27.85 | (\$18.67) | -47% | | | | -47% |
| 8 | Vacation with Rotary | | \$7.22 | | \$3.50 | \$11.32 | \$27.90 | (\$16.58) | -59% | | | | -59% |
| 9 | Lifeline | | \$7.22 | | \$3.50 | \$11.32 | | (\$19.11) | -63% | | | | -63% |
| 10 | Employee Concession 50% | | \$5.08 | | \$3.50 | \$9.18 | | (\$21.29) | -70% | | | | -70% |
| 11 | Employee Concession 100% | | \$0.00 | | \$3.50 | \$3.50 | | (\$28.97) | -89% | | | | -89% |
| 12 | | | | | | | | | | | | | |
| 13 | Subtotal - Rate Group 4 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | E. Rate Group 5 | | | | | | | | | | | | |
| 16 | Flat Rate | | \$11.81 | \$1.60 | \$3.50 | \$16.91 | \$27.73 | (\$10.82) | -39% | | | | -39% |
| 17 | Flat Rate with Rotary | | \$16.08 | \$1.60 | \$3.60 | \$21.18 | \$27.82 | (\$8.64) | -24% | | | | -24% |
| 18 | Vacation | | \$5.08 | | \$3.50 | \$9.18 | \$24.82 | (\$15.64) | -60% | | | | -60% |
| 19 | Vacation with Rotary | | \$7.22 | | \$3.50 | \$11.32 | \$24.91 | (\$13.59) | -59% | | | | -59% |
| 20 | Lifeline | | \$8.31 | \$1.60 | \$3.50 | \$13.41 | \$27.73 | (\$14.32) | -62% | | | | -62% |
| 21 | Employee Concession 50% | | \$5.08 | | \$3.50 | \$10.20 | \$27.73 | (\$17.53) | -69% | | | | -69% |
| 22 | Employee Concession 100% | | \$0.00 | | \$3.50 | \$3.50 | \$27.73 | (\$24.23) | -87% | | | | -87% |
| 23 | | | | | | | | | | | | | |
| 24 | Subtotal - Rate Group 5 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | F. All Rate Groups | | | | | | | | | | | | |
| 27 | Flat Rate | | | | | | | | | | | | -43% |
| 28 | Flat Rate with Rotary | | | | | | | | | | | | -29% |
| 29 | Vacation | | | | | | | | | | | | -68% |
| 30 | Vacation with Rotary | | | | | | | | | | | | -68% |
| 31 | Lifeline | | | | | | | | | | | | -68% |
| 32 | Employee Concession 50% | | | | | | | | | | | | -65% |
| 33 | Employee Concession 100% | | | | | | | | | | | | -89% |
| 34 | | | | | | | | | | | | | |
| 35 | Total - All Rate Groups | | | | | | | | | | | | -44% |

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CONFIDENTIAL INFORMATION

Revise

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

Category Analysis:

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) Pre 7/95 ECS | (E) ELCL | (F) Revenue Per Line (C)(D)(E) | (G) ISLRIC | (H) Contribution Margin \$ (F-G) | (I) Contribution Margin % (H/F) | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ (J-K) | (M) Contribution Margin % |
|----------|--------------------------|--------------------------|-----------------|------------------|----------|--------------------------------|------------|----------------------------------|---------------------------------|--------------------|------------------|----------------------------------|---------------------------|
| 1 | 1c. Business - Flat Rate | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | A. Rate Group 1 | | | | | | | | | | | | |
| 4 | Flat Rate | | \$23.56 | | \$5.70 | \$29.65 | | (\$21.50) | -42% | | | | -42% |
| 5 | Vacation | | \$14.57 | | \$5.70 | \$20.27 | \$47.41 | (\$27.14) | -57% | | | | 0% |
| 6 | | | | | | | | | | | | | -42% |
| 7 | Subtotal - Rate Group 1 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | B. Rate Group 2 | | | | | | | | | | | | |
| 10 | Flat Rate | | \$28.25 | \$4.18 | \$5.70 | \$38.13 | \$26.24 | (\$0.11) | -0% | | | | -0% |
| 11 | Vacation | | \$14.57 | | \$5.70 | \$20.27 | \$31.88 | (\$11.69) | -36% | | | | -36% |
| 12 | | | | | | | | | | | | | |
| 13 | Subtotal - Rate Group 2 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | C. Rate Group 3 | | | | | | | | | | | | |
| 16 | Flat Rate | | \$27.45 | \$4.18 | \$5.70 | \$37.33 | \$36.71 | \$1.62 | 5% | | | | 5% |
| 17 | Vacation | | \$14.57 | | \$5.70 | \$20.27 | \$31.33 | (\$11.06) | -36% | | | | -36% |
| 18 | | | | | | | | | | | | | |
| 19 | Subtotal - Rate Group 3 | | | | | | | | | | | | 4% |
| 20 | | | | | | | | | | | | | |
| 21 | D. Rate Group 4 | | | | | | | | | | | | |
| 22 | Flat Rate | | \$28.70 | | \$5.70 | \$34.40 | | \$5.03 | 17% | | | | 17% |
| 23 | Vacation | | \$14.57 | | \$5.70 | \$20.27 | \$25.83 | (\$5.56) | -22% | | | | -22% |
| 24 | | | | | | | | | | | | | |
| 25 | Subtotal - Rate Group 4 | | | | | | | | | | | | 17% |
| 26 | | | | | | | | | | | | | |
| 27 | E. Rate Group 5 | | | | | | | | | | | | |
| 28 | Flat Rate | | \$29.90 | \$4.18 | \$5.70 | \$39.78 | \$36.84 | \$12.94 | 49% | | | | 49% |
| 29 | Vacation | | \$14.57 | | \$5.70 | \$20.27 | \$22.46 | (\$2.19) | -10% | | | | -10% |
| 30 | | | | | | | | | | | | | |
| 31 | Subtotal - Rate Group 5 | | | | | | | | | | | | 49% |
| 32 | | | | | | | | | | | | | |
| 33 | F. All Rate Groups | | | | | | | | | | | | |
| 34 | Flat Rate | | | | | | | | | | | | 38% |
| 35 | Vacation | | | | | | | | | | | | -17% |
| 36 | | | | | | | | | | | | | |
| 37 | Total - All Rate Groups | | | | | | | | | | | | 38% |

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GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

Category Analysis

| Line No. | Service Description | (B) No. of Monthly Loads | (C) Tariff Rate | (D) Pre 7/95 ECS | (E) ELCL | (F) Revenue Per Line (C)(D)(E) | (G) TSL/FIC | (H) Contribution Margin \$ (F)-(G) | (I) Contribution Margin % (H)/(F) | (J) Annual Revenue (I)(J) | (K) Annual Costs (J)(L) | (L) Contribution Margin \$ (J)-(K) | (M) Contribution Margin % (L)/(J) |
|----------|------------------------------------|--------------------------|-----------------|------------------|----------|--------------------------------|-------------|------------------------------------|-----------------------------------|---------------------------|-------------------------|------------------------------------|-----------------------------------|
| | | | | | | | | | | | | | |
| 1 | 1e. CentralNet Service | | | | | | | | | | | | |
| 2 | A. Wire Center Line Charge * # | | \$11.15 | N/A | N/A | \$11.15 | \$16.20 | (\$5.05) | -31% | | | | -31% |
| 3 | CentralNet Main Station | | \$4.00 | N/A | N/A | \$4.00 | | (\$15.02) | -79% | | | | -79% |
| 4 | Analog | | \$18.25 | N/A | N/A | \$18.25 | \$35.11 | (\$18.86) | -54% | | | | -54% |
| 5 | Digital | | | | | | | | | | | | |
| 6 | B. Network Access Register (NAR) * | | \$23.91 | N/A | \$8.25 | \$30.16 | \$4.81 | \$19.10 | 397% | | | | 527% |
| 7 | | | | | | | | | | | | | |
| 8 | C. Feature Packages - Analog | | | | | | | | | | | | |
| 9 | CentralNet 1000 | | \$2.50 | N/A | N/A | \$2.50 | \$4.05 | (\$1.55) | -38% | | | | -38% |
| 10 | CentralNet 2000 | | \$2.75 | N/A | N/A | \$2.75 | \$5.20 | (\$2.45) | -47% | | | | -47% |
| 11 | CentralNet 3000 | | \$4.00 | N/A | N/A | \$4.00 | \$8.24 | (\$4.24) | -38% | | | | -38% |
| 12 | CLASS Feature Package | | \$5.00 | N/A | N/A | \$5.00 | \$1.51 | \$3.49 | 231% | | | | 231% |
| 13 | | | | | | | | | | | | | |
| 14 | D. Feature Packages - Digital | | | | | | | | | | | | |
| 15 | ISDN MBKS Basic | | \$6.50 | N/A | N/A | \$6.50 | | (\$7.45) | -53% | | | | -53% |
| 16 | ISDN MBKS Deluxe | | \$8.50 | N/A | N/A | \$8.50 | | (\$5.83) | -40% | | | | -40% |
| 17 | ISDN 3000 Deluxe | | \$12.50 | N/A | N/A | \$12.50 | | (\$1.95) | -13% | | | | -13% |
| 18 | | | | | | | | | | | | | |
| 19 | E. ISDN Channel Capability | | | | | | | | | | | | |
| 20 | B-Voice | | \$2.00 | N/A | N/A | \$2.00 | \$0.01 | \$1.99 | 19900% | | | | 19900% |
| 21 | B-Voice/CSD | | \$12.50 | N/A | N/A | \$12.50 | \$11.50 | \$1.00 | 9% | | | | 9% |
| 22 | B Packet | | \$100.00 | N/A | N/A | \$100.00 | \$21.42 | \$78.58 | 367% | | | | 367% |
| 23 | D Packet | | \$5.00 | N/A | N/A | \$5.00 | \$1.95 | \$3.05 | 159% | | | | 159% |
| 24 | Total | | | | | | | | | | | | |
| 25 | * Weighted Tariff Rate | | | | | | | | | | | | |
| 26 | # Weighted TSL/FIC | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

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GTE FLORIDA INCORPORATED
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Attachment 1

Service Analysis

Category Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) re 7/85 ECS | (E) ELCL | (F) Revenue Par. Line | (G) ISLRC | (H) Contribution Margin \$ | (I) Contribution Margin % | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % |
|----------|-------------------------|--------------------------|-----------------|-----------------|----------|-----------------------|-----------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|
| 1 | 1g. PBX Trunk Service | | | | | | | | | | | | |
| 2 | A. Rate Group 1 | | | | | | | | | | | | |
| 3 | Flat Rate | | \$46.10 | N/A | \$8.25 | \$52.35 | \$52.22 | \$0.13 | 0% | | | | 0% |
| 4 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$47.41 | (\$10.09) | -21% | | | | -21% |
| 5 | | | | | | | | | | | | | |
| 6 | Subtotal - Rate Group 1 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | B. Rate Group 2 | | | | | | | | | | | | |
| 9 | Flat Rate | | \$48.40 | N/A | \$8.25 | \$54.65 | \$36.67 | \$17.98 | 49% | | | | 49% |
| 10 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$31.86 | \$5.46 | 17% | | | | 17% |
| 11 | | | | | | | | | | | | | |
| 12 | Subtotal - Rate Group 2 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | C. Rate Group 3 | | | | | | | | | | | | |
| 15 | Flat Rate | | \$49.60 | N/A | \$8.25 | \$55.85 | \$36.14 | \$19.71 | 35% | | | | 35% |
| 16 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$31.33 | \$5.99 | 19% | | | | 19% |
| 17 | | | | | | | | | | | | | |
| 18 | Subtotal - Rate Group 3 | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | D. Rate Group 4 | | | | | | | | | | | | |
| 21 | Flat Rate | | \$50.65 | N/A | \$8.25 | \$57.10 | \$30.64 | \$26.46 | 46% | | | | 46% |
| 22 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$25.83 | \$11.49 | 44% | | | | 44% |
| 23 | | | | | | | | | | | | | |
| 24 | Subtotal - Rate Group 4 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | E. Rate Group 5 | | | | | | | | | | | | |
| 27 | Flat Rate | | \$52.05 | N/A | \$8.25 | \$59.30 | \$27.27 | \$31.03 | 52% | | | | 52% |
| 28 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$22.46 | \$14.86 | 39% | | | | 39% |
| 29 | | | | | | | | | | | | | |
| 30 | Subtotal - Rate Group 5 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | F. All Rate Groups | | | | | | | | | | | | |
| 33 | Flat Rate | | | | | | | | | | | | |
| 34 | Message Rate | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | Total - All Rate Groups | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |

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GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

| Line No. | Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) Pre 7/95 ECS | (E) ELICL | (F) Total Revenue Per Line | (G) ISL/RIC | (H) Contribution Margin \$ | (I) Contribution Margin % | Category Analysis | | | | |
|----------|--------------------------------|--------------------------|-----------------|------------------|-----------|----------------------------|-------------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|--|
| | | | | | | | | | | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % | |
| 1 | 1L Multi-line Business Service | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 3 | A. Flat Rate with Rotary | | | | | | | | | | | | | |
| 4 | Rate Group 1 | | \$34.97 | N/A | \$6.25 | \$41.22 | | (\$9.76) | -19% | | | | | |
| 5 | Rate Group 2 | | \$37.27 | N/A | \$6.25 | \$43.52 | | \$8.10 | 23% | | | | | |
| 6 | Rate Group 3 | | \$38.47 | N/A | \$6.25 | \$44.72 | | \$9.82 | 29% | | | | | |
| 7 | Rate Group 4 | | \$39.72 | N/A | \$6.25 | \$45.97 | | \$16.58 | 59% | | | | | |
| 8 | Rate Group 5 | | \$40.92 | N/A | \$6.25 | \$47.17 | | \$21.06 | 81% | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | Subtotal - All Rate Groups | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| 12 | B. Message Rate with Rotary | | | | | | | | | | | | | |
| 13 | Rate Group 1 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$47.44 | (\$16.87) | -39% | | | | | |
| 14 | Rate Group 2 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$31.88 | (\$1.31) | -4% | | | | | |
| 15 | Rate Group 3 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$31.88 | (\$0.70) | -2% | | | | | |
| 16 | Rate Group 4 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$25.87 | \$4.70 | 18% | | | | | |
| 17 | Rate Group 5 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$22.57 | \$8.00 | 35% | | | | | |
| 18 | | | | | | | | | | | | | | |
| 19 | Subtotal - All Rate Groups | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 21 | Total | | | | | | | | | | | | | |

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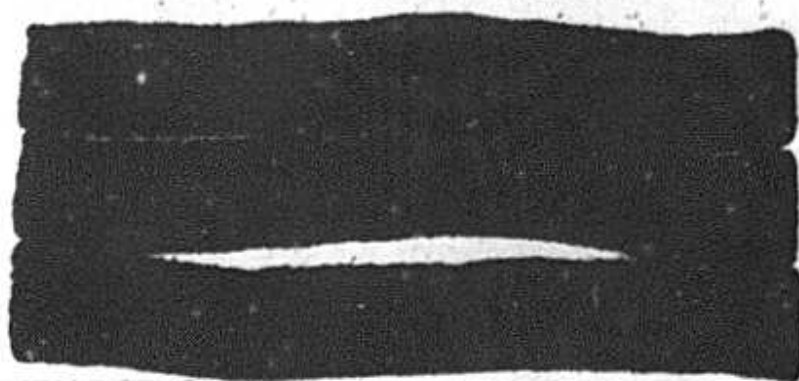
GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

Category Analysis

| Line Item | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) ISL/ISC | (E) Cont. % Margin % | (F) Contribution Margin % | (G) Annual Revenue | (H) Annual Costs | (I) Contribution Margin % | (J) Contribution Margin % |
|--------------|--|-----------------------------------|-----------------------|----------------|----------------------------|---------------------------------|--------------------------|------------------------|---------------------------------|---------------------------------|
| 1 | 2a. Intermediate Switched Access | | | | | | | | | |
| 2 | A. Switched Transport | | | | | | | | | |
| 3 | 1) Tandem Switching | | | | | | | | | |
| 4 | Tandem Switched Transport Facility * | | \$0.000142 | \$0.000000 | \$0.0000112 | 37.7% | | | | 37.7% |
| 5 | Tandem Switched Transport Termination | | \$0.0001344 | \$0.000000 | \$0.0000794 | 14.4% | | | | 14.4% |
| 6 | Tandem Switching | | \$0.0007000 | \$0.0000000 | (\$0.0002250) | -7.9% | | | | -7.9% |
| 7 | 2) Direct Trunked Transport Facility - Voiceband | | \$6.08 | \$2.89 | \$3.19 | 76% | | | | 76% |
| 8 | 2) Direct Trunked Transport Facility - DS1 | | \$5.55 | \$1.23 | \$4.32 | 56.1% | | | | 56.1% |
| 9 | Per ALM * | | \$30.00 | \$26.02 | \$3.98 | 13% | | | | 13% |
| 10 | Per Termination | | \$91.87 | \$23.18 | \$68.69 | 25.7% | | | | 25.7% |
| 11 | 2) Direct Trunked Transport Facility - DS3 | | \$500.00 | \$217.65 | \$282.35 | 15.6% | | | | 15.6% |
| 12 | Per ALM | | \$33.08 | \$40.87 | (\$7.79) | -19% | | | | -19% |
| 13 | Per Termination | | \$52.93 | \$51.27 | \$1.66 | 3% | | | | 3% |
| 14 | 3) Entrance Facility - Voiceband | | \$263.08 | \$65.62 | \$197.46 | 20.9% | | | | 20.9% |
| 15 | 3 Wires - Monthly | | \$130.00 | \$95.52 | \$34.48 | 8.2% | | | | 8.2% |
| 16 | 4) Entrance Facility - DS1 | | \$1,410.00 | \$596.37 | \$813.63 | 13.6% | | | | 13.6% |
| 17 | First System - Monthly * | | \$250.17 | \$21.85 | \$228.32 | 4.7% | | | | 4.7% |
| 18 | Aut1 System - Monthly | | \$591.61 | \$228.39 | \$363.22 | 15.4% | | | | 15.4% |
| 19 | 7) Entrance Facility - DS3 | | \$0.0102 | \$0.0000 | \$0.0102 | 13.6% | | | | 13.6% |
| 20 | Protected Electrical - Monthly * | | \$0.0089 | \$0.0008 | \$0.0081 | 13.6% | | | | 13.6% |
| 21 | 8) Multiplexing | | \$0.0072 | \$0.0000 | \$0.0072 | 13.6% | | | | 13.6% |
| 22 | DS1 to Voice - Monthly | | \$0.0225 | \$0.0000 | \$0.0225 | 13.6% | | | | 13.6% |
| 23 | DS3 to DS1 - Monthly | | \$0.0046 | \$0.0000 | \$0.0046 | 13.6% | | | | 13.6% |
| 24 | 9) Interconnection | | | | | | | | | |
| 25 | B. End Office Switching - Bundled | | | | | | | | | |
| 26 | C. Information Surcharge | | | | | | | | | |
| 27 | D. Carrier Common Line | | | | | | | | | |
| 28 | Originating CCL | | | | | | | | | |
| 29 | *terminating CCL | | | | | | | | | |
| 30 | Total | | | | | | | | | |
| 31 | * Weighted Tariff Rate | | | | | | | | | |



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GTE FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | Service Description | No. of Monthly Lines | Tariff Rate | Service Analysis | | | Category Analysis | | | |
|----------|--|----------------------|-------------|------------------|-----------------------|----------------|-------------------|-----------------------|--|-------|
| | | | | TSLJSC | Contribution Margin % | Annual Revenue | Annual Costs | Contribution Margin % | | |
| 1 | 24. IntraLATA Toll Service | | | | | | | | | |
| 2 | A. Two-Party Service | | | | | | | | | |
| 3 | Peak | | \$0.19 | \$0.0137 | \$0.1773 | 1208% | | | | 1208% |
| 4 | Off Peak | | \$0.11 | \$0.0087 | \$0.1013 | 1184% | | | | 1184% |
| 5 | | | | | | | | | | |
| 6 | B. GTE Discount Calling Plans | | | | | | | | | |
| 7 | 1) Easy Savings Plan - Residence | | | | | | | | | |
| 8 | Peak # | | \$0.1722 | \$0.0137 | \$0.1859 | 1208% | | | | 1208% |
| 9 | Off Peak # | | \$0.0887 | \$0.0087 | \$0.0910 | 1048% | | | | 1048% |
| 10 | | | | | | | | | | |
| 11 | 2) Easy Savings Plan - Business | | | | | | | | | |
| 12 | Month to Month | | | | | | | | | |
| 13 | Peak # | | \$0.5508 | \$0.0137 | \$0.1441 | 1134% | | | | 1134% |
| 14 | Off Peak # | | \$0.0508 | \$0.0087 | \$0.0521 | 943% | | | | 943% |
| 15 | | | | | | | | | | |
| 16 | 1 Year Term | | \$0.1265 | \$0.0137 | \$0.1238 | 879% | | | | 879% |
| 17 | Peak # | | \$0.0790 | \$0.0087 | \$0.0703 | 809% | | | | 809% |
| 18 | Off Peak # | | | | | | | | | |
| 19 | 2 Year Term | | | | | | | | | |
| 20 | Peak # | | \$0.1342 | \$0.0137 | \$0.1115 | 879% | | | | 879% |
| 21 | Off Peak # | | \$0.0719 | \$0.0087 | \$0.0632 | 739% | | | | 739% |
| 22 | | | | | | | | | | |
| 23 | 3 Year Term | | \$0.0898 | \$0.0137 | \$0.0839 | 809% | | | | 809% |
| 24 | Peak # | | \$0.0509 | \$0.0087 | \$0.0472 | 843% | | | | 843% |
| 25 | Off Peak # | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | C. WATS and RDD Services | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | 1) Outward WATS - Access Line | | \$28.00 | \$23.08 | \$14.32 | 80% | | | | 80% |
| 30 | | | | | | | | | | |
| 31 | 2) Outward WATS - IntraLATA per hour of use * | | \$10.77 | \$0.87 | \$10.10 | 1817% | | | | 1817% |
| 32 | | | | | | | | | | |
| 33 | 3) RDD/800 - Access Line | | \$38.00 | \$23.08 | \$14.32 | 80% | | | | 80% |
| 34 | | | | | | | | | | |
| 35 | 4) RDD/800 - IntraLATA Usage per hour of use * | | \$10.45 | \$0.87 | \$9.78 | 1488% | | | | 1488% |
| 36 | | | | | | | | | | |
| 37 | Total | | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | # Effective Tariff Rate | | | | | | | | | |
| 41 | * Imputed Tariff Rate | | | | | | | | | |

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CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

| Line No. | Service Description | No. of Monthly Units | Tariff Rate | TSL/DISC | Service Analysis | | Category Analysis | |
|----------|---------------------------------------|----------------------|-------------|----------|-------------------------|-------|-------------------|--------------------------------|
| | | | | | Contribution Margin, \$ | % | Annual Revenue | Annual Contribution Margin, \$ |
| 1 | 4a. Vertical Services | | | | | | | |
| 2 | A. Residencies | | | | | | | |
| 3 | 1) Three Way Calling | | \$2.50 | \$1.28 | \$2.11 | 152% | [REDACTED] | 152% |
| 4 | Individual | | \$2.10 | \$1.28 | \$0.71 | 81% | [REDACTED] | 51% |
| 5 | Flexible Packaging | | | | | | | |
| 6 | 2) Call Waiting / Cancel Call Waiting | | \$4.00 | \$0.08 | \$3.92 | 4900% | [REDACTED] | 4900% |
| 7 | Individual | | \$2.40 | \$0.08 | \$2.32 | 2000% | [REDACTED] | 2000% |
| 8 | Flexible Packaging | | | | | | | |
| 9 | 3) Call Forwarding Variable * | | \$2.50 | \$0.23 | \$2.27 | 987% | [REDACTED] | 987% |
| 10 | Individual | | \$1.50 | \$0.23 | \$1.27 | 852% | [REDACTED] | 553% |
| 11 | Flexible Packaging | | | | | | | |
| 12 | 4) Automatic Call Return | | \$5.00 | \$0.23 | \$4.77 | 2074% | [REDACTED] | 2074% |
| 13 | Individual | | \$3.00 | \$0.23 | \$2.77 | 1234% | [REDACTED] | 1204% |
| 14 | Flexible Packaging | | | | | | | |
| 15 | 5) Automatic Busy Recall | | \$5.00 | \$0.10 | \$4.90 | 4800% | [REDACTED] | 4800% |
| 16 | Individual | | \$3.00 | \$0.10 | \$2.90 | 2000% | [REDACTED] | 2000% |
| 17 | Flexible Packaging | | | | | | | |
| 18 | 6) VSP Alert | | \$3.00 | \$0.26 | \$2.74 | 1400% | [REDACTED] | 1400% |
| 19 | Individual | | \$1.80 | \$0.26 | \$1.54 | 800% | [REDACTED] | 800% |
| 20 | Flexible Packaging | | | | | | | |
| 21 | 7) Special Call Forwarding | | \$5.00 | \$0.32 | \$4.68 | 1480% | [REDACTED] | 1480% |
| 22 | Individual | | \$2.00 | \$0.32 | \$1.68 | 830% | [REDACTED] | 830% |
| 23 | Flexible Packaging | | | | | | | |
| 24 | 8) Caller ID - Name and Number | | \$7.85 | \$0.55 | \$7.30 | 1540% | [REDACTED] | 1540% |
| 25 | Individual | | \$4.77 | \$0.55 | \$4.22 | 787% | [REDACTED] | 787% |
| 26 | Flexible Packaging | | | | | | | |
| 27 | 9) Custom Code Restrictions # | | | | | | | |
| 28 | Option 1 | | \$2.50 | \$1.34 | \$1.16 | 87% | [REDACTED] | 87% |
| 29 | Option 2 | | \$2.50 | \$1.15 | \$1.35 | 87% | [REDACTED] | 85% |
| 30 | Option 3 | | \$5.00 | \$1.35 | (\$1.30) | -100% | [REDACTED] | 0% |
| 31 | Option 4 | | \$2.50 | \$1.15 | \$1.35 | 87% | [REDACTED] | 85% |
| 32 | Option 5 | | \$5.00 | \$1.35 | (\$1.30) | -100% | [REDACTED] | 0% |
| 33 | Total | | | | | | | |
| 34 | | | | | | | | |
| 35 | | | | | | | | |
| 36 | | | | | | | | |
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| 50 | | | | | | | | |

* Call Forwarding - Variable replaces Call Forwarding - Busy Line and Call Forwarding - Direct Access.
 # Includes both Business and Home.

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CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | (A) Service Description | (B) No. of Monthly Units | Service Analysis | | | | Category Analysis | | | | | | |
|----------|---|--------------------------|------------------|-------------|---------------------------|----------------------------|-------------------|---------------------------|----------------------------|---------------------------|--|--|-------|
| | | | (C) Tariff Rate | (D) ISL/LOC | (E) Contribution Margin % | (F) Contribution Margin \$ | (G) Annual Costs | (H) Contribution Margin % | (I) Contribution Margin \$ | (J) Contribution Margin % | | | |
| 1 | 4a. Vertical Services (cont.) | | | | | | | | | | | | |
| 2 | B. Business | | | | | | | | | | | | |
| 3 | 1) Three Way Calling | | | | | | | | | | | | |
| 4 | Individual | | \$4.00 | \$1.39 | \$2.61 | 188% | | | | | | | 188% |
| 5 | Build A Pak | | \$3.20 | \$1.39 | \$1.81 | 130% | | | | | | | 130% |
| 6 | 2) Call Waiting / Cancel Call Waiting | | | | | | | | | | | | |
| 7 | Individual | | \$5.00 | \$0.08 | \$4.92 | 6150% | | | | | | | 6150% |
| 8 | 3) Call Forwarding - Variable * | | | | | | | | | | | | |
| 9 | Individual | | \$4.00 | \$0.23 | \$3.77 | 1839% | | | | | | | 1839% |
| 10 | Build A Pak | | \$3.20 | \$0.23 | \$2.97 | 1291% | | | | | | | 1291% |
| 11 | 4) Automatic Call Return | | | | | | | | | | | | |
| 12 | Individual | | \$8.00 | \$0.23 | \$7.77 | 2509% | | | | | | | 2509% |
| 13 | Build A Pak | | \$4.80 | \$0.23 | \$4.57 | 1867% | | | | | | | 1867% |
| 14 | 5) Automatic Busy Recall | | | | | | | | | | | | |
| 15 | Individual | | \$8.00 | \$0.10 | \$7.90 | 8000% | | | | | | | 8000% |
| 16 | Build A Pak | | \$4.80 | \$0.10 | \$4.70 | 4700% | | | | | | | 4700% |
| 17 | 6) VIP Alert | | | | | | | | | | | | |
| 18 | Individual | | \$4.00 | \$0.30 | \$3.70 | 1800% | | | | | | | 1800% |
| 19 | Build A Pak | | \$3.20 | \$0.30 | \$2.90 | 1500% | | | | | | | 1500% |
| 20 | 7) Special Call Forwarding | | | | | | | | | | | | |
| 21 | Individual | | \$8.00 | \$0.32 | \$7.68 | 1775% | | | | | | | 1775% |
| 22 | Build A Pak | | \$4.80 | \$0.32 | \$4.48 | 1400% | | | | | | | 1400% |
| 23 | 8) Caller ID - Name and Number | | | | | | | | | | | | |
| 24 | Individual | | \$1.50 | \$0.05 | \$1.45 | 1981% | | | | | | | 1981% |
| 25 | Total | | | | | | | | | | | | |
| 26 | * Call Forwarding - Variable replaces Call Forwarding - Busy Line and Call Forwarding - Don't Answer. | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
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CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | (A) Service Description | Residence | | Business | |
|----------|--|-----------------------------|-------------------------------|-----------------------------|-------------------------------|
| | | (B) No. of Monthly Units | (C) Percent Of Total Lines | (D) No. of Monthly Units | (E) Percent Of Total Lines |
| 1 | 4c. Vertical Features | | | | |
| 2 | | | | | |
| 3 | 1) Three Way Calling | | | | |
| 4 | | | | | |
| 5 | 2) Call Waiting / Cancel Call Waiting | | | | |
| 6 | | | | | |
| 7 | 3) Call Forwarding Variable * | | | | |
| 8 | | | | | |
| 9 | 4) Automatic Call Return | | | | |
| 10 | | | | | |
| 11 | 5) Automatic Busy Redial | | | | |
| 12 | | | | | |
| 13 | 6) VIP Alert | | | | |
| 14 | | | | | |
| 15 | 7) Special Call Forwarding | | | | |
| 16 | | | | | |
| 17 | 8) Caller ID - Name and Number | | | | |
| 18 | | | | | |
| 19 | 9) Custom Code Restrictions # | | | | |
| 20 | | | | | |
| 21 | Total Lines | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | * Call Forwarding - Variable replaces Call Forwarding - Busy Line and Call Forwarding - Don't Answer | | | | |
| 25 | # Composite percent for Residence and Business | | | | |
| 26 | | | | | |

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CONFIDENTIAL INFORMATION

GTE Florida Incorporated
 Supporting Schedules

Attachment 2

| Line No. | (A) | (B) | (C) | (D) |
|----------|---|---------------|----------------|-----------------|
| 1 | A. End User Common Line Charge | | | |
| 2 | Single Line | | \$3.50 | |
| 3 | Multi Line - B1 | | \$5.70 | |
| 4 | Multi Line - Trk | | \$6.25 | |
| 5 | | | | |
| 6 | B. Weighted Business End User Common Line Charge | | | |
| 7 | | | | |
| 8 | | Annual | Rate | Annual |
| 9 | <u>GSEC (Billing Code)</u> | | | Revenues |
| 10 | ECL B | | \$6.00 | |
| 11 | ECL B | | \$6.25 | |
| 12 | ECL BS | | \$3.50 | |
| 13 | ECL BS | | \$6.00 | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | \$5.70 | \$18,110,693 |
| 17 | C. Monthly Extended Area Calling (ECS) Revenues Per Line | | | |
| 18 | | | | |
| 19 | | Units | Rate | Revenue |
| 20 | | | | |
| 21 | | | | |
| 22 | Residence | | \$0.25 | |
| 23 | | | | |
| 24 | Business | | | |
| 25 | Calls | | \$0.04 | |
| 26 | Average Holding Time | | | |
| 27 | Minutes | | \$0.06 | |
| 28 | Total Business | | | |
| 29 | | | | |
| 30 | | | | |
| 31 | D. Network Access Registers (NARs) | | | |
| 32 | | | Monthly | |
| 33 | Wire Center Lines (WCL) | | Units | |
| 34 | Ratio of NARs to WCL | | | |
| 35 | NARs | | | |

GTE FLORIDA INCORPORATED
 Supporting Schedules

Attachment 2

| Line No. | (A) | (B) | (C) | (D) | (E) | (F) | (G) | |
|----------|---|------------|------------|------------|------------|------------|-------------|--|
| 1 | Weighted Switched Transport Rates | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | Monthly | Monthly | Monthly | | Monthly | Weighted | |
| 5 | | Interlata | Intralata | Total | Rate | Revenue | Rate | |
| 6 | | Units | Units | Units | | | | |
| 7 | A. Tandem-Switched Transport Facility | | | | | | | |
| 8 | | | | | | | | |
| 9 | Zone 1 | [REDACTED] | | | | | | |
| 10 | Zone 2 | [REDACTED] | | | | | | |
| 11 | Zone 3 | [REDACTED] | | | | | | |
| 12 | | | | | | | \$0.0000142 | |
| 13 | | | | | | | | |
| 14 | B. Direct-Trunked Transport Facility - DS1 | | | | | | | |
| 15 | Per ALM | | | | | | | |
| 16 | | | | | | | | |
| 17 | Zone 1 | [REDACTED] | | | \$5.00 | [REDACTED] | | |
| 18 | Zone 2 | [REDACTED] | | | \$5.63 | [REDACTED] | | |
| 19 | Zone 3 | [REDACTED] | | | \$6.25 | [REDACTED] | | |
| 20 | | | | | | | \$5.55 | |
| 21 | | | | | | | | |
| 22 | C. Direct-Trunked Transport Facility - DS3 | | | | | | | |
| 23 | Per ALM | | | | | | | |
| 24 | | | | | | | | |
| 25 | Zone 1 | [REDACTED] | [REDACTED] | [REDACTED] | \$70.00 | [REDACTED] | | |
| 26 | Zone 2 | [REDACTED] | [REDACTED] | [REDACTED] | \$89.81 | [REDACTED] | | |
| 27 | Zone 3 | [REDACTED] | [REDACTED] | [REDACTED] | \$109.63 | [REDACTED] | | |
| 28 | | | | | | | \$81.57 | |
| 29 | | | | | | | | |
| 30 | D. Entrance Facility - DS1 | | | | | | | |
| 31 | 1st System-MRC | | | | | | | |
| 32 | | | | | | | | |
| 33 | Zone 1 | [REDACTED] | [REDACTED] | [REDACTED] | \$260.00 | [REDACTED] | | |
| 34 | Zone 2 | [REDACTED] | [REDACTED] | [REDACTED] | \$300.00 | [REDACTED] | | |
| 35 | Zone 3 | [REDACTED] | [REDACTED] | [REDACTED] | \$331.72 | [REDACTED] | | |
| 36 | | | | | | | \$263.08 | |
| 37 | | | | | | | | |
| 38 | E. Entrance Facility - DS3 | | | | | | | |
| 39 | Protected Electrical-MRC | | | | | | | |
| 40 | | | | | | | | |
| 41 | Zone 1 | [REDACTED] | [REDACTED] | [REDACTED] | \$1,400.00 | [REDACTED] | | |
| 42 | Zone 2 | [REDACTED] | [REDACTED] | [REDACTED] | \$1,450.00 | [REDACTED] | | |
| 43 | Zone 3 | [REDACTED] | [REDACTED] | [REDACTED] | \$1,500.00 | [REDACTED] | | |
| 44 | | | | | | | \$1,410.00 | |

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GTE Florida Incorporated
 Supporting Schedules

Attachment 2

| Line No. | (A) | (B) | (C) | (D) |
|----------|---|-------|----------|--------------|
| 1 | 2) Flat Rated Usage TSLRIC* | | | |
| 2 | | | | Total |
| 3 | Residence One Party | | | \$2.91 |
| 4 | Business One Party | | | \$4.38 |
| 5 | Business Trunk | | | \$4.81 |
| 6 | Network Access Register | | | \$4.81 |
| 7 | | | | |
| 8 | * Residence and Business One Party include pre 7/95 ECS | | | |
| 9 | | | | |
| 10 | B. Weighted Centranet Wire Center Line TSLRIC | | | |
| 11 | | | | |
| 12 | | Lines | Percent | TSLRIC |
| 13 | | | | |
| 14 | Analog | | | \$16.27 |
| 15 | Digital | | | \$14.34 |
| 16 | Total | | | \$16.20 |
| 17 | | | | |
| 18 | C. Average End Office Switching TSLRIC | | | |
| 19 | | | | |
| 20 | Originating End Office - Average MOU | | | \$0.0038330 |
| 21 | Terminating End Office - Average MOU | | | \$0.0036950 |
| 22 | | | | |
| 23 | End Office Switching Average TSLRIC | | | \$0.0037640 |
| 24 | | | | |
| 25 | | | | |
| 26 | D. Direct Trunked Transport Facility - Voiceband | | | |
| 27 | | | | |
| 28 | Cost Per Termination | | \$14.18 | |
| 29 | Average Number of Terminations | | 2 | \$28.36 |
| 30 | | | | |
| 31 | Cost Per Airline Mile | | \$0.05 | |
| 32 | Average Number of Airline Miles | | 10 | \$0.50 |
| 33 | | | | |
| 34 | Subtotal | | | \$28.86 |
| 35 | Average Number of Airline Miles | | 10 | |
| 36 | Total Cost Per Mile | | | \$2.89 |
| 37 | | | | |
| 38 | E. WATS and 800 Service | | | |
| 39 | | | | |
| 40 | Average Toll Cost per Minute | | \$0.0111 | |
| 41 | Minutes per Hour | | 60 | |
| 42 | Cost per Hour | | | \$0.67 |

| DATA REQUEST DESCRIPTION | FCC | OPARS | OPARS DESCRIPTION | 1997 TOTAL | |
|---------------------------------|------|--------|--|------------|--|
| A - NON-RECURRING CHARGES | 5060 | 506051 | OTHER LOCAL EXCHANGE REV-NONRECUR SVC CHR9-SGL L | [REDACTED] | |
| A - NON-RECURRING CHARGES | 5060 | 506052 | OTHER LOCAL EXCHANGE REV-NONRECUR SVC CHR9-MULTI | | |
| A - NON-RECURRING CHARGES | 5060 | 506053 | OTHER LOCAL EXCHANGE REV-NONRECUR SVC CHR9-CENTREX | | |
| A - NON-RECURRING CHARGES | 5060 | 506054 | OTHER LOCAL EXCHANGE REV-NONRECUR SVC CHR9-PAYSTATIO | | |
| A - NON-RECURRING CHARGES | 5060 | 506059 | OTHER LOCAL EXCHANGE REV-NONRECUR SVC CHR9-OTHER | | |
| A - NON-RECURRING CHARGES | 5062 | 506235 | END OFF SWITCH NRC-INTERSTATE/INTRALATA | | |
| A - NON-RECURRING CHARGES | 5062 | 506255 | SW ACC REV-CH TRANS NRC-INTERSTATE/INTER | | |
| A - NON-RECURRING CHARGES | 5063 | 506335 | SPC AC LN NRC-INTERSTATE/INTER | | |
| A - NON-RECURRING CHARGES | 5063 | 506336 | SPC AC LN NRC-INTERSTATE/INTRA | | |
| A - NON-RECURRING CHARGES | 5063 | 506355 | SP ACC REV-SUPL FEAT NRC-INTERSTATE/INTER | | |
| A - NON-RECURRING CHARGES | 5063 | 506365 | SP ACC REV-MULTIPLX NRC-INTERSTATE/INTER | | |
| A - NON-RECURRING CHARGES | 5064 | 506325 | END OFF SWITCH NRC-INTRASTATE/INTERLATA | | |
| A - NON-RECURRING CHARGES | 5064 | 506365 | SW ACCESS REV-COMMON TRANSP-INTRASTATE/INTER-NRC | | |
| A - NON-RECURRING CHARGES | 5064 | 506373 | SW ACC REV-NRC-CELLULAR-INTRASTATE/INTRA | | |
| A - NON-RECURRING CHARGES | 5064 | 506335 | SP ACCESS REV-SP ACCESS LINE-INTRASTATE/INTER-NRC | | |
| A - NON-RECURRING CHARGES | 5064 | 506336 | SP ACCESS REV-SP ACCESS LINE-INTRASTATE/INTRA-NRC | | |
| A - NON-RECURRING CHARGES | 5064 | 506355 | SP ACCESS REV-SUPL FEAT NRC-INTRASTATE/INTER-NRC | | |
| A - NON-RECURRING CHARGES | 5064 | 506356 | SP ACCESS REV-SUPL FEAT NRC-INTRASTATE/INTRA-NRC | | |
| A - NON-RECURRING CHARGES | 5064 | 506365 | SP ACCESS REV-MULTIPLX NRC-INTRASTATE/INTER | | |
| A - NON-RECURRING CHARGES | 5064 | 506366 | SP ACCESS REV-MULTIPLX NRC-INTRASTATE/INTRA | | |
| A - NON-RECURRING CHARGES | 5111 | 511115 | LD INWARD ONLY REV-INTERSTATE/INTRALATA-NRC | | |
| A - NON-RECURRING CHARGES | 5111 | 511125 | LD INWARD ONLY REV-INTRASTATE/INTRALATA-NRC | | |
| A - NON-RECURRING CHARGES | 5112 | 511225 | LD OUTWARD ONLY REV-INTRASTATE/INTRALATA-NRC | | |
| A - NON-RECURRING CHARGES | 5122 | 512225 | VOICE LD PRIV NTWK REV-INTRASTATE/INTRALATA-NRC | | |
| A - NON-RECURRING CHARGES | 5125 | 512525 | DIGTL TRAN LD/PRIV NTWK REV-INTRASTATE/INTRALATA-NRC | | |
| A - NON-RECURRING CHARGES | 5128 | 512825 | OTHER LD PRIV NTWK REV-INTRASTATE/INTRALATA-NRC | | |
| | | | TOTAL NON-RECURRING CHARGES | | |
| B - LOCAL PRIVATE LINE | 5040 | 504010 | LOCAL PRIV LINE REVENUE-SUBVOICE GRADE | | |
| B - LOCAL PRIVATE LINE | 5040 | 504020 | LOCAL PRIVATE LINE REV-VOICE GRADE | | |
| B - LOCAL PRIVATE LINE | 5040 | 504030 | LOCAL PRIVATE LINE REV-AUDIO | | |
| B - LOCAL PRIVATE LINE | 5040 | 504040 | LOCAL PRIVATE LINE REV-VIDEO | | |
| B - LOCAL PRIVATE LINE | 5040 | 504050 | LOCAL PRIVATE LINE REV-DIGITAL TRANSMISSION | | |
| B - LOCAL PRIVATE LINE | 5040 | 504070 | LOCAL PRIVATE LINE REV-OTHER | | |
| | | | TOTAL LOCAL PRIVATE LINE | | |
| C - EXTENDED CALLING SERVICE | 5001 | 500153 | BASIC AREA REVENUE-EXTENDED AREA SERVICE | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500210 | OPTIONAL EAS REV-SGL LN BUSINESS-RECUR FLAT RATE | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500211 | OPTIONAL EAS REV-SGL LN BUSINESS-RECUR MEASURED | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500213 | OPTIONAL EAS REV-SGL LN RESIDENCE-RECUR FLAT RATE | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500214 | OPTIONAL EAS REV-SGL LN RESIDENCE-RECUR MEASURED | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500220 | OPTIONAL EAS REV-MULTI LN BUSINESS-RECUR FLT RATE | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500223 | OPTIONAL EAS REV-MULTI LN RESIDENCE-RECUR FLT RATE | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500224 | OPTIONAL EAS REV-MULTI LN RESIDENCE-RECUR MEASURED | | |
| C - EXTENDED CALLING SERVICE | 5002 | 500299 | OPTIONAL EAS REV-ADJUSTMENTS | | |
| | | | TOTAL EXTENDED CALLING SERVICE | | |
| D - LOCAL OPERATOR SERVICES | 5060 | 506011 | OTHER LOCAL EXCHANGE REV-LOCAL DIRECTORY ASSIST | | |
| D - LOCAL OPERATOR SERVICES | 5060 | 506013 | OTHER LOCAL EXCHANGE REV-SPECIAL OPERATOR SVC | | |
| | | | TOTAL LOCAL OPERATOR SERVICES | | |
| E - INTRALATA OPERATOR SERVICES | 5262 | 526212 | OPERATOR SERVICES-INTERSTATE/INTRALATA | | |
| E - INTRALATA OPERATOR SERVICES | 5262 | 526214 | OPERATOR SERVICES-INTRA-STATE/INTRALATA | | |
| | | | TOTAL INTRALATA OPERATOR SERVICES | | |

CONFIDENTIAL

| DATA REQUEST DESCRIPTION | ACCOUNT | | OPARS DESCRIPTION | 1997 TOTAL |
|-------------------------------|---------|--------|---|---------------|
| | FCC | OPARS | | |
| F - INTERLATA SWITCHED ACCESS | 5082 | 508211 | SW ACC REV-CARRIER CN LN-INTERSTATE/INTER | [REDACTED] |
| F - INTERLATA SWITCHED ACCESS | 5082 | 508231 | SW ACC REV-END OF SWITCH-INTERSTATE/INTER | |
| F - INTERLATA SWITCHED ACCESS | 5082 | 508251 | SW ACC REV-INFORMATION-INTERSTATE/INTER | |
| F - INTERLATA SWITCHED ACCESS | 5082 | 508261 | SW ACC REV-COMM TRANSPRT-INTERSTATE/INTER | |
| F - INTERLATA SWITCHED ACCESS | 5084 | 508511 | SW ACCESS REV-CARRIER CMN LN-INTRASTATE/INTERLATA | |
| F - INTERLATA SWITCHED ACCESS | 5084 | 508531 | SW ACCESS REV-END OFFICE SWITCHING-INTRASTATE/INTER | |
| F - INTERLATA SWITCHED ACCESS | 5084 | 508551 | SW ACCESS REV-END OFFICE INFO-INTRASTATE/INTER | |
| F - INTERLATA SWITCHED ACCESS | 5084 | 508561 | SW ACCESS REV-COMMON TRANSPORT-INTRASTATE/INTER | |
| | | | TOTAL INTERLATA SWITCHED ACCESS | |
| G - OTHER INTERLATA REVENUE | 5081 | 508119 | END USER REV-MTH ACC BUS-INTERSTATE/INTERLATA ADJ | |
| G - OTHER INTERLATA REVENUE | 5081 | 508111 | END USER REV-MTH ACC BUS-INTERSTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5081 | 508121 | END USER REV-MTH ACC RES-INTERSTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5083 | 508305 | SPECIAL INSTAL-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508311 | SPEC BURCHRG-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508321 | SPEC TRANSPRT-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508331 | SPEC ACC LINE-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508351 | SP ACC REV-SUPPL FEATURE-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508361 | SP ACC REV-MULTIPLEXING-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5083 | 508371 | SP ACC REV-SPECIALIZED/GOV-INTERSTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508410 | END USER REV-MTH ACC BUS INTRASTATE/INTERLATA ADJ | |
| G - OTHER INTERLATA REVENUE | 5084 | 508420 | END USER REV-MTH ACC RES INTRASTATE/INTERLATA ADJ | |
| G - OTHER INTERLATA REVENUE | 5084 | 508605 | SP ACCESS REV-INSTALLATION-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508611 | SP ACCESS REV-SURCHARGE-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508621 | SP ACCESS REV-SPECIAL TRANSPORT-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508631 | SP ACCESS REV-SPECIAL ACCESS LINE-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508651 | SP ACCESS REV-SUPP FEATURES-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508661 | SP ACCESS REV-MULTIPLEXING-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5084 | 508671 | SP ACCESS REV-SPECIALIZED/GOV-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5262 | 526211 | OPERATOR SERVICES-INTERSTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5262 | 526213 | OPERATOR SERVICES-INTRASTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5262 | 526222 | DATA BASE 800 SERVICES-INTRASTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5262 | 526224 | DATA BASE 800 SERVICES-INTERSTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5270 | 527001 | BILL & COLL-INTERSTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5270 | 527011 | CALL RECORDING REVENUE-INTRASTATE/INTERLATA | |
| G - OTHER INTERLATA REVENUE | 5270 | 527021 | CALL PROCESSING REVENUE-INTRASTATE/INTER | |
| G - OTHER INTERLATA REVENUE | 5270 | 527031 | BILL PROCESSING & COLLECTN REV-INTRASTATE/INTERLATA | |
| | | | TOTAL OTHER INTERLATA REVENUE | |
| H - INTRALATA MTS REVENUE | 5100 | 510011 | LD MESSAGE REV-INTERSTATE/INTRALATA B-G | |
| H - INTRALATA MTS REVENUE | 5100 | 510012 | LONG DISTANCE MESSAGE REV-INTERSTATE/INTRA G-G | |
| H - INTRALATA MTS REVENUE | 5100 | 510013 | LONG DISTANCE MESSAGE REV-INTERSTATE/INTRA I-G | |
| H - INTRALATA MTS REVENUE | 5100 | 510019 | LD MESSAGE REV-INTERSTATE/INTRALATA SETTLEMENTS | |
| H - INTRALATA MTS REVENUE | 5100 | 510024 | LD MESSAGE REV-INTRASTATE/INTRALATA CALLING PLANS | |
| H - INTRALATA MTS REVENUE | 5100 | 510029 | LD MESSAGE REV-INTRASTATE/INTRALATA SETTLEMENTS | |
| H - INTRALATA MTS REVENUE | 5111 | 511111 | LD INWARD ONLY REV-INTERSTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5111 | 511121 | LD INWARD ONLY REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5112 | 511221 | LD OUTWARD ONLY REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5122 | 512220 | VOICE LD PRIV NTKW REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5124 | 512420 | VIDEO PROG LD/PRIV NTKW REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5125 | 512520 | DIGTL TRAN LD/PRIV NTKW REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5128 | 512820 | OTHER LD PRIV NTKW REV-INTRASTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5160 | 516012 | OTH LD REV-DIRECTORY ASSIST-INTERSTATE/INTRALATA | |
| H - INTRALATA MTS REVENUE | 5160 | 516022 | OTH LD REV-DIRECTORY ASSIST-INTRASTATE/INTRALATA | |
| | | | TOTAL INTRALATA MTS REVENUE | |

I - INTRALATA MABC REVENUE

CONFIDENTIAL

| DATA REQUEST DESCRIPTION | ACCOUNT | | OPARS DESCRIPTION |
|-----------------------------|---------|--------|--|
| | FCC | OPARS | |
| J - OTHER INTRALATA REVENUE | 5082 | 508212 | SW ACC REV-CARRIER CN LN-INTERSTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5082 | 508272 | SW ACC REV-CELLULAR-INTERSTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5083 | 508322 | SPEC TRANPRT-INTERSTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5083 | 508332 | SPEC ACC LINE-INTERSTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508512 | SW ACCESS REV-CARRIER CMN LN-INTRASTATE/INTRALATA |
| J - OTHER INTRALATA REVENUE | 5084 | 508532 | SW ACCESS REV-END OFFICE SWITCHING-INTRASTATE/INTR |
| J - OTHER INTRALATA REVENUE | 5084 | 508552 | SW ACCESS REV-END OFFICE INFO-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508562 | SW ACCESS REV-COMMON TRANSPORT-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508590 | SW ACC REV-INTRALATA EQUAL ACCESS COST RECOVERY |
| J - OTHER INTRALATA REVENUE | 5084 | 508606 | SP ACCESS REV-INSTALLATION-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508622 | SP ACCESS REV-SPECIAL TRANSPORT-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508632 | SP ACCESS REV-SPECIAL ACCESS LINE-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508652 | SP ACCESS REV-SUPP FEATURES-INTRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5084 | 508662 | SP ACCESS REV-MULTIPLEXING ...TRASTATE/INTRA |
| J - OTHER INTRALATA REVENUE | 5270 | 527032 | BILL PROCESSING & COLLCTN REV-INTRASTATE/INTRALATA |
| | | | TOTAL OTHER INTRALATA REVENUE |

1997
TOTAL



NOTES:

1. What is presented in this data response, parts E-J, are those revenues that are directly assigned to interlata or intralata.
2. These revenues represent regulated booked data.
3. GTE financial data can not be separated between residential and business.
4. "MASC" is not a term used to describe revenues at GTE.

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**GTE FLORIDA INCORPORATED
TOTAL COSTS / IMPLICIT SUPPORT FLOW ANALYSIS**

SUMMARY

| Line No. | Data Request | (A) Service Categories | (B) Annual Revenues | (C) Annual Costs | (D) Implicit Support Flows (B-C) |
|----------|--------------|-----------------------------|------------------------|---------------------|--|
| 1 | 1a. | Residence - Flat Rate | | | (\$328,384,279) |
| 2 | | | | | |
| 3 | 1c. | Business - Flat Rate | | | \$7,885,273 |
| 4 | | | | | |
| 5 | 1e. | CentraNet Service | | | (\$12,095,063) |
| 6 | | | | | |
| 7 | 1g. | PBX Trunk Service | | | \$8,335,929 |
| 8 | | | | | |
| 9 | 1i. | Multi-line Business Service | | | \$19,111,113 |
| 10 | | | | | |
| 11 | 2a. | IntraState Switched Access | | | \$136,798,366 |
| 12 | | | | | |
| 13 | 3a. | IntraLATA Toll Service | | | \$31,856,681 |
| 14 | | | | | |
| 15 | 4a. | Vertical Services | | | \$42,757,680 |
| 16 | | | | | |
| 17 | | Total | | | (\$93,734,099) |

GTE FLORIDA INCORPORATED
IMPLICIT SUPPORT FLOWS

SUMMARY: MARK-UP SUPPORT

| Line No. | Data Request | (A) Service Categories | (B) Annual Revenues | (C) TSLRIC (Direct) Costs | (D) Uniform Mark-up of 28% (C*28%) | (E) Revenues at Uniform Mark-up (C+D) | (F) Implicit Support Flows (B-E) |
|----------|--------------|------------------------------|------------------------|------------------------------|---------------------------------------|--|-------------------------------------|
| 1 | 1a. | Residence - Flat Rate | | | | | |
| 2 | | | | | | | |
| 3 | 1c. | Business - Flat Rate | | | | | \$7,885,273 |
| 4 | | | | | | | |
| 5 | 1e. | CentraNet Service | | | | | (\$12,095,063) |
| 6 | | | | | | | |
| 7 | 1g. | PBX Trunk Service | | | | | \$8,335,929 |
| 8 | | | | | | | |
| 9 | 1i. | Multi-line Business Service | | | | | \$19,111,113 |
| 10 | | | | | | | |
| 11 | 2a. | IntraState Switched Access | | | | | \$136,798,366 |
| 12 | | | | | | | |
| 13 | 3a. | IntraLATA Toll Service | | | | | \$31,856,681 |
| 14 | | | | | | | |
| 15 | 4a. | Vertical Services | | | | | \$42,757,880 |
| 16 | | | | | | | |
| 17 | -- | Interstate (Excluding EUCL) | | | | | \$130,271,737 |
| 18 | | | | | | | |
| 19 | -- | Other | | | | | (\$36,537,640) |
| 20 | | | | | | | |
| 21 | | Total | | | | | (\$2) |

CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Service Analysis

Category Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) 7/95 ECS | (E) ELUC | (F) Revenue Base Line | (G) Total Cost (1-Feed Allocation) | (H) Contribution Margin \$ | (I) Contribution Margin % | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % |
|----------|---------------------------|--------------------------|-----------------|--------------|----------|-----------------------|------------------------------------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|
| | | | | | | | | | | | | | |
| 1 | 1a. Residence - Flat Rate | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | A. Rate Group 1 | | | | | | | | | | | | |
| 4 | Flat Rate | | \$9.51 | N/A | \$3.50 | \$13.01 | \$62.99 | (\$69.98) | -84% | | | | -84% |
| 5 | Flat Rate with Rotary | | \$13.78 | N/A | \$3.50 | \$17.28 | \$53.03 | (\$65.75) | -79% | | | | -79% |
| 6 | Vacation | | \$5.68 | N/A | \$3.50 | \$9.18 | \$79.64 | (\$70.46) | -80% | | | | -80% |
| 7 | Vacation with Rotary | | \$7.82 | N/A | \$3.50 | \$11.32 | \$68.36 | (\$68.36) | -80% | | | | -80% |
| 8 | Lifeline | | \$6.01 | N/A | \$3.50 | \$9.51 | \$82.99 | (\$73.48) | -80% | | | | -80% |
| 9 | Employee Concession 50% | | \$4.75 | N/A | \$3.50 | \$8.25 | \$82.99 | (\$74.74) | -90% | | | | -90% |
| 10 | Employee Concession 100% | | \$0.00 | N/A | \$3.50 | \$3.50 | \$82.99 | (\$79.49) | -90% | | | | -90% |
| 11 | | | | | | | | | | | | | |
| 12 | Subtotal - Rate Group 1 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | B. Rate Group 2 | | | | | | | | | | | | |
| 15 | Flat Rate | | \$10.41 | \$1.60 | \$3.50 | \$15.51 | \$41.94 | (\$28.43) | -63% | | | | -63% |
| 16 | Flat Rate with Rotary | | \$14.68 | \$1.60 | \$3.50 | \$19.78 | \$41.96 | (\$22.16) | -53% | | | | -53% |
| 17 | Vacation | | \$5.68 | N/A | \$3.50 | \$9.18 | \$38.22 | (\$29.04) | -76% | | | | -76% |
| 18 | Vacation with Rotary | | \$7.82 | N/A | \$3.50 | \$11.32 | \$38.24 | (\$28.92) | -76% | | | | -76% |
| 19 | Lifeline | | \$6.91 | \$1.60 | \$3.50 | \$12.01 | \$41.94 | (\$29.93) | -71% | | | | -71% |
| 20 | Employee Concession 50% | | \$5.20 | \$0.80 | \$3.50 | \$9.50 | \$41.94 | (\$32.44) | -77% | | | | -77% |
| 21 | Employee Concession 100% | | \$0.00 | \$0.00 | \$3.50 | \$3.50 | \$41.94 | (\$38.44) | -92% | | | | -92% |
| 22 | | | | | | | | | | | | | |
| 23 | Subtotal - Rate Group 2 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 25 | C. Rate Group 3 | | | | | | | | | | | | |
| 26 | Flat Rate | | \$10.86 | \$1.60 | \$3.50 | \$15.96 | \$43.75 | (\$27.79) | -64% | | | | -64% |
| 27 | Flat Rate with Rotary | | \$15.13 | \$1.60 | \$3.50 | \$20.23 | \$43.78 | (\$23.95) | -54% | | | | -54% |
| 28 | Vacation | | \$5.68 | N/A | \$3.50 | \$9.18 | \$40.03 | (\$30.85) | -77% | | | | -77% |
| 29 | Vacation with Rotary | | \$7.82 | N/A | \$3.50 | \$11.32 | \$40.06 | (\$28.74) | -72% | | | | -72% |
| 30 | Lifeline | | \$7.36 | \$1.60 | \$3.50 | \$12.46 | \$43.75 | (\$31.29) | -72% | | | | -72% |
| 31 | Employee Concession 50% | | \$5.48 | \$0.80 | \$3.50 | \$9.78 | \$43.75 | (\$33.97) | -78% | | | | -78% |
| 32 | Employee Concession 100% | | \$0.00 | \$0.00 | \$3.50 | \$3.50 | \$43.75 | (\$40.25) | -92% | | | | -92% |
| 33 | | | | | | | | | | | | | |
| 34 | Subtotal - Rate Group 3 | | | | | | | | | | | | |

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Service Analysis

| Line No. | Service Description | No. of Monthly Units | Tariff Rate | re 7/95 ECS | ELCL | Revenue Par. Unit | Total Cost (F+G+H) | Contribution Margin \$ | Contribution Margin % | Category Analysis | | | | | |
|----------|-----------------------------------|----------------------|-------------|-------------|--------|-------------------|--------------------|------------------------|-----------------------|-------------------|--------------|------------------------|-----------------------|--|--|
| | | | | | | | | | | Annual Revenue | Annual Costs | Contribution Margin \$ | Contribution Margin % | | |
| 1 | 1a. Residence - Flat Rate (cont.) | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | D. Rate Group 4 | | | | | | | | | | | | | | |
| 4 | Flat Rate | | \$11.36 | N/A | \$3.50 | \$14.86 | \$38.93 | (\$24.07) | -62% | | | | | | |
| 5 | Flat Rate with Rotary | | \$15.83 | N/A | \$3.50 | \$19.33 | \$39.00 | (\$19.87) | -51% | | | | | | |
| 6 | Vacation | | \$5.08 | N/A | \$3.50 | \$8.58 | \$35.59 | (\$26.41) | -74% | | | | | | |
| 7 | Vacation with Rotary | | \$7.82 | N/A | \$3.50 | \$11.32 | \$35.65 | (\$24.33) | -68% | | | | | | |
| 8 | Lifeline | | \$7.88 | N/A | \$3.50 | \$11.38 | \$38.53 | (\$27.57) | -71% | | | | | | |
| 9 | Employee Concession 50% | | \$5.88 | N/A | \$3.50 | \$9.38 | \$8.18 | (\$28.76) | -78% | | | | | | |
| 10 | Employee Concession 100% | | \$0.00 | N/A | \$3.50 | \$3.50 | \$38.93 | (\$35.43) | -91% | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | Subtotal - Rate Group 4 | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | |
| 15 | E. Rate Group 6 | | | | | | | | | | | | | | |
| 16 | Flat Rate | | \$11.81 | \$1.60 | \$3.50 | \$16.91 | \$35.43 | (\$18.52) | -53% | | | | | | |
| 17 | Flat Rate with Rotary | | \$18.08 | \$1.60 | \$3.50 | \$21.18 | \$35.55 | (\$14.37) | -40% | | | | | | |
| 18 | Vacation | | \$5.08 | N/A | \$3.50 | \$8.58 | \$31.71 | (\$22.53) | -71% | | | | | | |
| 19 | Vacation with Rotary | | \$7.82 | N/A | \$3.50 | \$11.32 | \$31.83 | (\$20.51) | -64% | | | | | | |
| 20 | Lifeline | | \$8.31 | \$1.60 | \$3.50 | \$13.41 | \$35.43 | (\$22.02) | -62% | | | | | | |
| 21 | Employee Concession 50% | | \$5.90 | \$0.80 | \$3.50 | \$10.20 | \$35.43 | (\$25.23) | -71% | | | | | | |
| 22 | Employee Concession 100% | | \$0.00 | \$0.00 | \$3.50 | \$3.50 | \$35.43 | (\$31.93) | -80% | | | | | | |
| 23 | | | | | | | | | | | | | | | |
| 24 | Subtotal - Rate Group 5 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | |
| 26 | F. All Rate Groups | | | | | | | | | | | | | | |
| 27 | Flat Rate | | | | | | | | | | | | | | |
| 28 | Flat Rate with Rotary | | | | | | | | | | | | | | |
| 29 | Vacation | | | | | | | | | | | | | | |
| 30 | Vacation with Rotary | | | | | | | | | | | | | | |
| 31 | Lifeline | | | | | | | | | | | | | | |
| 32 | Employee Concession 50% | | | | | | | | | | | | | | |
| 33 | Employee Concession 100% | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | |
| 35 | Total - All Rate Groups | | | | | | | | | | | | | | |

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

Category Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) re 7/05 ECS | (E) ELICL | (F) Revenue Flat Line | (G) Total Cost (1+Fixed Allocation) | (H) Contribution Margin \$ | (I) Contribution Margin % | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % |
|----------|--------------------------|--------------------------|-----------------|-----------------|-----------|-----------------------|-------------------------------------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|
| | | | | | | | | | | | | | |
| 1 | 1c. Business - Flat Rate | | | | | | | | | | | | |
| 2 | A. Rate Group 1 | | | | | | | | | | | | |
| 3 | Flat Rate | | \$23.05 | N/A | \$5.70 | \$29.65 | \$65.10 | (\$35.45) | -54% | | | | -54% |
| 4 | Vacation | | \$14.57 | N/A | \$5.70 | \$20.27 | \$60.58 | (\$40.31) | -67% | | | | 0% |
| 5 | Subtotal - Rate Group 1 | | | | | | | | | | | | -54% |
| 6 | B. Rate Group 2 | | | | | | | | | | | | |
| 7 | Flat Rate | | \$28.25 | \$4.18 | \$5.70 | \$38.13 | \$48.31 | (\$10.18) | -22% | | | | -22% |
| 8 | Vacation | | \$14.57 | N/A | \$5.70 | \$20.27 | \$40.71 | (\$20.44) | -50% | | | | -50% |
| 9 | Subtotal - Rate Group 2 | | | | | | | | | | | | -22% |
| 10 | C. Rate Group 3 | | | | | | | | | | | | |
| 11 | Flat Rate | | \$27.65 | \$4.18 | \$5.70 | \$37.53 | \$45.83 | (\$8.30) | -19% | | | | -19% |
| 12 | Vacation | | \$14.57 | N/A | \$5.70 | \$20.27 | \$40.03 | (\$19.76) | -49% | | | | -49% |
| 13 | Subtotal - Rate Group 3 | | | | | | | | | | | | -19% |
| 14 | D. Rate Group 4 | | | | | | | | | | | | |
| 15 | Flat Rate | | \$28.70 | N/A | \$5.70 | \$34.40 | \$37.53 | (\$3.13) | -9% | | | | -9% |
| 16 | Vacation | | \$14.57 | N/A | \$5.70 | \$20.27 | \$33.00 | (\$12.74) | -39% | | | | -39% |
| 17 | Subtotal - Rate Group 4 | | | | | | | | | | | | -9% |
| 18 | E. Rate Group 5 | | | | | | | | | | | | |
| 19 | Flat Rate | | \$29.00 | \$4.18 | \$5.70 | \$39.78 | \$34.29 | \$5.48 | 16% | | | | 16% |
| 20 | Vacation | | \$14.57 | N/A | \$5.70 | \$20.27 | \$28.70 | (\$8.43) | -39% | | | | -39% |
| 21 | Subtotal - Rate Group 5 | | | | | | | | | | | | 16% |
| 22 | F. All Rate Groups | | | | | | | | | | | | |
| 23 | Flat Rate | | | | | | | | | | | | 8% |
| 24 | Vacation | | | | | | | | | | | | -35% |
| 25 | Total - All Rate Groups | | | | | | | | | | | | 8% |

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Category Analysis

Service Analysis

| Line No. | Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) re 7/95 ECS | (E) ELCL | (F) Revenue Per Line | (G) Total Cost | (H) Contribution Margin \$ | (I) Contribution Margin % | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % |
|----------|-------------------------|--------------------------|-----------------|-----------------|----------|----------------------|----------------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|
| | | | | | | | | | | | | | |
| 1 | 1g. PBX Trunk Service | | | | | | | | | | | | |
| 2 | A. Rate Group 1 | | | | | | | | | | | | |
| 3 | Flat Rate | | \$42.10 | N/A | \$8.25 | \$52.35 | \$68.72 | (\$14.37) | -22% | | | | -22% |
| 4 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$60.56 | (\$23.26) | -38% | | | | -38% |
| 5 | Subtotal - Rate Group 1 | | | | | | | | | | | | |
| 6 | B. Rate Group 2 | | | | | | | | | | | | |
| 7 | Flat Rate | | \$48.40 | N/A | \$8.25 | \$54.65 | \$46.85 | \$7.80 | 17% | | | | 17% |
| 8 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$40.71 | (\$3.39) | -8% | | | | -8% |
| 9 | Subtotal - Rate Group 2 | | | | | | | | | | | | |
| 10 | C. Rate Group 3 | | | | | | | | | | | | |
| 11 | Flat Rate | | \$48.80 | N/A | \$8.25 | \$55.05 | \$48.18 | \$6.87 | 21% | | | | 21% |
| 12 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$40.03 | (\$2.71) | -7% | | | | -7% |
| 13 | Subtotal - Rate Group 3 | | | | | | | | | | | | |
| 14 | D. Rate Group 4 | | | | | | | | | | | | |
| 15 | Flat Rate | | \$50.85 | N/A | \$8.25 | \$57.10 | \$39.15 | \$17.95 | 46% | | | | 46% |
| 16 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$33.00 | \$4.32 | 13% | | | | 13% |
| 17 | Subtotal - Rate Group 4 | | | | | | | | | | | | |
| 18 | E. Rate Group 5 | | | | | | | | | | | | |
| 19 | Flat Rate | | \$52.05 | N/A | \$8.25 | \$59.30 | \$34.84 | \$23.46 | 67% | | | | 67% |
| 20 | Message Rate | | \$31.07 | N/A | \$8.25 | \$37.32 | \$28.70 | \$8.62 | 30% | | | | 30% |
| 21 | Subtotal - Rate Group 5 | | | | | | | | | | | | |
| 22 | F. All Rate Groups | | | | | | | | | | | | |
| 23 | Flat Rate | | | | | | | | | | | | |
| 24 | Message Rate | | | | | | | | | | | | |
| 25 | Total - All Rate Groups | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |

Project No. 980000-A
Comments of Mark S. Calton
Attachment B
FTSC Exhibit No. _____
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CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Category Analysis

Service Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) No Trgs ECG | (E) EUGL | (F) Revenue Per Line | (G) Total Cost (1)+(F) Allocated | (H) Contribution Margin \$ | (I) Contribution Margin % | (J) Category Analysis | | | (M) Contribution Margin % |
|----------|---------------------------------|--------------------------|-----------------|-----------------|----------|----------------------|-------------------------------------|----------------------------|---------------------------|-----------------------|--------------|------------------------|---------------------------|
| | | | | | | | | | | Annual Revenue | Annual Costs | Contribution Margin \$ | |
| 1 | 11. Multi-Line Business Service | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | A. Flat Rate with Rotary | | | | | | | | | | | | |
| 4 | Rate Group 1 | | \$34.97 | N/A | \$6.25 | \$41.22 | \$65.14 | (\$23.92) | -37% | | | | -37% |
| 5 | Rate Group 2 | | \$37.27 | N/A | \$6.25 | \$43.52 | \$45.26 | (\$1.74) | -4% | | | | -4% |
| 6 | Rate Group 3 | | \$36.47 | N/A | \$6.25 | \$44.72 | \$44.59 | \$0.13 | 0% | | | | 0% |
| 7 | Rate Group 4 | | \$39.72 | N/A | \$6.25 | \$45.97 | \$37.58 | \$8.39 | 22% | | | | 22% |
| 8 | Rate Group 5 | | \$40.52 | N/A | \$6.25 | \$47.17 | \$33.36 | \$13.81 | 41% | | | | 41% |
| 9 | Subtotal - All Rate Groups | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | B. Message Rate with Rotary | | | | | | | | | | | | |
| 13 | Rate Group 1 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$60.62 | (\$30.05) | -50% | | | | 0% |
| 14 | Rate Group 2 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$40.73 | (\$10.16) | -25% | | | | -25% |
| 15 | Rate Group 3 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$40.07 | (\$9.50) | -24% | | | | -24% |
| 16 | Rate Group 4 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$33.06 | (\$2.49) | -8% | | | | -8% |
| 17 | Rate Group 5 | | \$24.32 | N/A | \$6.25 | \$30.57 | \$28.94 | \$1.73 | 6% | | | | 6% |
| 18 | Subtotal - All Rate Groups | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | Total | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |

GTE FLORIDA INCORPORATED
CONTRIBUTION ANALYSIS

Attachment 1

Service Analysis

| Line No. | (A) Service Description | (B) No. of Monthly Units | (C) Tariff Rate | (D) re 7/95 ECS | (E) EUCI | (F) Revenue Per Line | (G) Total Cost TSURC * (1+Fixed Allowance) | (H) Contribution Margin \$ | (I) Contribution Margin % | Category Analysis | | | |
|----------|------------------------------------|--------------------------|-----------------|-----------------|----------|----------------------|--|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|
| | | | | | | | | | | (J) Annual Revenue | (K) Annual Costs | (L) Contribution Margin \$ | (M) Contribution Margin % |
| 1 | 1a. CentralNet Service | | | | | | | | | | | | |
| 2 | A. Wire Center Line Charge * # | | \$11.15 | N/A | N/A | \$11.15 | \$20.70 | (\$9.55) | -46% | | | | |
| 3 | CentralNet Main Station | | \$4.00 | N/A | N/A | \$4.00 | \$24.30 | (\$20.30) | -44% | | | | |
| 4 | Analog | | \$18.25 | N/A | N/A | \$18.25 | \$44.96 | (\$28.61) | -44% | | | | |
| 5 | Digital | | \$23.91 | N/A | N/A | \$23.91 | \$8.15 | \$17.76 | 289% | | | | |
| 6 | B. Network Access Register (NAR) * | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | C. Feature Packages - Analog | | | | | | | | | | | | |
| 9 | CentralNet 1000 | | \$2.50 | N/A | N/A | \$2.50 | \$5.17 | (\$2.67) | -52% | | | | |
| 10 | CentralNet 2000 | | \$2.75 | N/A | N/A | \$2.75 | \$5.64 | (\$3.89) | -59% | | | | |
| 11 | CentralNet 3000 | | \$4.00 | N/A | N/A | \$4.00 | \$7.97 | (\$3.97) | -50% | | | | |
| 12 | CCLASS Feature Package | | \$5.00 | N/A | N/A | \$5.00 | \$1.93 | \$3.07 | 159% | | | | |
| 13 | D. Feature Packages - Digital | | | | | | | | | | | | |
| 14 | ISON MBXS Basic | | \$6.50 | N/A | N/A | \$6.50 | \$17.82 | (\$11.32) | -44% | | | | |
| 15 | ISON MBXS Deluxe | | \$8.50 | N/A | N/A | \$8.50 | \$18.05 | (\$9.55) | -53% | | | | |
| 16 | ISON 3000 Deluxe | | \$12.50 | N/A | N/A | \$12.50 | \$18.46 | (\$5.96) | -32% | | | | |
| 17 | E. ISON Channel Capability | | | | | | | | | | | | |
| 18 | B-Voice | | \$2.00 | N/A | N/A | \$2.00 | \$0.01 | \$1.99 | 15533% | | | | |
| 19 | B-Voice-CSD | | \$12.50 | N/A | N/A | \$12.50 | \$14.69 | (\$2.19) | -15% | | | | |
| 20 | B Packet | | \$100.00 | N/A | N/A | \$100.00 | \$27.37 | \$72.63 | 265% | | | | |
| 21 | D Packet | | \$5.00 | N/A | N/A | \$5.00 | \$7.49 | \$2.51 | 101% | | | | |
| 22 | Total | | | | | | | | | | | | |
| 23 | * Weighted Tariff Rate | | | | | | | | | | | | |
| 24 | # Weighted TSURC | | | | | | | | | | | | |

Project No. 980000-A
Comments of Mark S. Calton
Attachment B
FPSC Exhibit No. _____
Page 8 of 12

CONFIDENTIAL INFORMATION

Attachment 1

QTS FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

| Line No. | Service Description | No. of Monthly Units | Service Analysis | | | | Category Analysis | | | | | |
|----------|--|----------------------|------------------|--|------------------------|-----------------------|-------------------|--------------|------------------------|-----------------------|--|------|
| | | | Tariff Rate | Total Cost TELNET (1+2+3+4) /Month | Contribution Margin \$ | Contribution Margin % | Annual Revenue | Annual Costs | Contribution Margin \$ | Contribution Margin % | | |
| 1 | 2a. IntraState Switched Access | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | A. Switched Transport | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | 1) Tandem Switching | | | | | | | | | | | |
| 6 | Tandem Switching - Transport Facility | | \$0.000142 | \$0.000038 | \$0.000104 | 270% | | | | | | 270% |
| 7 | Tandem Switched Transport Termination | | \$0.0001344 | \$0.000703 | \$0.000641 | 91% | | | | | | 91% |
| 8 | Tandem Switching | | \$0.0007300 | \$0.0038115 | (\$0.000815) | -80% | | | | | | -80% |
| 9 | | | | | | | | | | | | |
| 10 | 2) Direct Trunked Transport Facility - Voiceband | | \$5.08 | \$3.89 | \$1.39 | 36% | | | | | | 36% |
| 11 | | | | | | | | | | | | |
| 12 | 3) Direct Trunked Transport Facility - DS1 | | \$5.25 | \$1.27 | \$3.98 | 233% | | | | | | 233% |
| 13 | Per ALM * | | \$30.00 | \$33.25 | (\$3.25) | -10% | | | | | | -10% |
| 14 | Per Termination | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | 4) Direct Trunked Transport Facility - DS3 | | \$81.27 | \$29.62 | \$51.65 | 173% | | | | | | 173% |
| 17 | Per ALM | | \$300.00 | \$278.38 | \$21.64 | 80% | | | | | | 80% |
| 18 | Per Termination | | | | | | | | | | | |
| 19 | | | | | | | | | | | | |
| 20 | 5) Entrance Facility - Voiceband | | | | | | | | | | | |
| 21 | 2 Wires - Monthly | | \$33.08 | \$2.17 | (\$18.09) | -37% | | | | | | -37% |
| 22 | 4 Wires - Monthly | | \$52.93 | \$65.51 | (\$12.58) | -19% | | | | | | -19% |
| 23 | | | | | | | | | | | | |
| 24 | 6) Entrance Facility - DS1 | | \$253.08 | \$109.27 | \$153.81 | 141% | | | | | | 141% |
| 25 | First System - Monthly * | | \$130.00 | \$138.27 | \$20.73 | 19% | | | | | | 19% |
| 26 | Adult System - Monthly | | | | | | | | | | | |
| 27 | | | | | | | | | | | | |
| 28 | 7) Entrance Facility - DS3 | | \$1,410.00 | \$782.01 | \$647.99 | 80% | | | | | | 80% |
| 29 | Protected Electrical - Monthly * | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | 8) Multiplexing | | | | | | | | | | | |
| 32 | DS1 to Voice - Monthly | | \$250.00 | \$110.99 | (\$160.99) | -39% | | | | | | -39% |
| 33 | DS3 to DS1 - Monthly | | \$591.67 | \$1,310 | \$268.53 | 96% | | | | | | 96% |
| 34 | | | | | | | | | | | | |
| 35 | 9) Interconnection | | \$0.0102 | \$0.0000 | \$0.0102 | | | | | | | |
| 36 | | | | | | | | | | | | |
| 37 | B. End Office Switching - Bundled | | \$0.0099 | \$0.0048 | \$0.0041 | 80% | | | | | | 80% |
| 38 | | | | | | | | | | | | |
| 39 | C. Information Surcharge | | \$0.0072 | \$0.0000 | \$0.0072 | | | | | | | |
| 40 | | | | | | | | | | | | |
| 41 | D. Carrier Common Line | | | | | | | | | | | |
| 42 | Origin - CCL | | \$0.0225 | \$0.0000 | \$0.0225 | | | | | | | |
| 43 | Termination - CCL | | \$0.0348 | \$0.0000 | \$0.0348 | | | | | | | |
| 44 | | | | | | | | | | | | |
| 45 | Total | | | | | | | | | | | 846% |
| 46 | | | | | | | | | | | | |
| 47 | * Weighted Tariff Rate | | | | | | | | | | | |

CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | Service Description | Service Analysis | | | | Category Analysis | | | |
|----------|--|----------------------|-------------|-------------------------------|-----------------------|-------------------|--------------|-----------------------|-----------------------|
| | | No. of Monthly Bills | Tariff Rate | Total Cost T.L.M.C. * 1000 | Contribution Margin % | Annual Revenue | Annual Costs | Contribution Margin % | Contribution Margin % |
| 1 | 3d. IntraLATA Toll Service | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | A. Toll Point Service | | | | | | | | |
| 4 | Peak | | \$0.19 | \$0.0162 | \$0.1738 | 1071% | | | 1071% |
| 5 | Off Peak | | \$0.11 | \$0.0111 | \$0.0089 | 807% | | | 807% |
| 6 | | | | | | | | | |
| 7 | B. QLE Discount Calling Plans | | | | | | | | |
| 8 | 1) Easy Savings Plan - Residence | | \$0.172 | \$0.0162 | \$0.1558 | 881% | | | 881% |
| 9 | Off Peak # | | \$0.097 | \$0.0111 | \$0.0759 | 741% | | | 741% |
| 10 | 2) Easy Savings Plan - Business | | \$0.1568 | \$0.0162 | \$0.1406 | 895% | | | 895% |
| 11 | Off Peak # | | \$0.098 | \$0.0111 | \$0.0769 | 716% | | | 716% |
| 12 | 1 Year Term | | \$2.1365 | \$0.0162 | \$0.1203 | 741% | | | 741% |
| 13 | Off Peak # | | \$0.0790 | \$0.0111 | \$0.0679 | 811% | | | 811% |
| 14 | 2 Year Term | | \$3.1342 | \$0.0162 | \$0.1079 | 687% | | | 687% |
| 15 | Off Peak # | | \$0.0719 | \$0.0111 | \$0.0608 | 547% | | | 547% |
| 16 | 3 Year Term | | \$0.0698 | \$0.0162 | \$0.0836 | 497% | | | 497% |
| 17 | Off Peak # | | \$0.0559 | \$0.0111 | \$0.0448 | 403% | | | 403% |
| 18 | | | | | | | | | |
| 19 | C. WATS and SCS Service | | | | | | | | |
| 20 | 1) Outward WATS - Access Line | | \$38.00 | \$30.26 | \$7.74 | 20% | | | 20% |
| 21 | 2) Outward WATS - IntraLATA per hour of use * | | \$10.77 | \$0.85 | \$9.92 | 1185% | | | 1185% |
| 22 | 3) 800/800 - Access Line | | \$38.00 | \$30.26 | \$7.74 | 20% | | | 20% |
| 23 | 4) 800/800 - IntraLATA Usage per hour of use * | | \$10.43 | \$0.85 | \$9.58 | 1126% | | | 1126% |
| 24 | | | | | | | | | |
| 25 | Total | | | | | | | | |
| 26 | # Effective Tariff Rate | | | | | | | | |
| 27 | * Imputed Tariff Rate | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
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CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | (A) Service Description | Service Analysis | | | | Category Analysis | | | | | |
|----------|---|--------------------------|-----------------|--------------------------------------|----------------------------|---------------------------|--------------------|------------------|----------------------------|---------------------------|------|
| | | (B) No. of Monthly Units | (C) Tariff Rate | (D) Total Cost (Incl. of Paid Month) | (E) Contribution Margin \$ | (F) Contribution Margin % | (G) Annual Revenue | (H) Annual Costs | (I) Contribution Margin \$ | (J) Contribution Margin % | |
| 1 | 4a. Vertical Services | | | | | | | | | | |
| 2 | A. Residence | | | | | | | | | | |
| 3 | 1) Three Way Calling Individual / Flexible Packaging | | \$3.50 | \$1.78 | \$1.72 | 97% | | | | 97% | |
| 4 | | | \$2.10 | \$1.78 | \$0.32 | 15% | | | | 15% | |
| 5 | 2) Call Waiting / Cancel Call Waiting Individual / Flexible Packaging | | \$4.00 | \$0.10 | \$3.90 | 3813% | | | | 3813% | |
| 6 | | | \$2.40 | \$0.10 | \$2.30 | 2248% | | | | 2248% | |
| 7 | 3) Call Forwarding Variable * Individual / Flexible Packaging | | \$2.50 | \$0.29 | \$2.21 | 751% | | | | 751% | |
| 8 | | | \$1.50 | \$0.29 | \$1.21 | 410% | | | | 410% | |
| 9 | 4) Automatic Call Return Individual / Flexible Packaging | | \$5.00 | \$0.29 | \$4.71 | 1001% | | | | 1001% | |
| 10 | | | \$3.00 | \$0.29 | \$2.71 | 921% | | | | 921% | |
| 11 | 5) Automatic Busy Forward Individual / Flexible Packaging | | \$5.00 | \$0.13 | \$4.87 | 3813% | | | | 3813% | |
| 12 | | | \$3.00 | \$0.13 | \$2.87 | 2248% | | | | 2248% | |
| 13 | 6) VIP Alert Individual / Flexible Packaging | | \$3.00 | \$0.28 | \$2.72 | 1074% | | | | 1074% | |
| 14 | | | \$1.80 | \$0.28 | \$1.52 | 84% | | | | 84% | |
| 15 | 7) Special Call Forwarding Individual / Flexible Packaging | | \$5.00 | \$0.41 | \$4.59 | 1122% | | | | 1122% | |
| 16 | | | \$3.00 | \$0.41 | \$2.59 | 86% | | | | 86% | |
| 17 | 8) Caller ID - Name and Number Individual / Flexible Packaging | | \$7.85 | \$0.70 | \$7.15 | 1001% | | | | 1001% | |
| 18 | | | \$4.77 | \$0.70 | \$4.07 | 579% | | | | 579% | |
| 19 | 9) Custom Code Restrictions # | | | | | | | | | | |
| 20 | Option 1 | | \$2.50 | \$1.71 | \$0.79 | 46% | | | | 46% | |
| 21 | Option 2 | | \$2.50 | \$0.78 | \$1.72 | 45% | | | | 45% | |
| 22 | Option 3 | | \$0.00 | \$1.72 | (\$1.72) | -100% | | | | -100% | |
| 23 | Option 4 | | \$2.50 | \$1.72 | \$0.78 | 45% | | | | 45% | |
| 24 | Option 5 | | \$0.00 | \$1.72 | (\$1.72) | -100% | | | | -100% | |
| 25 | Total | | | | | | | | | | 678% |

* Call Forwarding - Variable includes Call Forwarding - Busy Line and Call Forwarding - Call Answer.
 # Includes both Business and Residence.

CONFIDENTIAL INFORMATION

GTE FLORIDA INCORPORATED
 CONTRIBUTION ANALYSIS

Attachment 1

| Line No. | Service Description | Service Analysis | | | | Category Analysis | | | |
|----------|---------------------------------------|--------------------------|-----------------|--|----------------------------|--------------------|------------------|----------------------------|---------------------------|
| | | (A) No. of Monthly Units | (B) Tariff Rate | (C) Total Cost TRUNC + In-House Allocation | (D) Contribution Margin \$ | (E) Annual Revenue | (F) Annual Costs | (G) Contribution Margin \$ | (H) Contribution Margin % |
| 1 | 4a. Vertical Services (cont.) | | | | | | | | |
| 2 | B. Businesses | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | 1) Three Way Calling | | | | | | | | |
| 6 | Individual | | \$4.00 | \$1.78 | \$2.22 | | | | 125% |
| 7 | Build A Pak | | \$3.20 | \$1.78 | \$1.42 | | | | 80% |
| 8 | | | | | | | | | |
| 9 | 2) Call Waiting / Cancel Call Waiting | | | | | | | | |
| 10 | Individual | | \$5.00 | \$0.10 | \$4.90 | | | | 4791% |
| 11 | | | | | | | | | |
| 12 | 3) Call Forwarding - Variable * | | | | | | | | |
| 13 | Individual | | \$4.00 | \$0.29 | \$3.71 | | | | 1261% |
| 14 | Build A Pak | | \$3.20 | \$0.29 | \$2.91 | | | | 969% |
| 15 | | | | | | | | | |
| 16 | 4) Automatic Call Return | | | | | | | | |
| 17 | Individual | | \$8.00 | \$0.29 | \$7.71 | | | | 1942% |
| 18 | Build A Pak | | \$4.80 | \$0.29 | \$4.51 | | | | 1532% |
| 19 | | | | | | | | | |
| 20 | 5) Automatic Busy Recall | | | | | | | | |
| 21 | Individual | | \$8.00 | \$0.13 | \$7.87 | | | | 4596% |
| 22 | Build A Pak | | \$4.80 | \$0.13 | \$4.67 | | | | 3652% |
| 23 | | | | | | | | | |
| 24 | 6) VPP Alert | | | | | | | | |
| 25 | Individual | | \$4.00 | \$0.26 | \$3.74 | | | | 1485% |
| 26 | Build A Pak | | \$3.20 | \$0.26 | \$2.94 | | | | 1152% |
| 27 | | | | | | | | | |
| 28 | 7) Special Call Forwarding | | | | | | | | |
| 29 | Individual | | \$8.00 | \$0.41 | \$7.59 | | | | 1362% |
| 30 | Build A Pak | | \$4.80 | \$0.41 | \$4.39 | | | | 1074% |
| 31 | | | | | | | | | |
| 32 | 8) Caller ID - Name and Number | | | | | | | | |
| 33 | Individual | | \$11.50 | \$0.70 | \$10.80 | | | | 1536% |
| 34 | | | | | | | | | |
| 35 | Total | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |

Page 10

* - Call Forwarding - Variable requires Call Forwarding - Busy Use and Call Forwarding - Don't Answer.



BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Undeveloped special project:)
Fair and reasonable residential)
basic local telecommunications)
rates)
_____)

SPECIAL PROJECT 980000A-TP

COMMENTS OF
CARL R. DANNER
ON BEHALF OF
GTE FLORIDA INCORPORATED

SEPTEMBER 24, 1998

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GTE FLORIDA INCORPORATED
SPECIAL PROJECT 980000A-SP

COMMENTS OF CARL R. DANNER

INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Carl R. Danner. My business address is Wilk & Associates, Inc., 100 Bush Street, Suite 1650, San Francisco, CA 94104.

Q. PLEASE BRIEFLY SUMMARIZE YOUR RELEVANT EXPERIENCE AND QUALIFICATIONS.

A. I was formerly Advisor and Chief of Staff to Commissioner (and Commission President) G. Mitchell Wilk at the California Public Utilities Commission (CPUC), and in that role I designed key components in telephone regulation for California, and helped develop new regulatory policies and programs for the cellular industry, long distance telecommunications, and other communications services. Since leaving the CPUC I have consulted on issues of regulatory politics and policy to a variety of clients, with a primary emphasis on telecommunications. I hold a masters and Ph.D. in Public Policy from Harvard University, where my dissertation

1 addressed the strategic management of telecommunications
2 regulatory reform. At Harvard I served as Head Teaching Assistant
3 for graduate courses in microeconomics, econometrics and
4 managerial economics. I hold an AB degree from Stanford University,
5 where I graduated with distinction in both economics and political
6 science. My experience is broad-based, including research into and
7 teaching about regulation, advising regulators, testifying both for and
8 against regulated utilities, and also advising clients as a consultant
9 on regulatory issues.

10
11 **Q. WHAT IS THE PURPOSE OF YOUR COMMENTS?**

12 **A.** The Commission initiated this proceeding in response to the Florida
13 Legislature's directives to report on: (1) the cost/charge relationships
14 among various local exchange company services, in order to
15 determine to what extent residential basic local service may be
16 subsidized; and (2) the fair and reasonable residential basic local
17 rate, considering affordability, value of service, basic residential rates
18 in other states, and the cost of providing basic residential service
19 here in Florida. (Chapter 98-277, secs. 2(1) & (2)(a), Florida Laws.)

20
21 My testimony touches on all of these matters. Other GTE witnesses
22 more specifically address affordability and value of service (Mr. Perry
23 and Dr. Harris); rates in other states (Dr. Harris); the cost of providing
24 basic residential service (Mr. Steele); and GTE's contribution analysis
25 (Mr. Calnon). I discuss the general principles that should guide this

1 Commission's deliberations about the fair and reasonable basic, local
2 residential rate. I also address how the local loop should be treated
3 in determining the cost of basic local telephone service, and how that
4 cost treatment relates to determining a fair and reasonable basic local
5 residential service rate. With regard to all of these matters, I urge the
6 Commission to base its report to the Legislature on facts and sound
7 economics, and to review all of the parties' presentations with this
8 standard in mind.

9
10 **Q. PLEASE SUMMARIZE HOW THE COST OF THE LOCAL LOOP**
11 **RELATES TO BASIC TELEPHONE SERVICE, AND FAIR AND**
12 **REASONABLE BASIC RESIDENTIAL RATES.**

13 **A.** According to economic principles and common sense, the cost of the
14 local loop is a cost of providing basic local exchange service, both for
15 residential and business customers. However, contrary to what some
16 might assume or argue, that conclusion is perfectly consistent with
17 affordable residential basic local exchange service. In fact, treating
18 the cost of the loop correctly is essential if customers of all kinds are
19 to gain the most possible benefits from telephone service in Florida.

20
21 The cost of the loop is caused by a customer's decision to have basic
22 telephone service whether or not the customer uses the telephone to
23 buy other services as well. Therefore, when the Commission
24 calculates the cost of basic local telephone service by use of a cost
25 model (or by any other means), it must include the full cost of the loop

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as a cost of basic local service.

It's like buying a car – it needs all four tires no matter how much you plan to drive it. I'm not aware of any way to pay for only two tires for a car that will only be driven on Sunday. Likewise, even a customer who won't use the phone much needs the whole loop to have any service at all, which is why that cost is part of basic phone service.

By recognizing the correct treatment of the loop for costing purposes, the Commission's universal service program (as well as other related pricing decisions it may make) will maximize the benefits of Florida's telephone network for customers, will remove (or avoid creating) a major impediment to local competition in Florida, will not harm – and may even expand – universal service as measured by the proportion of customers who have telephones, and will help comply with the mandate of the Federal Telecommunications Act of 1996 to make all subsidies explicit.

Q. IS THE COMMISSION LIKELY TO RECEIVE A CONTRARY OPINION ABOUT THE COST TREATMENT OF THE LOCAL LOOP?

A. I fear so, because some parties may argue that the cost of the loop should be allocated among a variety of services in order to reduce the apparent cost of basic local service. However, such claims are the economics equivalent of "junk science," as I will demonstrate below,

1 and should be ignored by the Commission (1) because they are
2 simply incorrect, and (2) because accepting them could lead the
3 Commission into decisions that will harm customers, stifle local
4 competition, and do no good (and perhaps cause some harm) for
5 universal service.

6

7 **Q. IF THE COMMISSION RECOGNIZES THE LOOP AS A COST OF**
8 **BASIC SERVICE, WON'T THAT LEAD TO AN INCREASED NEED**
9 **FOR UNIVERSAL SERVICE SUPPORT AND/OR BASIC RATE**
10 **INCREASES?**

11 **A.** Quite possibly, yes, because understanding the real costs of service
12 will reveal large cross-subsidies that should either be funded by
13 universal service support or ended by pricing reform. But that's only
14 part of the picture, since today's subsidized basic rates are simply
15 funded by above-cost prices on other parts of the phone bill.
16 Reducing those other prices will create large benefits for consumers
17 and remove a large impediment to competition for residential
18 telephone service. Ironically, even though today's regulatory pricing
19 policy may have been intended to help residential customers, as a
20 group they would be better off without it.

21

22 There's no "free lunch," and we all have to pay the total costs of
23 phone service one way or another. It just happens that the way these
24 costs are now paid hurts customers and stifles competition. Being
25 smarter about how the different parts of the phone bill are priced will

1 benefit Florida customers and the Florida economy. Since fully-
2 funded universal service and/or pricing reform would benefit
3 customers, preserving the status quo is actually an anti-customer
4 position that the Commission should not accept.

5

6 **Q. HOW DO THESE SUBSIDIES AFFECT CUSTOMER BILLS IN**
7 **FLORIDA?**

8 A. The real facts about customer bills and their use of the telephone may
9 be surprising to many people. Based on actual customer bill data
10 from GTE's Florida customers, the price of basic service is but a
11 fraction (30 percent) of the average residential telephone bill of
12 \$49.15/month. Thus, many residential customers would see lower
13 bills due to pricing reform, and many others would presumably see
14 little bill impact one way or the other. Other, non-Florida data
15 suggests that minority customers have above-average phone bills,
16 and thus are especially hurt by mispricing. For these and other
17 reasons, it is a myth that the price of basic service alone determines
18 the welfare of residential customers. The Commission should not be
19 tempted to adopt a fallacy of loop allocation in order to avoid a need
20 for an adequate universal service fund, or pricing reform. To the
21 contrary, it is an allocation of loop costs that will harm customers and
22 stifle competition in Florida.

23

24 **Q. WOULD PRICING REFORM HARM UNIVERSAL SERVICE?**

25 A. No; when you look at the facts, it turns out that the basic monthly rate

1 is almost irrelevant to peoples' choices about whether to stay on the
2 telephone network. In reality, reforming prices to better match costs
3 will have little, if any impact on universal service, and may even add
4 customers to the network. Clear evidence of these facts is found in
5 established economic principles, studies of how customers actually
6 respond to changes in telephone service prices, and a variety of
7 pricing reform experiences from other jurisdictions.

8
9 **Q. WOULD PRICING REFORM MAKE LOCAL TELEPHONE SERVICE**
10 **MORE AFFORDABLE, OR LESS AFFORDABLE?**

11 A. If anything, the evidence is that pricing reform would make local
12 telephone service more affordable, because prior pricing reform has
13 actually led to an increase in the number of residential subscribers on
14 the network. If more people buy telephone service, then it must have
15 become more affordable. I discuss this evidence at greater length
16 below in my testimony.

17
18 **Q. HOW DOES A BELOW-COST PRICE FOR BASIC TELEPHONE**
19 **SERVICE PREVENT RESIDENTIAL CUSTOMERS FROM SEEING**
20 **COMPETITIVE CHOICES?**

21 A. It's not just basic economics, but common sense. What business
22 person is going to want to compete against a money-losing price? It's
23 still an anti-competitive price, even if government sets it. The result
24 of below-cost basic rates might be termed competitive red-lining,
25 where large segments of the population are shut off from alternatives

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for local phone service. While I doubt this was intended, it's as if someone sat down with a map and drew a line around residential neighborhoods saying, "no competition for these people."

Indeed, looking at the political arena nationwide, I am shocked that anyone is shocked that facilities-based competition has been largely absent for telephone services priced below cost. Notwithstanding the political rhetoric that surrounded the enactment of the Telecommunications Act of 1996, Congress can't repeal the fundamentals of business any more than it can make water flow uphill. And anyone who is eagerly awaiting the decision of profit-making companies to jump into money-losing businesses ought also to be looking for floods on mountaintops.

Q. HOW IS THE BALANCE OF YOUR TESTIMONY ORGANIZED?

A. In what follows I elaborate on these conclusions, including spelling out supporting facts in more detail. Section 1 uses the principles of economics to show why loop costs are a cost of basic service, and why there is no need to consider the costs of other services to recognize that fact. Section 2 reviews a range of arguments that may be offered to claim that the cost of the loop should be allocated among a variety of services, and shows why these reflect misunderstandings or fallacies. Sections 3 and 4 take a broader perspective by showing how getting the costs of local telephone service right will benefit customers and competition for local

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telephone service. Section 5 addresses some pricing principles of economics that help correct some erroneous statements on presentation outlines circulated by the Attorney General. I offer some brief summary conclusions in Section 6.

SECTION 1: THE LOOP IS A COST OF BASIC SERVICE THAT SHOULD BE INCLUDED IN ITS PRICE

Q. WHAT BASIC DEFINITION OF ECONOMICS DETERMINES THE PROPER WAY TO TREAT A LOOP IN CALCULATING THE COST OF BASIC TELEPHONE SERVICE?

A. According to the principles of economics, all costs are opportunity costs; that is they measure what must be given up (on the one hand) in order to obtain something or take some action (on the other hand). As Dr. N. Gregory Mankiw explains in his introductory economics textbook:

*"The cost of something is what you give up to get it."
Mankiw, N. Gregory. Principles of Economics (The Dryden Press, 1997), page 5.*

The key to this definition is cost-causation, or identifying what costs are caused by a particular decision someone makes to use or consume something. This is a fundamental principle of economics; in fact, in Dr. Mankiw's text identifies this as one of the ten "core

1 ideas" that form "the foundation for most economic analysis."
2 *Mankiw, page vii.* Thus, to understand how the cost of the loop fits
3 into telephone service, we need to find the decision that causes the
4 cost of the loop to be incurred. That is what "cost" means.

5

6 **Q. BY CONTRAST TO THE DEFINITION OF COST YOU HAVE JUST**
7 **DESCRIBED, HOW DOES THE PRACTICE OF COST**
8 **ALLOCATION RELATE TO ESTABLISHED ECONOMIC**
9 **PRINCIPLES?**

10 **A.** "Cost allocation" has nothing to do with economic principles; rather,
11 it is just a shorthand for spreading costs around when you really don't
12 know what, in particular, causes them. Cost allocation factors are just
13 dressed-up "fudge" factors, and no one is necessarily better than any
14 other in terms of understanding the reality of costs, or trying to
15 achieve the best economic results (economic efficiency) from setting
16 prices for telephone service, or determining a good level of universal
17 service support.

18

19 One can take the results of a cost allocation exercise and use
20 economic principles to evaluate the results, and perhaps choose a
21 favorite cost allocation approach that happens to score the best in a
22 given instance. But if one knows actual cost and customer demand
23 relationships well enough to use them to evaluate the results of cost
24 allocation, then there's no need to waste time playing with cost
25 allocation -- since economic principles can also be used directly to

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figure out the best answer.

Economists have repeatedly shown that cost allocation lacks any genuine economic meaning except by accident. See, for example, Baumol, William J. and J. Gregory Sidak. Toward Competition in Local Telephony (The MIT Press and the American Enterprise Institute for Public Policy Research, 1994), page 56; and, Baumol, William J., Koehn, Michael F., and Robert D. Willig. "How Arbitrary is 'Arbitrary'? – or, Toward the Deserved Demise of Full Cost Allocation," Public Utilities Fortnightly, September 3, 1987; pages 16-21. See also Kahn, Alfred E. The Economics of Regulation, Volume 1 (The MIT Press, 1995), pages 150-158.

Q. WHAT DECISION CAUSES THE COST OF A LOOP TO BE INCURRED?

A. A customer needs a loop in order to have telephone service, and once put in place, that loop is dedicated to the customer it serves. Therefore, the decision to have telephone service (or the telephone company's accurate prediction that a customer, say in a new development, will subscribe to telephone service) is what causes the cost of a loop to be incurred. To say it another way, a loop is needed to provide access to the network, regardless of how that access is then used; and customers get access to the network as a part of basic service. Keeping a loop in use for telephone service also causes some other fixed and recurring costs (e.g., for routine billing,

1 customer service and maintenance) that again are caused by the
2 decision to have any telephone service at all.

3
4 Indeed, one could even imagine charging for telephone service in
5 exactly the same way as the costs are incurred – levying a substantial
6 one-time fee to purchase the loop, along with a small ongoing
7 monthly fee for upkeep, perhaps followed by a subsequent one-time
8 fee if the loop needed to be replaced many years later. Of course, it
9 also works for customers to rent the use of such an asset on a
10 monthly basis, including the upkeep, with the company financing the
11 initial cost and future replacements that might be needed. Loop costs
12 are usually converted to their monthly lease equivalent in regulatory
13 cost studies, given the broad acceptance of such an approach.

14
15 **Q. DOES THE COST OF A LOOP VARY WITH HOW IT IS USED?**

16 **A.** As a general matter, loop costs do not vary with whether or how a
17 loop is used, e.g., the costs are the same whether the loop lies idle
18 or is used to place calls 24 hours a day. I am aware of some
19 additional costs that can be related to certain service demands
20 placed on a loop, such as a need for loop conditioning to assure a
21 certain signal-to-noise ratio. Another example would include ISDN
22 service, where multiplexers need to be added to the line.

23
24 But these examples show only that certain types of service or usage
25 can cause additional costs over and above the fixed cost of the loop

1 that every subscriber needs to have any kind of service. Such
2 additional costs, where they occur, should be recovered by usage-
3 based prices.

4

5 **Q. WHAT DO THESE ECONOMIC PRINCIPLES AND FACTS**
6 **REQUIRE FOR HOW A LOOP SHOULD BE TREATED IN ANY**
7 **COMMISSION STUDY OF THE COSTS OF TELEPHONE**
8 **SERVICE?**

9 A. These economic principles and facts require that the cost of the loop
10 be recognized as a cost of basic local telephone service, since the
11 demand for basic telephone service causes the cost of the loop. By
12 contrast, using the loop to buy other goods and services (such as
13 long distance calls, or take-out pizza) does not cause any of the cost
14 of the loop, so the loop is not a part of the cost of such other goods
15 and services.

16

17 **Q. YOU DESCRIBED A CLAIM THAT THE LOOP SHOULD BE**
18 **ALLOCATED TO MANY SERVICES AS THE ECONOMICS**
19 **EQUIVALENT OF "JUNK SCIENCE." WHY IS THIS SO?**

20 A. Because there is widespread agreement in the economics profession
21 on this point, and because arguments to the contrary inevitably
22 involve fallacies, misunderstandings of economic principles, or both.

23

24 For example, a recent article in the Journal of Regulatory Economics
25 highlighted the agreement among economists that the loop is a cost

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of basic local service:

*Because of the focus on the costs and revenues of basic local exchange service in cost proxy models, rate rebalancing proceedings, the FCC access charge reform proceedings, and universal service proceedings, the proper treatment of local loop costs has become critically important. One sometimes hears of unpublished measures of cross-subsidization in which residential basic local exchange service is either not subsidized or is purported to actually provide a subsidy to other services. This result is invariably based on a misunderstanding or misrepresentation of the costs of loop facilities as shared or common costs rather than as a cost that is directly attributable to the provision of access to a modern telecommunications network...

[T]here appears to be only one article by economists, Gabel and Kennet (1993(a)), disputing the finding that loop costs are not common production costs to the LEC. However, this article induced a record three comments in response to the article in the Review of Industrial Organization. It also appears that Gabel and Kennet are inconsistent in their article, at times arguing that loop costs are incremental to toll calling and at other times arguing that these costs are common costs."
Parsons, Steve C. "Cross-Subsidization in

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Telecommunications," Journal of Regulatory Economics 13:
157-182 (1998), pages 169-70. Citations omitted.

As the above indicates, other professional articles have even catalogued loop allocation fallacies, and described how they contradict the correct use of economic principles. See Kahn, Alfred E. and William B. Shew. "Current Issues in Telecommunications Regulation: Pricing," 4 Yale Journal on Regulation 191-256 (1987). See also Parsons, Steve G. "Seven Years after Kahn and Shew: Lingerin Myths on Costs and Pricing Telephone Service," Yale Journal on Regulation, Vol. 11, No. 1 (Winter, 1994), pages 149-170.

Q. IS THERE ALSO EVIDENCE OF AGREEMENT ACROSS THE TELEPHONE INDUSTRY ON THIS POINT?

A. Yes. In recent cross-examination of his testimony that loop costs must be recognized as a cost of basic telephone service, expert economist Dr. Robert Harris of the University of California at Berkeley commented:

"This happens to be one of the issues on which there is the greatest consensus in the whole economics profession; indeed, it borders on unanimity, and if we as a group of professionals that try to make a contribution to improving the performance of the U.S. economy -- if policymakers won't take

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our advice when 99.9 percent of us agree it's the best thing to do, then I think we've basically said we don't want any economic expertise in the decision-making process. You might as well try to develop healthcare policy and ignore what the doctors are trying to tell you." *Cross-examination of Dr. Robert G. Harris, transcript pages DD-197-198, Indiana Utilities Regulatory Commission Cause No. 40785, May 11, 1998.*

In that same Indiana proceeding, AT&T and MCI said the following in a joint filing referring to the testimony of Dr. Harris.

...the issue of whether the cost of the loop is a direct cost of providing BLS [basic local service] or is a joint or common cost to be allocated among BLS and other services must be decided first and foremost on the basis of sound economics.

"As Dr. Harris testified during cross-examination at the hearing, essentially every credible economist agrees on this issue. Under basic economic principles of cost causation, the cost of the loop is a direct cost of providing BLS. Indeed, the entire telecommunications industry – incumbent monopolists, CLECs, and IXC's – all agree that, as a matter of sound economics, the cost of the loop is a direct cost of providing BLS. The entire industry also agrees that competition in the local exchange will not develop effectively if the cost of the

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loop is improperly allocated as a joint or common cost among BLS and other services." *Joint Submission of Proposed Form of Order (by AT&T and MCI), IURC Cause No. 40785, June 8, 1998 (emphasis in original)*

I believe the Commission will recognize a statement of such agreement across the industry as truly extraordinary. Indeed, in that proceeding, Dr. Harris appeared as a witness for Ameritech Indiana, not AT&T or MCI. I can't recall the last time AT&T and MCI cited a witness from a Bell Operating Company in this way in an important argument before a regulatory agency.

Q. LET'S MOVE FROM THE QUESTION OF COST, TO THE QUESTION OF PRICING. WHAT DO THE PRINCIPLES OF ECONOMICS REQUIRE FOR ECONOMICALLY-SOUND PRICING DECISIONS?

A. Another fundamental lesson of economics is that prices should reflect marginal cost, where marginal cost is the measure of what actual burdens (or lost opportunities) are imposed on society by a given action. As eminent economist Dr. Alfred Kahn explains:

"The central policy prescription of microeconomics is the equation of price and marginal cost. If economic theory is to have any relevance to public utility pricing, that is the point at which the inquiry must begin.

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"As almost any student of elementary economics will recall, marginal cost is the cost of producing one more unit; it can equally be envisaged as the cost that would be saved by producing one less unit." Kahn, Alfred E. *The Economics of Regulation* (The MIT Press, 1988), volume 1, page 65.

Marginal cost measures cost causation. If the marginal cost of Action A is \$5, then it must be that Action A causes \$5 in cost to be incurred. Indeed, this is more than just a definition, because its underlying logic is central to the lessons of economic analysis for pricing decisions. To ignore this principle is to ignore one of the bedrock teachings of modern economics.

Q. WHAT DOES ECONOMIC ANALYSIS CONCLUDE FOR HOW THE COST OF THE LOOP SHOULD FACTOR INTO PRICING TELEPHONE SERVICE?

A. Since every customer requires a loop to have any telephone service at all, economic analysis concludes that every customer should pay for the fixed costs of the loop every month, since the decision to have telephone service causes those costs. That pricing policy is both fair and economically efficient.

However, rather than recommend to the Legislature that every customer pay directly the full cost of his or her basic telephone service, the Commission also has the option of proposing that the

1 permanent universal service fund (which the Legislature is to
2 establish in its next session) subsidize basic service prices to keep
3 them at what the Commission considers an affordable or reasonable
4 level. Additionally, it is reasonable for the Commission and the
5 Legislature to consider transitions from today's prices to cost-based
6 prices, or to use a hybrid approach where pricing reform includes
7 both universal service support as well as some increases to below-
8 cost basic rates.

9
10 Whatever approach policy makers wish to take to pricing and
11 universal service, the cost of the loop must be included as a cost of
12 basic telephone service. Whether the retail price paid by each
13 customer must reflect that full cost is a separate decision the
14 Legislature can address in deciding how much explicit universal
15 service funding should be made available in Florida.

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19 **SECTION 2: DEBUNKING THE LOOP ALLOCATION FALLACIES**

20
21 **Q. EARLIER, YOU EXPRESSED CONCERN THAT THE COMMISSION**
22 **MAY BE ASKED TO CONCLUDE THAT THE COST OF A LOOP**
23 **SHOULD BE ALLOCATED AMONG A VARIETY OF SERVICES.**
24 **CAN YOU COMMENT?**

25 **A. Yes; public statements by some of the parties in this proceeding (and**

1 my experience) suggest that the Commission may encounter a
2 number of such arguments. I will address a variety of these incorrect
3 claims in turn.

4
5 Note that some of these fallacious arguments address loop allocation
6 directly, while others challenge the principle of a fixed monthly service
7 charge for telephone service that would cover all of the fixed costs of
8 setting customers up to have telephone service. I respond to both
9 kinds of arguments in this section of my testimony.

10

11 **Q. SOME HAVE CLAIMED THAT THE COST OF A LOOP IS COMMON**
12 **TO MANY TELEPHONE SERVICES BECAUSE THE LOOP IS USED**
13 **TO HELP PROVIDE THEM, SUCH AS WHEN A CUSTOMER**
14 **MAKES A LONG DISTANCE CALL. WHAT IS YOUR ANALYSIS OF**
15 **THAT ASSERTION?**

16 **A.** This incorrect claim arises out of confusing what decision actually
17 causes the cost of a loop to be incurred, versus what additional
18 services a customer can buy using a loop once he or she has one to
19 use. The decision to have a loop in the first place is different from a
20 decision to use it for a separate purpose, such a making a long
21 distance call or ordering a pizza.

22

23 Analogies are helpful for revealing this fallacy. Having rented a loop,
24 a customer can use it to purchase many other things – long distance
25 calls, professional services from attorneys or accountants, or anything

1 else that can be bought by calling an 800 number or using a credit
2 card. But none of those purchases, long distance included, causes
3 any additional cost related to the loop. Contemplating trying to
4 recover loop costs from an attorney's office or 1-800-FLOWERS
5 helps to highlight the nature of this fallacy. If the loop allocation
6 argument were correct, it would require that florists and attorneys be
7 taxed to help pay part of the cost of telephone service for customers
8 who ordered flowers or had legal consultations over the phone. After
9 all, like long distance companies, florists and attorneys are separate
10 businesses from the local phone company, and each can profit when
11 customers use the phone to reach them.

12
13 Another example that others have cited is that of a driveway. Like a
14 loop, a driveway is a homeowner's personal connection into a public
15 switched network of roads. Driveways represent a considerable fixed
16 cost, and they must periodically be renovated or replaced. Any
17 particular use of a driveway (e.g., driving a car from the garage to the
18 street) causes little, if any cost. Yet a homeowner sets out to make
19 many purchases by going down the driveway first. If applied
20 consistently here, the loop allocation argument would mean that local
21 supermarkets and video stores (among other retail establishments)
22 should be taxed to help pay for the cost of driveways -- and that those
23 tax proceeds should subsidize homeowners when they put a driveway
24 in. But that doesn't make sense, either. Just as a local loop also
25 permits a subscriber to receive calls, a driveway also permits others

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to offer services, including those a homeowner may not specifically have requested -- such as permitting a taxicab to drop off a relative unexpectedly visiting from out of town.

Indeed, the same logic that applies to the driveway would also apply to the car itself, since the only way (for example) to use a fast food drive-through window is in a car. The loop allocation argument would require fast food restaurants (among other businesses) to be taxed so that auto dealers could sell cars at a discounted price.

Q. SOME WOULD SAY THAT THESE EXAMPLES AND ANALOGIES ARE UNIMPORTANT BECAUSE THE COMMISSION ONLY HAS JURISDICTION OVER TELECOMMUNICATIONS, NOT DRIVEWAYS AND RETAIL ESTABLISHMENTS. WHAT IS YOUR RESPONSE?

A. From the standpoint of economic analysis, jurisdiction doesn't really matter. If allocation of the loop to one use of the phone somehow made economic sense, then allocation to other uses of the phone would also.

Q. IT HAS BEEN ARGUED THAT COMPETITIVE MARKETS FEATURE CUT-RATE ACCESS AND HIGH USAGE CHARGES THAT MAKE UP THE DIFFERENCE LOST TO A FIRM BY SUBSIDIZING ACCESS, AS IN "GIVING AWAY THE RAZOR TO SELL THE BLADES." HOW WOULD YOU RESPOND?

1 A. From the standpoint of marketing, subsidizing the initial cost of
2 product usage can make sense in some circumstances, such as
3 where the customer is thereafter tied to buying the complementary
4 product. We see this in the cellular telephone business, where
5 customers can have their purchase of the handset subsidized by
6 competitive providers. However, in that case the customer signs a
7 contract to use that same company's cellular service thereafter for a
8 term presumably calculated by the company to recover at least the
9 initial subsidized price of the handset. Note also that the cellular
10 customer is not subsidized by other customers. By contrast, local
11 telephone companies must permit customers to access other
12 providers of long distance and other services, which takes away the
13 captive usage aspect that permits cellular companies (and the
14 metaphorical razor maker) to subsidize the customer up front in
15 exchange for making assured markups later.

16
17 Note that this marketing strategy, even where feasible, does nothing
18 to change the underlying cost relationships. A cellular company that
19 gives away a handset actually incurs the full cost up front; the cost is
20 not caused month-by-month over a 12 month usage contract.
21 Similarly, the cost of a local loop is incurred in its entirety when a
22 customer is provided basic telephone service, not bit-by-bit as toll
23 calls are made, take-out food ordered, etc.

24
25

1 Q. IF A COMPETITIVE CELLULAR PROVIDER CAN GIVE AWAY THE
2 HANDSET AND MAKE IT UP ON SERVICE CHARGES, WHY CAN'T
3 A LOCAL TELEPHONE COMPANY DO THE SAME WITH BASIC
4 LOCAL SERVICE?

5 A. Such an arrangement could be possible for a local telephone
6 company, but probably only as part of a service package requiring the
7 customer to use a certain provider for long distance or other services,
8 since the local telephone company would need enough of a
9 guarantee of usage (potentially including overpricing of that usage)
10 to recover the initial basic service subsidy. Local telephone
11 companies would presumably need regulatory approval to offer such
12 specialized packages, particularly to allow customers an ability to
13 waive their right to choose alternative long distance companies as
14 part of an optional service package. In any event, the local service
15 provider would presumably try to limit this offering to customers it
16 expected would use the phone enough to pay back the access cross-
17 subsidy, perhaps by requiring a minimum monthly bill that would
18 include some usage bundled in. Of course, there's not much
19 difference between a minimum monthly bill and a basic rate of the
20 same amount.

21
22 There are also some good reasons to ask whether such packages
23 would be attractive to customers, since calling prices in such
24 packages would need to be set well above cost to pay for the cross-
25 subsidy, keeping customers from gaining the full value they want from

1 using the telephone network. I will use a stylized example to help
2 illustrate this point.

3
4 Consider a customer for whom the incremental cost of basic local
5 service is \$26 per month, and who can be provided with long distance
6 service for an additional incremental cost of 2 cents per minute. We
7 will assume these are also the underlying costs for each of the
8 competitive carriers I will describe. The customer's present carrier
9 charges him \$12/month for basic local service, and 10 cents/minute
10 for long distance calling; based on those prices, the customer makes
11 200 minutes per month of long distance calls. Thus, this hypothetical
12 customer would have an incremental cost of service of \$30 (\$26 for
13 basic service plus 200 minutes of long distance at 2 cents each), and
14 be paying \$32/month in revenues (\$12 for basic service and \$20 for
15 long distance calls), thereby covering incremental cost and making a
16 contribution to joint and common costs of \$2. This example would
17 seem something like "giving away the razor to sell the blades."

18
19 However, a competitor could take this customer away by charging
20 more for basic monthly access and less for calling. For example,
21 Competitor A might offer a competing monthly basic service price of
22 \$22 and a long distance price of 5 cents per minute, for a total
23 monthly bill of \$32 for the same calling (\$22 for basic service and 5
24 cents for each of 200 long distance minutes). But there's a
25 difference. Competitor A's package is better for the customer

1 because it would allow him to have exactly what he had before, plus
2 an improvement: The new ability to place additional long distance
3 calls for a lower price (5 cents instead of 10 cents). Indeed, since the
4 amount of long distance calls customers make is sensitive to the price
5 (customers call more at lower prices), customers would in fact make
6 more calls under Competitor A's pricing plan, making both them and
7 Competitor A better off as a result. The customers would gain the
8 benefits of making additional calls, while Competitor A would gain
9 because each extra call creates 3 cents per minute in contribution (5
10 cents in revenue minus 2 cents in incremental cost equals 3 cents in
11 contribution).

12
13 But the competitive process might not stop there: Competitor B could
14 offer a monthly basic service price of \$26 and a per-minute price of
15 3 cents. That package would give the customer what he had to begin
16 with (a \$32 monthly bill for basic service plus 200 minutes of calling),
17 but an even better option: The ability to make extra calls for 3 cents
18 per minute. Of course, the most competitive package of all could be
19 provided by Competitor C, charging \$28 for basic service plus 2 cents
20 per minute for long distance calling.

21
22 While this is a stylized example, it does point out an important
23 competitive dynamic based on established principles of economics:
24 That the market will tend towards cutting the price of that component
25 of the service package to which customers are price-sensitive, that is,

1 the service(s) customers will buy more of when the price is cut. At the
2 same time, the price of access will tend to rise to cover at least its
3 incremental cost, plus most or all of the contribution towards joint and
4 common costs that is to be recovered. The market does this because
5 the result is to make customers better off, and customers tend to pick
6 the service provider that gives them the deal they like best. While
7 such an example cannot reflect all competitive circumstances that
8 might occur, it does illustrate how prices that better reflect both
9 underlying costs and the nature of customer demands are not only
10 better for customers, but also more likely to prevail in a competitive
11 market.

12

13 **Q. CURRENT FEDERAL-STATE SEPARATIONS POLICY**
14 **ALLOCATES A PORTION OF THE LOOP TO THE FEDERAL**
15 **JURISDICTION, WHERE IT IS RECOVERED THROUGH FEES**
16 **THAT INCLUDE USAGE-BASED ACCESS CHARGES. HOW IS**
17 **THIS RELEVANT TO THE COST TREATMENT OF A LOOP?**

18 **A.** Separations is a process needed to satisfy the legal distinction
19 between state and federal jurisdictions, and the related need to split
20 telephone investments, expenses and revenues between jurisdictions
21 even if the results are arbitrary. Where the separations process has
22 performed allocations of cost, revenue, or investment, those results
23 have no economic significance. Historically, separations also served
24 as a means to redefine "costs" to match political notions of pricing -
25 thereby turning upside down the economic principle that prices

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should be based on costs.

For example, the subscriber plant factor (SPF) approach to this allocation was adopted for political and administrative ease in a monopoly environment; and the current 25 percent allocation to interstate resulted from a 1983 FCC decision adopting a Joint Board recommendation to abolish the prior SPF formula because of the access charge disparities it created across the country. *Oettinger, Anthony G. and Carol L. Weinhaus. Behind the Telephone Debates (Ablex Publishing Company, 1988), pages 93-103.* Thus, the fact that 25 percent of the loop is allocated to the federal jurisdiction (or that separations exists at all) says nothing about the actual way costs are incurred, or the best way for prices to recover costs to benefit customers and the economy. Indeed, assigning all loop costs and revenues to a single jurisdiction could be a helpful step forward in rationalizing telephone service prices.

Q. HOW CAN THE COMMISSION CONCERN ITSELF WITH ECONOMIC PRINCIPLES FOR TELEPHONE PRICING WHEN IT ONLY OVERSEES A PORTION OF THE INDUSTRY WITHIN ITS JURISDICTION?

A. What customers pay for telephone service is a combination of the prices set in each jurisdiction; therefore, if both the FCC and the Commission set prices appropriately, customers and the economy can still have the benefits of economically-sound pricing. And the

1 FCC has acted to rationalize the way its share of loop costs are
2 collected, first by establishing the SLC as a fixed monthly charge, and
3 then by establishing the fixed monthly customer access charge (the
4 PICC) now paid by long distance companies (and presumably to be
5 passed through to customers in the marketplace). The undeniable
6 pattern of federal pricing reform has rebalanced rates away from
7 usage-based charges, and onto fixed monthly charges, allowing
8 customers to benefit from considerably greater use of the telephone
9 personally, but also from the stimulus to the economy that has been
10 provided by more extensive use of the telecommunications by
11 businesses

12
13 Thus, while the Commission does not have jurisdiction over the entire
14 picture of local telephone pricing, it has by far the greatest share. By
15 acting much as the FCC has with the portion of the industry it
16 oversees, the Commission can assure that the total rate and bill
17 picture seen by the customer will maximize the usefulness and
18 benefits of Florida's telephone networks for everyone.

19
20 **Q. HOW DID THE DISTRICT OF COLUMBIA COURT OF APPEALS**
21 **ADDRESS LOOP COSTS WHEN REVIEWING THE FCC'S**
22 **ORIGINAL DECISION TO ASSESS INTERSTATE SUBSCRIBER**
23 **LINE CHARGES (SLCs)?**

24 **A.** In its 1984 opinion reviewing the FCC's decision to impose per-line
25 subscriber line charges (NARUC v. FCC, 737 F.2d 1095 (1984)), the

1 D. C. Circuit Court of Appeals stated the following with respect to the
2 cost characteristics of local loops, and how those relate to
3 appropriate recovery of those costs:
4

5 "Plant costs are nontraffic sensitive when they do not vary with
6 the extent to which the facilities are used. The basic cost of
7 installing and maintaining a local loop, for example, remains
8 the same whether the subscriber, or 'end user,' uses the loop
9 to make one call or a hundred, and whether those calls are
10 local or long-distance." (Opinion, page 1104)
11

12 "The end user charge reflects costs caused not by a
13 subscriber's actually making interstate calls, but by the
14 subscriber's connection into the interstate network, which
15 enables the subscriber to make interstate calls. The same
16 loop that connects a telephone subscriber to the local
17 exchange necessarily connects the subscriber into the
18 interstate network as well. Under *Smith*, a portion of the costs
19 of that loop are assigned to the interstate jurisdiction, for
20 recovery under the regulatory authority of the FCC, on the
21 basis of a complex division taking into account statistical
22 calling patterns. That separations decision, however, does not
23 affect the cost of the loop. Local telephone plant costs are
24 real; they are necessarily incurred for each subscriber by
25 virtue of that subscriber's interconnection into the local

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network, and they must be recovered regardless of how many or how few interstate calls (or local calls for that matter) a subscriber makes." (Opinion, pages 1113-14)

"Every telephone subscriber is automatically connected through the same subscriber plant into both the local exchange and the interstate network. No subscriber can avoid 'causing' those costs of its telephone line allocated to the interstate jurisdiction." (Opinion, page 1115)

Q. ANOTHER CHALLENGE TO YOUR POSITION IS THE CLAIM THAT A LOOP IS A BASIC SERVICE COST ONLY IF THE CUSTOMER BUYS BASIC SERVICE AND NOTHING ELSE. THEREFORE, THE ARGUMENT GOES, ASSIGNING THE LOOP TO BASIC SERVICE AMOUNTS TO SECOND-GUESSING WHAT THE CUSTOMER INTENDS TO BUY. CAN YOU COMMENT?

A. This argument is pointless and circular. What matters is what actions cause the cost – and signing up for any kind of telephone service requires a loop in its entirety. Thus, I am not presupposing anything about whatever else the customer will buy, because it doesn't matter I can see how someone who has already decided that a loop should be allocated among different services might worry about keeping track of what use a customer makes of the phone – because the "cost" of a loop would jump around every time a call was made. But

1 the reality of cost causation has nothing to do with such a mental
2 exercise.

3

4 **Q. WITH RESPECT TO THE COST OF THE LOOP, WHAT OTHER**
5 **CLAIM DID YOU REBUT PREVIOUSLY THAT YOU EXPECT TO**
6 **SEE AGAIN IN THIS DOCKET?**

7 **A.** In his testimony in Docket No. 980696-TP, Mr. Joseph Gillan
8 (appearing on behalf of the Florida Competitive Carriers Association)
9 claimed that the local loop is not just a cost of basic local service, but
10 that it also helps "provide" other services and is so mixed up with
11 them that it can't be separated out. Thus, Mr. Gillan said, the local
12 loop could not be considered just as a cost of basic local service
13 when testing which services are subsidized.

14

15 On this basis Mr. Gillan found himself on the horns of a dilemma of
16 his own creation -- that if the cost of the loop and the switch is
17 considered as part of basic telephone service, one could calculate
18 that a given customer's basic telephone service is subsidized even
19 though that customer's local telephone company may be making a
20 profit from that customer, due to sales of other services to that
21 customer. That concerned Mr. Gillan at the time, as it may still. But
22 as I demonstrated before, Mr. Gillan's "dilemma" is not real, and his
23 concerns are easily addressed using correct economics and common
24 sense.

25

1 Q. WHAT IS WRONG WITH MR. GILLAN'S ASSERTION THAT THE
2 COST OF THE LOOP IS SOMEHOW INEXTRICABLY MIXED UP
3 WITH A VARIETY OF SERVICES IT HELPS "PROVIDE," ASIDE
4 FROM BASIC LOCAL TELEPHONE SERVICE?

5 A. Mr. Gillan is incorrect, since the loop is a cost of basic local services
6 and nothing else, as I have already explained. Therefore, Mr. Gillan's
7 "dilemma" is imaginary, since his basic premise is wrong.

8
9 Q. HOW DID MR. GILLAN PROPOSE TO RESOLVE HIS SELF-
10 CREATED DILEMMA, AND WHAT IS WRONG WITH HIS
11 PROPOSAL?

12 A. Mr. Gillan proposed that subsidies be calculated only with respect to
13 an overall bundle of services a customer might buy - so that, for
14 instance, a customer who buys offsetting amounts of services that are
15 priced high and low be considered to be receiving no subsidy at all,
16 and requiring no universal service support. Through this approach
17 Mr. Gillan assumes away the problem by asserting, in essence, that
18 cross-subsidies don't matter so long as they seem to add up and
19 offset each other. Of course, cross-subsidies have two sides: One
20 pays in, and one is paid out. But it's just circular reasoning to claim
21 that there's no subsidy of concern so long as it seems to be paid for at
22 the minute. The whole point of the legislative mandate for the
23 Commission to report on "the relationships among the costs and
24 charges associated with providing basic local service, intrastate
25 access, and other services provided by local exchange

1 telecommunications companies" is to identify where those implicit
2 subsidies exist. (Chapter 98-277, sec. 2(1), General Laws of Florida.)
3 Then they can either be eliminated through pricing reform, or made
4 explicit and supported through universal service funding. Mr. Gillan's
5 assertions are of no help in getting that job done.

6

7 **Q. WHY ISN'T A LOOP A COMMON COST OF SEVERAL SERVICES**
8 **IF, ONCE IT IS INSTALLED, IT CAN BE USED (ALONG WITH**
9 **OTHER TELEPHONE COMPANY CENTRAL OFFICE FACILITIES)**
10 **TO PROVIDE A GROUP OF SERVICES AT LITTLE OR NO**
11 **ADDITIONAL INCREMENTAL COSTS? DOESN'T THIS ARGUE**
12 **FOR ALLOCATING THE LOOP AND THOSE CENTRAL OFFICE**
13 **FACILITIES AS COMMON COSTS OF MULTIPLE SERVICES?**

14 **A.** No; just because a modern telephone network has many capabilities
15 does not make the loop a common cost. It so happens that setting a
16 customer up to have basic service offers a variety of capabilities right
17 away, as well as the ability to access many other services at a low
18 incremental cost. Therefore, a basic connection to the network --
19 purchased as a part of basic service -- brings a considerable amount
20 with it for the benefit of the customer. So what's the significance of
21 that?

22

23 Advocates of allocating the loop would say that because a variety of
24 services are made possible by a basic network connection, the costs
25 of the loop should therefore be split up among these various services

1 (like touch tone, call waiting, local usage, etc.), so that the price of
2 each might reflect a portion of the loop's cost. But that approach
3 ignores the reality of modern technology, which happens to provide
4 capabilities like these in one bundle that represents the entry-level
5 purchase one can make of telephone service. Whether or not these
6 the customer uses every part of that bundle does not change the cost
7 of the loop; and how these additional services are priced has nothing
8 to do with how the costs of modern telephone service actually occur.
9 In particular, there is no savings of loop costs when a customer buys
10 basic service but doesn't do anything more with the phone (e.g.,
11 makes no long distance calls, or doesn't use vertical services). The
12 entire loop cost is still there, even if the customer does not make full
13 use of the benefits that the network makes possible.

14
15 Thus, to connect any customer to the telephone network is going to
16 cause the *whole* cost – but also create the whole bundle, which
17 includes the ability to use many vertical services and make toll and
18 local calls at little additional expense to the telephone company. If
19 retail prices were based on these cost relationships, the price of basic
20 service might cover the entire fixed monthly cost, while vertical
21 services and long distance calling might be priced far lower than they
22 are today (e.g., calls to anywhere in the country might run a few cents
23 per minute). However, this attractive proposition is not what
24 customers now get from their regulated telephone service prices.

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In any event, this argument provides no basis for claiming that the costs of the loop should be allocated to these other services.

SECTION 3: PRICING REFORM TO BENEFIT RESIDENTIAL CUSTOMERS

Q. WHY DO PRICES OF TELEPHONE SERVICES MATTER AT ALL? WHY CAN'T THE COMMISSION OR THE LEGISLATURE JUST SET THEM AT ANY LEVELS THEY WANT TO?

A. Pricing is a core concept in economics, whether in a regulated monopoly or market context. Economically-sound prices help markets work better, and help customers, companies and society in general get the most out of the resources we have available. The study of economics has identified how prices will be set in a market (or should be set by a regulatory agency) to help the economy work as well as possible, and help us all get the most out of what we make and use. The Commission and the Legislature can benefit the public by following these principles in setting prices – including determining the cost of universal service and an associated level of explicit universal service funding.

Perhaps most importantly in helping customers and firms be as well off as possible, economically-sound prices should reflect the actual cost of what is being made or used. The usual way this rule is illustrated is to show what happens if prices are set either above or

1 below cost. Above-cost prices force customers to buy too little of
2 something, and also give the wrong signal to firms by encouraging
3 them to overproduce that product. Below-cost prices encourage
4 customers to buy too much of something, and discourage firms from
5 producing enough of that product. In either situation, essential
6 economic signals are skewed, and the economy as a whole (including
7 consumers) is harmed by the waste that results. As one further
8 complication, industries like telecommunications tend to have shared,
9 joint or common costs that also need to be recovered in addition to
10 the direct cost of a product; as a general matter, these other costs are
11 best recovered through the markups the market will permit on various
12 products, over and above the direct cost of the product in question.

13
14 I recognize that this introduction is rather basic, and reflects concepts
15 the Commission has undoubtedly considered before. But this basic
16 framework is critical for understanding how the local loop fits into
17 telephone service pricing, even if such principles are often forgotten
18 or overlooked in the din of political debate about these issues.

19
20 **Q. PUTTING ECONOMIC ANALYSIS ASIDE FOR A MOMENT, WHAT**
21 **DO YOU BELIEVE THE GENUINE MOTIVE TO BE FOR THE**
22 **DESIRE TO ALLOCATE THE COST OF THE LOOP?**

23 **A.** I believe that interest in attempting to allocate the cost of the loop
24 arises from a desire to preserve the status quo – and a fear that
25 raising basic rates would drive people from the network or cause

1 numerous consumers to complain loudly. Alternatively, on the
2 assumption that basic rates might not be raised significantly, some
3 advocates of loop allocation may not want the Legislature to adopt a
4 universal service fund of the size truly needed to comply with the
5 Telecommunications Act of 1996; so allocating the loop becomes a
6 way to pretend that subsidies are smaller than they really are. There
7 could also be the fear that either of these scenarios would be
8 politically problematic.

9

10 **Q. IN YOUR EXPERIENCE, ARE SUCH FEARS WELL-FOUNDED?**

11 **A.** No. Provided that policy makers approach the process with common
12 sense and a command of the facts, a decision to reform rates to
13 reflect costs does not have to become a political calamity of any kind.
14 As for the facts, they tend to show that pricing reform benefits
15 customers as a whole, including large numbers of residential
16 customers individually, and that adverse impacts are far less
17 prevalent or consequential than many seem to assume. Indeed,
18 pricing reform may increase the number of telephone subscribers,
19 and will certainly promote competition. Further, by studying actual
20 customer bills and usage, companies, regulators, and lawmakers can
21 design pricing reform programs to minimize adverse or abrupt
22 impacts.

23

24 Of course, the provision for explicit universal service funding in the
25 Telecommunications Act of 1996 provides a tool for addressing

1 concerns about basic rates in high-cost areas, or for customers who
2 face genuine affordability concerns.

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Q. HOW DOES THE CURRENT FLORIDA RATE STRUCTURE HARM RESIDENTIAL CUSTOMERS?

A. Today's rate structure harms Florida customers in a variety of important ways:

- Calling prices set high to subsidize basic service prices force residential customers to use the phone less, causing real economic losses that are not offset by any related benefits;
- Subsidized "basic" rates are anticompetitive, blocking competition from reaching residential customers;
- Forcing some residential customers to subsidize others is unfair;
- Given the average residential telephone bill of \$49.05/month among GTE customers in Florida, most customers probably *subsidize themselves* on the same bill to at least some extent – within their total telephone bill, the basic service rate isn't any more important than other prices to the average residential telephone user.

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Thus, current cross-subsidies in Florida telephone prices are harming residential customers in exchange for no particular public policy benefit.

Q. WHAT ARE THE BENEFITS OF REFORMING RATES TO REFLECT THE ACTUAL COSTS OF SERVICE?

A. Pricing reform can create many benefits for customers, including the following:

1. Letting customers use the telephone network:

Sometimes there is a free lunch in economics where customer benefits can be created at no cost, and fixing bad telephone pricing is a prime example. Customers make more calls when the price of calling is cut. Those additional calls benefit the economy, and do constitute a "free lunch" for customers as a group.

In economic terms, there is a significant price elasticity of demand for toll and long distance calling, and substantial consumer surplus is created when calling prices are reduced towards their economic cost. Nationwide, this potential gain has been estimated a number of times, and the answer is usually that mispricing is costing the nation's economy billions of dollars a year, even though some progress towards cost-based prices has been made in the last decade.

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2. Bill fairness for customers:

Residential customers who have been paying high rates for calling and vertical features to support the cross-subsidy of below-cost BLS can see lower bills; and, even customers whose total bill was being subsidized (whose bills may go up) can benefit by using the phone more. And as I indicated, some non-Florida customer bill data suggests strongly that minority customers and families are among those harmed the most by current pricing.

3. Removing roadblocks to competitive choice for residential customers:

Mispricing impedes competition since a below-cost price is anticompetitive – even when mandated by government. The Commission is standing in the way of competition wherever it requires a below-cost price for service, as with residential basic local service. Pricing reform can allow residential customers to become a viable market for competitors, a goal I understand the Commission has pursued for some time.

4. Ending perverse regulatory incentives for competition to focus only on a limited number of services and customers:

Mispricing artificially directs competitors towards certain customers who tend to buy large amounts of the services regulation has overpriced (such as toll or long distance calling,

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or business basic local services). Mispricing also gives an excessively strong signal to those customers who can do so to build private networks as an alternative to paying high regulated prices. Both problems encourage overspending and overinvestment among certain customers (or for certain services), problems that pricing reform can alleviate.

5. Helping resale and unbundling be viable competitive options: Rational retail prices will make unbundling and resale work better. Mispricing creates arbitrage opportunities between a local exchange company's wholesale and retail prices. Pricing reform reduces such artificial disparities and thereby reduces tensions related to unbundling and resale.

Q. WHAT PROBLEMS CAN BE CREATED BY BRINGING PRICES MORE IN LINE WITH ECONOMIC COSTS?

A. Generally, ending an economic distortion like mispricing solves the problems the distortion caused; it does not create new ones. However, a number of political concerns can arise:

- While many customer bills will be cut and others little affected, some customers will probably pay more if prices are rationalized. They may object.
- Fears will be expressed that pricing reform will threaten universal service.

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- Competitors who have built a business strategy around profiting from mispricing may be hurt by cost-based prices.
- Tactically, telephone company opponents and competitors may try to hold pricing reform hostage in the regulatory or political process in exchange for gains they want at the expense of incumbent telephone companies.

However, there is a reasonable and appropriate response to each of these concerns:

- Cost-based rates are fair. Customers whose bills go up are losing what amounted to a position of privilege, rather than being asked to assume a burden of some kind. While it is understandable why someone might prefer to be subsidized indefinitely, it is hardly unfair for a customer to be asked to pay the full cost that one's service imposes.
- Cost-based rates will not threaten universal service, for a variety of reasons:
 - Economic studies and experience consistently show that customer demand for basic service is almost entirely insensitive to its price. This means that any reasonable pricing reform simply will not harm universal service. Where a particular cost-based price might be prohibitive, Florida has authority to establish explicit universal service funding to fill

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the gap between the cost of service and a price the Commission or the Legislature considers reasonable. Claims that substantial numbers of customers will give up service in response to reasonable basic service rate increases are just untrue, especially when reductions in the prices of other services (especially toll and long distance) are taken into account along with the opportunity for explicit universal service funding. Indeed, when the FCC rebalanced prices by ordering the \$3.50 SLC charge (as an offset to interstate access charge reductions that led to reduced interstate calling prices), the number of telephone subscribers actually increased as a result. I discuss this and other pricing reform experiences below.

••Even though pricing reform will not harm universal service, the Commission will also retain all the tools it needs to keep telephone service affordable by whatever criteria it wishes to consider. In economic terms, the definition is that people find something affordable if they buy it; and indeed, to the extent pricing reform may improve universal service, telephone service will be more affordable. However, universal service support and the timing of any pricing transition can be used to address other definitions of affordability that may be less well defined, but still politically significant. Accepting the correct definition of basic service costs will not threaten these tools in any way.

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- Some competitors may rue the loss of high margins they may have made from competing against artificially high prices ordered by regulation. Some may even have made related investments, which rational pricing could devalue. However, one of the objectives of pricing reform is to diminish excessive and artificial competitive interest in certain customers brought about by the wrong economic signals mispricing sends to the market.
- Opportunism in the regulatory or political process is an old story, and the potential for some to try to delay pricing reform for their own ends is no reason to abandon the effort.
- Pricing reform does not need to be dramatic or sudden. Prices can be changed through a number of steps after studying potential customer impacts to minimize any related disruption or concerns about rate shock. At the same time, by making a clear commitment to reform, Florida authorities can send a message to those who are putting telecommunications infrastructure in place that they should not count on mispricing to justify future investments. Similarly, knowing that pricing reform will occur creates the right incentives for competitors to invest to serve residential customers.

Q. TO HELP GAUGE THE GENUINE IMPACTS OF PRICING REFORM, HAVE YOU BEEN ABLE TO OBTAIN INFORMATION ON THE

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**ACTUAL MONTHLY BILLS OF RESIDENTIAL CUSTOMERS IN
FLORIDA?**

A. Yes. In Florida, the average GTE customer using flat rate service has a bill of \$49.15 in 1997. Of that total, only 30 percent (\$11.36 for basic local service plus the \$3.50 SLC) relates to basic service.

In other words, the price of basic service is only a minor part of what residential customers buy. Claims to the contrary (that the price of basic service is critical to the welfare of residential customers) are just wrong on the facts, and advocates who support overpricing other services to subsidize the price of basic service are actually harming residential customers by denying them competitive choices and suppressing their ability to use the telephone, as I document below.

This average includes flat rate basic local service, the \$3.50 primary-line federal SLC, vertical services, toll and long distance calling (including an estimate of non-GTE long distance based on access revenues), and applicable surcharges and taxes (calculated for a Tampa resident).

**Q. DOES THE SAME RELATIONSHIP BETWEEN THE BASIC
MONTHLY RATE AND THE TOTAL BILL HOLD TRUE FOR
FLORIDA CUSTOMERS OF VARYING INCOME LEVELS?**

A. Yes, it does as these data show:

| | <u>Income Level</u> | <u>Basic Service</u> | <u>Total Bill</u> |
|---|---------------------|----------------------|-------------------|
| 1 | | | |
| 2 | Less than \$10,000 | \$13.10 | \$41.58 |
| 3 | \$10,000 – \$19,999 | \$12.73 | \$43.22 |
| 4 | \$20,000 – \$39,999 | \$13.35 | \$46.82 |
| 5 | \$40,000 – \$59,999 | \$14.47 | \$52.41 |
| 6 | \$60,000 and up | \$15.58 | \$56.76 |

7

8 At every income level, basic service is only a fraction of the average
9 total bill for GTE's Florida customers. These totals are as of March,
10 1998, and include both flat and measured service customers, while
11 not including applicable taxes and fees (which are about \$4 of the
12 \$49.15 overall average cited above).

13

14 **Q. TO DRAW FROM ANOTHER STATE, WERE YOU RECENTLY**
15 **ABLE TO OBTAIN CUSTOMER BILL INFORMATION IN INDIANA?**

16 **A.** Yes, Ameritech Indiana was able to provide that information for an
17 analysis of pricing reform I undertook. It included the entire range of
18 telecommunications purchases by Ameritech Indiana customers. The
19 average monthly telecommunications spending for residential
20 customers in Indiana is \$67.95, including basic local service, local,
21 local toll, long distance, calling card, cellular and paging services.
22 Excluding paging and cellular services, the average monthly
23 telephone bill is \$54.10. These figures compared to a typical
24 Ameritech Indiana basic service monthly charge of \$16.01 (\$12.51 +
25 \$3.50 SLC).

1 Thus, the Indiana data was consistent with what we see for GTE
2 customers in Florida. On average, the basic service price is only 30
3 percent of an Indiana residential customer's phone bill, and only 24
4 percent of their average spending on telecommunications.

5
6 **Q. WHAT AVERAGE BILLS DO MINORITY CUSTOMERS PAY IN**
7 **INDIANA, AND HOW DOES MISPRICING AFFECT THEM?**

8 A. In Indiana, African-American customers spend an average of
9 \$89.09/month on telecommunications (including cellular and paging),
10 or approximately \$67/month on the telephone bill (without cellular and
11 paging). Thus, it appears that mispricing is particularly harmful to
12 African-American customers in Indiana, to whom pricing reform could
13 be especially beneficial.

14
15 **Q. WHAT ABOUT ELDERLY OR LOW-INCOME CUSTOMERS, OR**
16 **FAMILIES?**

17 A. Indiana senior citizen customers spent somewhat less than the
18 average, as did low income customers. Still, both groups had
19 sizeable average bills:

20

| <u>Customer Group</u> | <u>Total Telecom</u> | <u>Telephone Bills Only</u> |
|---------------------------------------|----------------------|-----------------------------|
| 23 55 years and older: | \$52.16 | \$44.73 |
| 24 Incomes less than | \$45.92 | \$41.70 |
| 25 \$20,000/year | | |

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Even for these customers, the "basic" rate amounted to less than half the average telephone bill. Pricing reform may also offer benefits to these customers, or at least affect their total bills by considerably less than some may have feared.

Indiana families with children have somewhat higher than average telephone bills, particularly families with teenagers (whose telephone bills average about \$69/month). Thus, current telephone service pricing also appears to disadvantage families.

Q. HAS GTE RECENTLY STUDIED RESIDENTIAL CUSTOMER BILLS IN WASHINGTON STATE?

A. Yes, in connection with a presentation I helped make to the Washington Utilities and Transportation Commission, GTE's Dr. Robert Tanimura presented average customer bill amounts (including an estimate of the long distance portion of the bill) from 1997 data. By comparison to the average basic rate of \$12.64, the total residential customer bill was \$45.20. Including the \$3.50 SLC, the basic rate is only 36 percent of the average residential bill for GTE's Washington customers.

Q. IF RESIDENTIAL CUSTOMERS BUY LIBERAL AMOUNTS OF OTHER SERVICES, WHY DOES THE PRICE OF BASIC SERVICE NEED TO COVER ALL OF THE COST OF THE LOOP? AREN'T PHONE COMPANIES ACTUALLY MAKING UP THE COST DEFICIT

1 **IN BASIC SERVICE RATES FROM OTHER REVENUES?**

2 A. My understanding is that other revenues currently offset the financial
3 loss suffered by GTE in Florida on residential basic service, although
4 local telephone companies face particular competitive risk with
5 respect to revenues from services regulation has priced artificially
6 high. Note also that average customer bills I report include long
7 distance services provided by long distance companies, not local
8 telephone companies; even though long distance bills are part of this
9 issue (because they are affected by mispricing), local telephone
10 companies only receive a portion of those revenues indirectly through
11 access charges paid by long distance companies.

12
13 However, the need for pricing reform goes beyond the financial
14 integrity of local telephone companies, or forecasts about how that
15 integrity will be affected by competition. Quite apart from those
16 concerns, economically rational prices for telephone services will
17 make *customers* better off while removing a huge impediment to
18 competitive options for the residential market. Regardless of the
19 prognosis for competitive impacts on local telephone company
20 revenues, the Commission and the Florida Legislature should seek
21 better telephone service prices because they are more fair, they will
22 benefit residential customers and they are in the public interest. Even
23 if there were no competition, pricing reform would be in the best
24 interests of customers. That is an important reason why an allocation
25 of the costs of the loop would be a large step in the wrong direction.

1 Q. WHAT OVERALL CONCLUSIONS CAN YOU DRAW BASED ON
2 FROM ACTUAL CUSTOMER DATA FROM FLORIDA, INDIANA
AND WASHINGTON?

4 A. The data reinforce several critical points the Commission should
5 recognize:

6
7 ● Customers don't pay rates, they pay bills -- and effectively
8 subsidize themselves based on the total bills they pay. Any
9 analysis of pricing reform has to look at total bill impacts.

10
11 ● On average, it is obvious that residential customers in these
12 states make considerable use of the phone, and that non-basic
13 service charges dwarf what customers pay for basic service.
14 Contrary to the traditional arguments of many who oppose
15 pricing reform, based on the facts it's just not true that the
16 price of basic service alone determines the welfare of the
17 average residential customer.

18
19 ● In Indiana, minority customers and families appear to be losers
20 due to today's regulatory pricing policies. The Commission
21 should seek similar data for Florida to see whether its current
22 pricing policies are actually hurting people one might presume
23 they should try to help.

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- Even though any change in rates must change bills (and increase what some people pay), there is the clear potential in Florida for pricing reform to benefit many customers outright, and provide many others with at least some rate reduction offsets to any basic service price increases they might see.

- The Commission would make a big mistake by embracing one fallacy to support another – by deciding to allocate the cost of the loop due to fears that basic service price increases would cause great harm to residential customers. Instead, the facts belie those fears, and point to important opportunities for customer benefits through pricing reform.

Q. LET'S TURN FROM HOW PRICING REFORM WOULD AFFECT RESIDENTIAL CUSTOMERS ON AVERAGE AND FOCUS ON UNIVERSAL SERVICE AND THE SMALL GROUP OF CUSTOMERS WHO MIGHT HAVE TROUBLE STAYING ON THE NETWORK. TO BEGIN WITH, FOR WHAT REASONS DO PEOPLE LACK TELEPHONE SERVICE?

A. It's not the basic monthly rate. A number of studies have shown that the primary factors are an inability to pay high calling charges (e.g., long distance), and/or an inability to pay the initial connection fee or deposit to establish service -- including the deposits that can be required to restore service when it has previously been disconnected for non-payment. Several such studies are discussed in *The*

1 *Evolution of Universal Service in Texas*, *The University of Texas At*
2 *Austin, Lyndon B. Johnson School of Public Affairs Research Report*
3 *Number 116 (1995), Chapter 2.* An important approach that was
4 used in these studies was interviewing people who did not have
5 telephone service, or who had service at one point but gave it up.
6 Here again, actual data about customers is important, and can
7 change the pricing debate in critical ways.

8
9 Of course, these results are consistent with economic studies of the
10 price elasticity of basic service, which show that variations in the price
11 of basic service have virtually no impact on the number of customers
12 who subscribe. Those study results are based on statistical analysis
13 of how large numbers of customers actually behave when the price
14 of telephone service changes. Over the years, such price elasticity
15 studies have shown very consistent results, which only adds to their
16 credibility and reliability.

17
18 Indeed, as I will discuss below, careful study of how customers
19 actually behave has shown that a given percentage change in long
20 distance prices has the same (quite small) impact on universal
21 service as would a comparable change in the "basic" monthly rate.
22 In other words, a policy of overpricing long distance prices will drive
23 away about as many (or more) customers as might be attracted by a
24 policy of underpricing the "basic" monthly rate.

25

1 Q. WHEN IT INVESTIGATED THE LINKAGE BETWEEN BASIC
2 RATES AND UNIVERSAL SERVICE, WHAT DID THE CANADIAN
3 RADIO-TELEPHONE COMMISSION (CRTC) CONCLUDE IN 1996
4 ABOUT WHY SOME CANADIANS LACK TELEPHONE SERVICE?

5 A. The CRTC concluded that the price for basic service was not a barrier
6 to universal service. The CRTC stated:

7
8 "...the major obstacles to obtaining telephone service for low income
9 Canadians are the payment of up-front installation charges and
10 security deposits...[and]...the predominant reason for subscribers
11 dropping off the telephone network is the inability to pay long
12 distance bills." *CRTC Telecom Decision 96-10, November 15, 1996,*
13 *page 2.*

14
15 Q. DO SUBSIDIZED BASIC MONTHLY RATES ACTUALLY INCREASE
16 TELEPHONE PENETRATION?

17 A. If so, only in the slightest. For example, a recent study found that
18 lifeline subsidies – which are explicitly targeted at the poor who are
19 most likely not to have telephone service – have essentially no impact
20 on adding subscribers to the network. Nationwide (including 44
21 states), it was found that only one in twenty recipients of lifeline
22 subsidies would be without a phone but for the subsidy; in other
23 words, 19 out of 20 lifeline recipients would have had a phone
24 anyway, and were essentially receiving a cash subsidy for nothing.
25 *Garbacz, Christopher and Herbert G. Thompson, Jr. "Do Lifeline*

1 *Programs Promote Universal Telephone Service for the Poor?" Public*
2 *Utilities Fortnightly, March 15, 1997; pages 30-33. For Florida,*
3 *subsidies actually brought telephone service to only one in ten*
4 *recipients, with nine out of ten receiving subsidies for service they*
5 *would have had anyway.*

6
7 The fact that basic service subsidies are this ineffective at promoting
8 universal service among the poor simply reinforces the fact that
9 subsidized basic service has virtually nothing to do with the decision
10 to have telephone service among the general population. And as I
11 discuss below, if the source of support for basic service subsidies is
12 overpriced calling services, then the subsidy policy may even
13 decrease subscribership and harm universal service.

14
15 **Q. WHAT DO THESE RESEARCH AND REGULATORY FINDINGS**
16 **SUGGEST FOR REGULATORY POLICIES TO PROMOTE**
17 **UNIVERSAL SERVICE?**

18 A. Focusing on the specific reasons people lack service makes much
19 more sense than worrying about ineffective basic rate subsidies to all
20 customers. For example, programs to reduce the service connection
21 charge for poor households (especially for those who have previously
22 lost service) directly address such problems. Another beneficial
23 approach might be rate plans that let customers elect limited access
24 to long distance credit (as through a preset monthly credit limit).
25 Ironically (as I discuss below), to the extent pricing is driving

1 customers off the network, the blame might well be placed on the
2 same excessive prices for long distance calling that have been
3 justified by regulators as a means to keep basic rates low. It turns out
4 that pricing reform that reduces calling prices towards their actual,
5 low costs could even improve universal service.

6

7 **Q. PLEASE ELABORATE ON YOUR OBSERVATION THAT PRICING**
8 **REFORM CAN POSSIBLY BENEFIT UNIVERSAL SERVICE BY**
9 **ACTUALLY INCREASING THE NUMBER OF CUSTOMERS WHO**
10 **HAVE TELEPHONE SERVICE.**

11 **A.** There are two reasons why pricing reform might help universal
12 service.

13

14 The first is that sharp toll and long distance price cuts might directly
15 reduce the burden of excessive long distance bills on some low
16 income customers, thus allowing them to keep service they might
17 otherwise have lost for that reason.

18

19 The second reason is that pricing reform can increase both the price
20 *but also the value* of basic telephone service, and the increased value
21 can offset the impact of the price increase for a customer, or even
22 lead some customers to subscribe (or retain service) who otherwise
23 would not have. To understand this latter dynamic requires reviewing
24 the economics of telephone service from the customer's point of view.

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To begin, it helps to think about what a basic local service rate really buys. For a monthly charge, a customer gets two things: (1) the ability to receive calls and make certain calls at no extra charge (e.g., calling 911 or making local calls), and (2) the ability to pay an additional amount and make toll or long distance calls. In essence, one thing basic local service offers a customer is the option to buy more services. The more attractive and valuable those other services are, the more valuable is the basic local service to the customer, and the more he or she is willing to pay to have a phone in the first place. I like to use the example of a car: For which would a customer pay more -- a car for which gasoline costs \$10/gallon, or a car for which the same gasoline costs \$1/gallon? (Obviously, the latter.) The analogy is like local telephone service, where a substantial part of the value comes from what other services a customer can use the phone to purchase. And artificially high calling prices significantly degrade the value of telephone service for customers.

Therefore, while pricing reform may increase the price of basic service, it may also increase the value of telephone service as much or even more, making customers better off and potentially increasing telephone penetration. There is a common sense aspect to reform: It makes no sense to develop a modern telephone network and then set prices that effectively penalize customers for using it.

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Q. LOOKING BEYOND FLORIDA, CAN YOU CITE SPECIFIC CASES ELSEWHERE WHERE PRICING REFORM HAS OCCURRED WITHOUT ADVERSE IMPACTS ON UNIVERSAL SERVICE?

A. Yes. I can cite the California experience in which I played a role, and also nationwide experience at the federal level in the United States, and in New Zealand.

Q. WHAT WAS YOUR FIRST EXPERIENCE WITH PRICING REFORM AS AN ADVISOR TO THE CALIFORNIA COMMISSION?

A. In December, 1987 the California Public Utilities Commission (CPUC) decided a rate case for Pacific Bell. At that time, Pacific Bell's local, toll, and access charges were priced far above cost, while its residential basic service was priced far below cost. The obvious direction to benefit customers and the economy was to increase basic rates, and decrease the price of calling. Yet, the California Commission refused to do so, deciding (for example) to raise the basic rate only a dime, from \$8.25 to \$8.35 a month. The principal reason no further reform occurred was the alarmist objection of one of the Commissioners, who said that basic rate increases would harm the poor and the vulnerable, whom he (and others) thought would not benefit from offsetting reductions in the price of calling.

From that experience, I recognized something quite important: While the benefits of pricing reform were well-established with respect to

1 customers as a whole, the California Commission's decision not to
2 change rates turned on fears about the impacts on particular
3 subgroups of customers. Yet, no one making the decision (including
4 the Commissioner whose objections had proved so critical) had any
5 real facts about what those distributional impacts would be -- it was
6 all presumption.

7
8 This experience led me to try to obtain the facts to understand what
9 the true customer impacts of pricing reform might be. Some time after
10 the decision, I asked Pacific Bell and GTE California to provide
11 information on the distribution of customer bills and usage of various
12 services.

13
14 **Q. WHAT DID THE INFORMATION FROM THE TELEPHONE**
15 **COMPANIES REVEAL?**

16 **A.** The results were very interesting. The bill information revealed that
17 residential customers made numerous measured local and toll calls.
18 The price of basic service was only a portion of the average
19 telephone bill. Most customers made at least some use of the phone,
20 and some residential customers had very high bills due to artificially-
21 high calling charges. It was obvious that pricing reform would reduce
22 telephone bills for many individual residential customers, and that
23 most would get at least a partial offset to increased basic service
24 prices through savings on calling charges. The conventional wisdom
25 was wrong -- in fact, as is the case in Florida today, the basic monthly

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rate was not critical to the welfare of the average residential customer.

HOW WAS THIS INFORMATION FURTHER DEVELOPED AND FORMALLY BROUGHT BEFORE THE CALIFORNIA COMMISSION?

A. As part of a subsequent pricing reform docket (the Implementation Rate Design phase of CPUC I.87-11-033), Pacific Bell, GTE California and the major long distance companies were required to conduct detailed analysis of customer local and long distance calling patterns broken out by demographic factors such as age, income, and ethnicity. The results of these studies were introduced into evidence before the California Commission.

Q. WHAT DID THE FORMAL STUDY RESULTS REVEAL?

A. I will cite the example of GTE's study, although the results of Pacific Bell's study showed similar results with respect to its customers.

To begin with (and consistent with the data from Florida and Indiana), local charges (basic monthly service plus SLC, local usage and applicable surcharges) were generally less than 30 percent of the total customer bill. Contrary to what many had assumed, other charges were more important to the average residential customer than basic rates.

1 GTE California's proposal included increasing basic residential flat
2 rate service (what most customers buy) from \$10.55 to a new rate of
3 \$15.55 per month, increasing measured rate basic business service
4 (no flat rate business service is available) from \$9.10 to a new rate of
5 \$14.90 per month, leaving access charges unchanged, and reducing
6 intraLATA toll prices by an average of 34 percent. GTE calculated
7 related bill impacts two ways – by assuming customers would not
8 change their volume of calls, and in the alternative, by assuming that
9 customers would change their calling habits in the manner price
10 elasticities would suggest. The bill impacts reported were the
11 average of the two measures.

12
13 The analysis showed that pricing reform would reduce the average
14 residential bill. Low-income lifeline customers would also benefit
15 because they had significant toll and interLATA bills, but would be
16 shielded from much of the basic service increase. It's interesting that
17 certain minority group customers tended to make the most toll calls,
18 and therefore stood to receive the greatest benefits of pricing reform;
19 in particular, the total bills of African-American customers were 37
20 percent higher than for white customers. However, the data revealed
21 consistent patterns of toll and interLATA usage across all customer
22 segments, including the poor and elderly (with calling falling
23 somewhat for those over 65).

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1 Indeed, the benefits of pricing reform were spread across most
2 subgroups of customers. Only two groups came out behind, with the
3 worst adverse impact being those over 65, whose bills would increase
4 only 84 cents a month on average under GTE's proposal.

5

6 **Q. WHAT ABOUT THE DISTRIBUTION OF BENEFITS – WERE BILL**
7 **REDUCTIONS LIMITED TO A RELATIVELY FEW RESIDENTIAL**
8 **CUSTOMERS WITH HIGH TELEPHONE BILLS?**

9 A. Not at all. Overall, the GTE data showed that 40 percent of all
10 customers would see lower bills, while many others would see only
11 modest bill increases. Once again, these results were far different
12 than what had been assumed before.

13

14 Of course, there is no way to change rates without affecting bills: Any
15 rearrangement of prices will produce some winners and losers. Here,
16 at least the winners were those who had been overpaying for their
17 telephone services (relative to what they cost to provide), and the
18 losers were those who were now being asked to pay more of the cost
19 they had been causing all along. And everyone would have the
20 opportunity to call more often at the new, lower toll prices.

21

22 **Q. WHAT REFORMED RATES DID THE CALIFORNIA COMMISSION**
23 **ULTIMATELY ADOPT, AND WHAT IMPACT DID THEY HAVE ON**
24 **UNIVERSAL SERVICE?**

25 A. In Decision 94-09-065, the California PUC ordered rates rebalanced

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in a comprehensive fashion, including increases to residential basic rates, and offsetting decreases to other rates including toll and access charges. Residential flat rates for Pacific Bell (serving almost 80 percent of the state) increased from a level of \$8.35 to \$11.25 per month, while the corresponding rates for GTE California (serving nearly 20 percent of the state) were increased from a level of \$9.75 to \$17.25 per month. At the same time, toll rates and access charges were cut sharply. These rates went into effect January 1, 1995, and continue today.

Residential telephone penetration (units with a telephone, annual average) was 94.8 percent in 1994 according to FCC statistics. For 1996 the figure was 95.0 percent. Nationally, comparable averages were 93.8 and 93.9, respectively. Rate reform caused no adverse impact on subscribership in California.

Q. AFTER THE NEW RATES WERE PUT INTO EFFECT IN CALIFORNIA, WAS THERE A CUSTOMER OUTCRY DUE TO ANY RELATED IMPACTS?

A. No, there was not.

Q. WHAT LESSONS CAN THE COMMISSION DRAW FROM THE CALIFORNIA EXPERIENCE?

A. I see several important lessons.

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First, the facts are key. I believe that most jurisdictions, probably including Florida, have never examined how customers would really be affected by rate changes, even though concerns about such impacts are a major impediment to better pricing, or in this case, accurate costing that should lead to better pricing. When I was with the California Commission, I was excited by the opportunity to obtain such data, and I would think that the Commission and the Florida Legislature would feel the same way. For this reason, I have included Florida customer data in my testimony.

Second, an expert regulatory agency has a responsibility to take the lead in analyzing and explaining the need for change; certainly, the California Commission did under the leadership of Commissioner Wilk, the Commission President whom I advised. We found that opposition to rate reform was often based on a lack of information among various parties, the media or the public; additionally, we found that some groups that were supposed to represent consumers often responded to rate issues in what seemed to be a short-sighted fashion, rather than weighing the genuine interests of customers in light of the facts. In any event, we believed that it was our obligation to explain the real facts in an understandable way. Often (if not always), informed explanations helped to address concerns and fears.

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Third, reform will bring criticism from some of the predictable sources I mentioned above. However, by examining and explaining the facts, a regulatory agency can also develop political support for improved, pro-competitive pricing to benefit Florida.

Q. WHAT SUCCESSFUL PRICING REFORM EFFORT OCCURRED NATIONALLY THROUGH THE FEDERAL JURISDICTION, AND WAS STUDIED CAREFULLY FOR ITS IMPACTS ON UNIVERSAL SERVICE?

A. The FCC pricing reform that established the \$3.50 subscriber line charge (SLC) was a success, and was carefully studied by an award-winning economist who learned that the SLC actually enhanced universal service.

To elaborate, a significant proportion (25 percent) of the cost of basic telephone service has been allocated to the federal jurisdiction. The primary means of recovering this 25 percent has been through per-minute interstate access charges paid by long distance companies to local telephone companies to originate and complete long distance calls. Effectively, these interstate access charges have kept the price of long distance calling far above cost so that basic local telephone rates could be kept below their cost.

In the 1980s, the FCC established the \$3.50 residential subscriber line charge (SLC) and its business line equivalents. In so doing,

1 federal authorities effectively performed a measure of pricing reform
2 by reducing access charges (and therefore long distance usage
3 rates) and raising basic monthly rates. At the time, this measure was
4 highly controversial, with consumer groups claiming that millions of
5 customers would be forced off the network as a result.

6
7 In fact, the opposite occurred. Not only did subscribership not fall, it
8 actually increased following the adoption of the SLC. Indeed, careful
9 analysis found that the SLC actually increased telephone
10 subscribership, even though it effectively increased the basic rate by
11 \$3.50. How did this occur?

12
13 It turns out that the federal rate reform of establishing the \$3.50 SLC
14 actually increased telephone subscribership because the extra value
15 of being able to make cheaper long distance calls outweighed the
16 impact of the extra \$3.50 on the monthly basic rate. This was
17 established by Professor Jerry Hausman of M.I.T. and his co-authors
18 in a study published in the American Economic Review. Hausman,
19 Jerry, Tardiff, Timothy, and Alexander Belinfante. "The Effects of the
20 Breakup of AT&T on Telephone Penetration in the United States,"
21 American Economic Review, Vol. 83, No. 2 (May, 1993), pages 178-
22 184. While the effect was not large in absolute terms (the federal
23 policy increased telephone penetration by .45 percent, or an
24 additional 4 1/2 households per thousand), we can put it in context by
25 observing that as of 1996, only 6.1 percent of households nationwide

1 lacked telephone service -- so the positive impact of the federal rate
2 rebalancing was equivalent to about 7 percent of the remaining
3 households that lack telephone service.

4
5 Looking ahead, the SLC was only one step towards reform, since it
6 still left large gaps between costs and prices in most states. When
7 prices are not based on cost, the result is losses to consumers and
8 the economy that can be quite substantial. Professor Hausman has
9 estimated the nationwide annual loss to consumers due to telephone
10 service mispricing:

11
12 "Indeed, in the U.S., despite increases in the local
13 access rates and decreases in long distance telephone
14 prices following the divestiture of AT&T in 1984, I still
15 estimate the consumer welfare loss to residential
16 customers (in 1992) to exceed US \$1 billion per year.
17 The loss in economic efficiency is even greater with an
18 estimate of approximately US\$7 billion. Thus, the
19 historic policy of cross subsidy to encourage high
20 telephone penetration has been very costly to
21 consumers and the U.S. economy." *Testimony of*
22 *Professor Jerry A. Hausman," Canadian Radio-*
23 *Telephone Commission Public Notice 95-49, February*
24 *19, 1996 (footnote omitted).*

1 Unlike many economic problems, the remedy for these losses is
2 clearly understood, and well within the ability of government to
3 accomplish.

4
5 Also noteworthy were the dire, and incorrect, predictions of consumer
6 advocacy groups about the likely results of this federal pricing reform.
7 The Consumer Federation of America and the U.S. Public Interest
8 Research Group had predicted that the SLC would cause 6 million
9 customers to leave the network from 1984-86. In fact, 4.1 million
10 additional subscribers took service (although only a portion of this
11 subscriber gain was due to the SLC). *Hausman, Tardiff and*
12 *Belinfante, page 182, note 7.* The remainder of the penetration gain
13 was due to a variety of factors, including a nationwide decrease in the
14 average installation charge, increasing family incomes over the study
15 period, decreases in intrastate toll prices, and a slight reduction in the
16 national average basic rate.

17
18 **Q. DID THE \$3.50 FEDERAL SLC MAKE TELEPHONE SERVICE**
19 **MORE AFFORDABLE IN THE UNITED STATES?**

20 **A.** Yes it did, because more people subscribed to telephone service as
21 a result. This finding, drawn from nationwide data of how customers
22 actually responded, is powerful evidence that pricing reform can
23 make telephone service more affordable even if the basic local
24 exchange rate goes up – because offsetting decreases to other prices
25 are even more important to customers.

1 Q. WHAT EXPERIENCE DID NEW ZEALAND HAVE WITH PRICING
2 REFORM?

3 A. Prior to the privatization of its telephone network, New Zealand
4 rebalanced its long distance and basic monthly rates. From 1985-
5 1990, the basic residential monthly access fee was increased by 81
6 percent while domestic and international long distance prices
7 declined. Since then, increases in the basic residential monthly
8 access fee have been limited to inflation. As Professor Lewis Evans
9 of the Victoria University of Wellington described in testimony before
10 the Canadian Radio-Telephone Commission, the results have
11 included no adverse impact on subscribership levels (including
12 among low income consumers). *Telephone Rate Re-Balancing in a*
13 *De-regulated Environment and Its Effect on Residential Access: The*
14 *New Zealand Case* (Testimony of Lewis Evans, Professor of
15 Economics, Victoria University of Wellington), CRTC Public Notice 95-
16 49, February 19, 1996.

17
18 Q. HOW WOULD YOU SUMMARIZE YOUR PRESENTATION OF THE
19 BENEFITS OF PRICING REFORM?

20 A. Contrary to the rhetoric of opponents, the facts show that pricing
21 reform benefits residential customers in a variety of important ways.
22 Experience suggests that the politics of pricing reform are
23 manageable for the Commission, and are certainly no reason to try
24 to distort the accurate determination of the costs of local telephone
25 service in Florida.

1 **SECTION 4: PRICING BASED ON ALLOCATED LOOP COSTS WOULD**
2 **HARM COMPETITION**

3
4 **Q. WHAT FUTURE PRICES FOR TELEPHONE SERVICES COULD**
5 **RESULT IF THE COMMISSION WERE TO ACCEPT THE**
6 **ARGUMENT THAT THE COSTS OF THE LOOP SHOULD BE**
7 **ALLOCATED AMONG VARIOUS SERVICES?**

8 **A.** The loop allocation argument seems intended to preserve something
9 like the status quo: local telephone company residential basic service
10 prices set significantly below the actual cost of service, and prices for
11 business basic service, long distance carrier access, toll calling, and
12 vertical services frequently set well above cost. Similarly, since
13 current subsidies in basic residential service could be manipulated to
14 appear smaller or non-existent by formally ignoring a part of the cost
15 of service (the loop), the Commission could be encouraged to
16 establish only a small universal service fund, or perhaps even forego
17 any state-level universal service funding for Florida. Similarly,
18 incorrect cost estimates for basic local exchange service could be
19 used to try to avoid pricing reform that would actually benefit
20 customers.

21
22 **Q. HOW WOULD FAILING TO REFORM THE COMMISSION'S**
23 **PRICING POLICY AFFECT COMPETITION FOR RESIDENTIAL**
24 **TELEPHONE SERVICE?**

25 **A.** As a practical matter, for the Commission to continue to keep in place

1 a broad pattern of hidden cross-subsidies in telephone service prices
2 would amount to abandoning any genuine attempt to bring
3 competitive choices to all customers in Florida.

4
5 It's like driving with one foot on the gas and the brake at the same
6 time: While the Commission has made progressive efforts to open all
7 markets to competition, the anticompetitive impact of current pricing
8 strongly impairs the ability of competition to give options to residential
9 customers.

10
11 There's no way around the basic principle of business and economics
12 that competition will target that which is overpriced, and avoid that
13 which is unprofitable or subsidized. Unless the same subsidy is
14 available to all competitors to help defray their costs of service, by
15 deciding to require that a given service price be set below cost (like
16 residential basic local service), the Commission is erecting a barrier
17 to competition for that service.

18
19 On the one hand, the Commission is encouraging competition. On
20 the other hand, the Commission's pricing policy now distorts and
21 discourages competition. These policies are at odds with each other,
22 which is one more important reason why pricing should be reformed.

23
24 **Q. HOW DOES MISPRICING COMPLICATE UNBUNDLING AND**
25 **RESALE?**

1 A. In a competitive, deregulated market, resale and unbundling occur as
2 cooperative, wholesale relationships between companies that each
3 see benefits from the arrangement, as when one auto maker builds
4 cars that another auto maker markets under its nameplate. These are
5 voluntary deals from which both parties gain, and through which each
6 partner specializes in what it can do best to reduce costs, add value
7 to the product, or serve the customer.

8
9 Contrast that to the regulated telecommunications market, where
10 retail prices are way out of whack with actual costs -- making some
11 customers or services highly profitable competitive targets solely due
12 to government regulation. This lets competitors pick particular
13 customers as arbitrage targets, where they can use the facilities of
14 the local telephone company to take away the excessive margins that
15 regulation has required be recovered from particular customers or
16 services. As a result, these circumstances set up resale and
17 unbundling as a win for one company at the expense of the other --
18 quite the opposite of how it has to work in an open and free market.
19 From a business standpoint, such wholesale arrangements are
20 unnatural, and can only be sustained by ongoing government fiat and
21 involvement.

22
23 Of course, permanent government involvement in wholesale
24 transactions is hardly reflective of the "pro-competitive, deregulatory"
25 policy Congress envisioned through the Federal Telecommunications

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Act, and yet that is exactly the direction in which the Commission's pricing policy is pushing the telephone industry in Florida.

Q. HOW CAN THESE ADVERSE IMPACTS ON COMPETITION BE REMEDIED?

A. Only pricing reform and/or explicit universal service support based on the true costs of service can create the proper incentives (1) for competitors to target all customers and services, and (2) for resale and unbundling efforts to focus on adding value for customers instead of arbitraging between wholesale prices and economically irrational retail rates.

SECTION 5: RESPONSE TO THE ATTORNEY GENERAL: THE PROPER USE OF ECONOMIC PRICING PRINCIPLES

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section I address some statements that appear in proposed presentation outlines offered by the Attorney General's representatives, which offers a chance to explore important pricing concepts in some further detail.

Q. LET'S TURN TO THE OUTLINES THE ATTORNEY GENERAL'S REPRESENTATIVES CIRCULATED FOR PRESENTATIONS ON

1 **OCTOBER 1-2, AND OCTOBER 8-9. WHAT ABOUT THESE**
2 **OUTLINES WILL YOU ADDRESS?**

3 A. While recognizing that I do not know exactly what the Attorney
4 General's representatives will say, the outlines raise some pricing
5 issues that I can usefully address here: How cross-subsidies are
6 defined, the potential meaning of a "subsidy-free zone," and the
7 economic principles of pricing when joint and common costs must be
8 recovered, as is the case in the telephone industry. Discussing
9 these, along with some related theory and examples, will help correct
10 a number of errors in the Attorney General's theories.

11
12 **Q. HOW DO THE OVERALL COSTS OF A TELEPHONE COMPANY**
13 **RELATE TO THE INCREMENTAL COSTS OF VARIOUS**
14 **SERVICES?**

15 A. An incremental cost measures how much more it costs to produce a
16 given amount extra (an increment) of a particular service or product.
17 For example, if a company provides an additional 100 units of a
18 product and spends \$1000 extra to do so, the incremental cost of the
19 product is \$10/unit.

20
21 By contrast to the incremental picture, the overall costs of a firm –
22 especially a firm like a telephone company that produces a variety of
23 products – may include other costs that aren't specific to a particular
24 product. One example might be the cost of the company president's
25 desk, which does not vary when extra products are produced. Even

1 though such costs aren't specific to any particular product, they must
2 be recovered from the prices of what the company sells if it is to stay
3 in business.

4
5 In the telephone industry, the incremental costs of the various
6 services a company sells are usually understood to add up to less
7 than the total costs of the company, meaning that the prices of
8 telephone services must contain some kind of mark-ups above
9 incremental cost in order to cover all the company's expenses. As an
10 analogy, it helps to think of a supermarket, and the pricing problem
11 it faces in covering all its costs of doing business. At a minimum, the
12 supermarket needs to charge at least as much for the goods it sells
13 (say, heads of lettuce) as it pays its suppliers for them. Of course,
14 since someone has to pay for the building and the lights and the
15 check-out clerks, the prices of items in the supermarket need to be
16 marked-up (above the cash cost of lettuce and other goods) to cover
17 those overhead costs. At the same time, it may be that not every item
18 in the store has the same mark-up in its price, since a smart
19 supermarket manager will vary the store's mark-ups for the different
20 things it sells in light of how customers are responding (e.g., are they
21 buying the lettuce this week?), and what competing supermarkets are
22 charging for the goods they sell.

23
24 Just like a supermarket, a telephone company can't price the
25 products it sells at bare incremental cost. Mark-ups are needed to

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keep both kinds of operations in business.

Q. USING THESE COST TERMS, HOW ARE SUBSIDIES AND CROSS SUBSIDIES DEFINED?

A. As a definition of economics, a subsidy exists when the price of a product is less than its marginal or incremental cost – as if, for example, the supermarket were paying farmers 50 cents a head for lettuce and selling it to customers for 25 cents. A subsidized product loses money on every sale.

A cross-subsidy occurs when a firm sells multiple products, at least one of those products is subsidized, but the firm is still covering its overhead costs and making a profit that at least covers its cost of capital used in the business. In that case, the product that is priced below incremental cost is said to be cross-subsidized by the other products. In the case of the supermarket, at 25 cents per head the price of lettuce would be cross-subsidized from the prices of some number of other products in the store. I also consider it important, when thinking about cross-subsidies in regulated industries, to think about whether there is something about the process of regulation that links together particular overpriced and underpriced services, since the question of which services are paying and receiving the subsidies is often important.

1 Q. WHERE THERE IS A CROSS-SUBSIDY, IS IT POSSIBLE TO BE
2 CERTAIN WHICH PRODUCTS ARE THE SOURCE OF THE
3 CROSS-SUBSIDY?

4 A. Strictly speaking, the answer may be no, since to answer the question
5 we need to know what the prices of various products would be in the
6 absence of the cross-subsidy, and that can be difficult or impossible
7 to determine. However, this is where the process of regulation can
8 help provide some answers, since we know -- as an historical fact --
9 that long distance calling has been deliberately overpriced to help
10 keep basic local exchange rates at their current subsidized levels.
11 That history, combined with the very high margins in access and long
12 distance prices, make it clear that there is a cross subsidy from long
13 distance prices (including carrier access charges) to basic local
14 exchange rates.

15
16 Q. THE OUTLINE PROVIDED BY THE ATTORNEY GENERAL'S
17 REPRESENTATIVES STATES THAT "A SERVICE IS PAYING A
18 SUBSIDY ONLY IF ITS PRICE EXCEEDS ITS STANDALONE
19 COST." CAN YOU COMMENT?

20 A. Yes. That statement is incorrect, and would give the Commission the
21 wrong answer in trying to evaluate subsidies.

22
23 The "stand alone cost" is what it would cost a multi-product firm (like
24 a telephone company) to produce a particular product (or group of
25 products), but not everything it now offers. For example, one could

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imagine the stand alone cost of basic telephone service as related to the smallest possible set of facilities and people a phone company might need if it were to produce basic telephone service only, and nothing else. And as I said – and this is important – one can think about this mental exercise not just for one particular service, but for any combination of the services a telephone company now provides. Of course, a large number of those combinations could be imagined for a telephone company, which offers literally dozens (or hundreds) of different services.

What does this have to do with cross-subsidy? The Attorney General's outline seems based on a mental exercise one can use to think about subsidies and stand alone cost. Suppose there were a telephone company that offered only two services – service A and service B. Suppose we know the total costs of this odd little telephone company, and we also know the incremental costs of service A and service B (and remember that the incremental costs are those that are added – or avoided – when a telephone company either adds, or stops offering a particular service). We can use this information to calculate the stand alone cost of service B, by taking the total cost of the firm, and subtracting from it the incremental cost of service A. What's left would be the stand alone cost of service B. Of course, we can do the reverse to figure out the stand alone cost of service A.

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Based on this little academic exercise, if service A is priced below its incremental cost (that is, it is subsidized), and the firm isn't losing money, then it must be that the price of service B is above its stand alone cost. Why? Because the loss on service A has to be made up somewhere, and the only place to do it is through raising the price of service B above its stand alone cost. A few numbers help make the point. Suppose both service A and service B have incremental costs of \$5 (the firm sells one of each), and the total cost of the firm is \$12 -- making the stand alone cost of either service \$7. You can see that if either service is priced at less than its incremental cost, the other service will need to be priced above \$7 (the stand alone cost) if the firm is to continue to get its \$12.

This, I believe, is what the Attorney General's representatives are talking about. The Attorney General's representatives may therefore want to assert that there's no cross-subsidy in telephone rates unless a party can prove that some services are priced above their stand alone costs. But that would be bad advice to the Commission.

Q. WHAT WOULD BE WRONG WITH AN ASSERTION THAT FOLLOWED THE EXAMPLE YOU OUTLINED?

A. Telephone companies offer far more than two services, and the theoretical test changes when one moves away from the example of a hypothetical company offering only two services. Reviewing the

1 theory reveals the problem with the Attorney General's outline. For
2 a firm that offers many services, the stand alone cost test is applied
3 not just to each individual service, but also to all possible
4 combinations of various services. In other words, if there is a cross-
5 subsidy, something will be priced above its stand alone cost -- but that
6 something may be an individual service, or one (or more) of the many
7 combinations that can be imagined to include some of the various
8 services the telephone company offers.

9
10 Again, some simple numbers make the point. Suppose our imaginary
11 firm now has four services -- A, B, C and D (the firm again sells one
12 of each). Each service has an incremental cost of \$5, and the firm's
13 total costs are \$24. Therefore, the stand alone cost of each service
14 is just the total cost of the firm, minus the incremental costs of the
15 other three services -- or \$9 ($\$24 - \15). Now, the Attorney
16 General's outline says there can be no cross-subsidy unless a
17 service is priced above its stand alone cost. But it's easy to show
18 that's not true. Suppose service A is priced at \$3 -- clearly below its
19 incremental cost of \$5. The firm can make up the loss on service A
20 by pricing services B, C and D at \$7 apiece, once again yielding a
21 total of \$24 ($\7 times 3, plus the \$3 for service A). Even though the
22 price of service A is cross-subsidized, the prices of services B, C and
23 D all are below their stand alone costs -- which is contrary to (and
24 disproves) the claim in the Attorney General's outline. Intuitively, it's
25 easy to understand how small increases in the prices of several

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services can easily offset a cross-subsidy provided to a given service, without pushing the prices of the several services above their respective individual stand alone cost levels.

Rather than experiment with this theoretical approach, I think it is far more sensible for the Commission simply to look at which services are subsidized, which services yield high margins, and the historical basis for linking the two. By that common sense approach, the cross subsidy is obvious from long distance calling (and access charges) to basic residential local exchange service(s).

Q. WHAT ABOUT THE CONCEPT OF A "SUBSIDY-FREE ZONE," AS NOTED IN THE OUTLINE PROVIDED BY THE ATTORNEY GENERAL'S REPRESENTATIVES, WHERE ALL SERVICES ARE PRICED ABOVE INCREMENTAL COST AND BELOW STAND ALONE COST?

A. I have already shown that services priced below their individual stand alone costs can still be the source of a cross-subsidy; however, if all services are also priced above incremental cost, then there would be no cross-subsidies. Of course, ending cross-subsidies through pricing reform (and/or making them explicit and supported through a universal service fund) would be a positive step the Commission and the Legislature should embrace. But it is worth saying a bit more about the economics of pricing, both as an elaboration of my comments elsewhere in this testimony, and also to guard against

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some bad advice that conceivably could come from discussion of a "subsidy free zone."

Economics teaches a great deal about how prices should be set to benefit customers, firms, and the economy, and there's more to the pricing story than just trying to deal with subsidies. In particular, telephone companies need to charge markups above incremental cost in order to cover all their costs of doing business, as I described above. How should those mark-ups be determined?

The easiest answer is to let the market determine the mark-ups, as in the supermarket example I offered above. Then, the interplay of competing providers trying to meet customer demands should do a good job of allowing companies to recover their fixed or common costs in an economically sensible fashion. However, Chapter 364 of the Florida Statutes still determines a great deal about what telephone service prices will be here, including strict caps on the price of basic local exchange service for price-regulated carriers. So how government might set such prices is still an important question.

Q. WHAT CAN ECONOMICS TELL THE COMMISSION ABOUT THE BEST MARK-UPS TO ALLOW FOR VARIOUS TELEPHONE SERVICE PRICES IN THE CURRENT ENVIRONMENT?

A. Really, there are two factors -- a principle and a practical caution --

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that apply to how government might set prices in markets that are competitive, or are becoming more competitive.

The principle is that marking-up the price of a product usually causes some drop-off in demand by customers, which causes a loss of economic benefits to customers, firms and the economy. That so-called "dead weight loss" is related to how price-sensitive customers are in their purchases of the product; generally speaking, the more price-sensitive the customers, the more they will stop buying the product in response to a price increase, and the greater will be the resulting economic loss when a mark-up is imposed. Therefore, in choosing which services should bear the greatest mark-ups, government should consider how price-sensitive customers will be to the result, and impose the largest mark-ups on the least price-sensitive services. The formal description of this principle is Ramsey pricing. It bears emphasizing that basing mark-ups on price sensitivity (or elasticities) is good for customers, since it minimizes the economic cost to them of paying the overhead or common costs companies must recover to stay in business.

The practical caution modifies the principle by recognizing how competitive markets may develop. It may be impractical to base mark-ups on strict Ramsey pricing principles as markets become competitive, or competition becomes more intense, because market dynamics may undermine the attempt to use elasticity information to

1 set prices (such as by modifying the products that are available,
2 forcing price deaveraging, repackaging or bundling services in new
3 ways, or changing underlying costs of service). The Commission or
4 the Legislature may not be able to use Ramsey pricing "by the book,"
5 although its basic lessons will still hold true.

6
7 The overall lesson is that it is critical to factor customer demands (i.e.
8 elasticities) into price-setting decisions. While this approach faces
9 some practical limits (and will not be able to answer every pricing
10 question), simply achieving a "subsidy free zone" of prices still would
11 leave important questions about how mark-ups should be determined,
12 to the extent government (and the not the market) is still setting them.
13 Thus, even after subsidies are eliminated, pricing decisions still
14 matter and can be made in better and worse ways that will affect the
15 public. The Commission and the Legislature should apply economic
16 principles of pricing to maximize the benefits of telephone service.

17
18 **Q. USING THE PRICING PRINCIPLES OF ECONOMICS, HOW**
19 **SHOULD THE COMMISSION OR THE LEGISLATURE DETERMINE**
20 **PRICES FOR VARIOUS TELEPHONE SERVICES, INCLUDING**
21 **MARK-UPS?**

22 **A.** First, all service prices should at least cover their respective
23 incremental costs. Unfocused, broad subsidies are harmful to
24 customers, anti-competitive, and wholly unnecessary for (and even
25 potentially harmful to) universal service, as I described above.

1 Second, while mark-ups above incremental cost need not follow a
2 precise formula, it is clear that customers' buying choices are
3 significantly price-sensitive to the price of long distance calling, and
4 almost entirely insensitive to the price of basic local exchange
5 service. Yet today, public policy greatly overprices long distance
6 calling while subsidizing basic local exchange service, which is
7 precisely backwards, and causes the economic harm I described
8 earlier. That policy needs to be reformed, which means that mark-
9 ups on long distance calling and access charges should be much
10 lower, and there should be a mark-up of some kind on basic local
11 telephone service. If the Commission and the Legislature reform this
12 misguided public policy, they will also encourage competition and
13 hasten the day when the market can set all of these prices by itself.

14
15 Finally, where economically-sensible telephone service prices cause
16 concerns about impacts on low income or vulnerable customers or in
17 areas where the cost of service is unusually high, an explicit universal
18 service fund is the ideal means to keep basic local exchange service
19 affordable. And, the more pricing reform that can occur, the smaller
20 will be the size of the universal service fund that is required to
21 address the real needs of affordability.

22
23 **Q. WHERE UNIVERSAL SERVICE SUPPORT IS PROVIDED, ON**
24 **WHAT BASIS SHOULD THE PRICE TO THE CARRIER (AND THUS**
25 **THE NEEDED SUPPORT PAYMENT) BE CALCULATED?**

1 A. The carrier should be paid a price the market would require to provide
2 the service on a competitive basis -- that is, incremental cost plus a
3 substantial mark-up. Remember that telephone companies need to
4 charge mark-ups to cover their fixed and common costs, and also that
5 the economic principles of pricing lead to basic exchange service
6 bearing a significant part of that overhead. This level of support is
7 appropriate because universal service payments are meant to fill the
8 gap between a market price for the service, and the lower price that
9 government wishes to charge the customer for universal service
10 purposes. Indeed, tying the support payment to a market price is also
11 critical if customers using such service are to see competitive
12 alternatives, since providers other than the incumbent can choose
13 whether or not to offer service on this basis.

14
15
16 **SECTION 6: RECOMMENDED NEXT STEPS FOR THE COMMISSION**

17
18 **Q. WHAT STEPS SHOULD THE COMMISSION TAKE AS A RESULT**
19 **OF THIS PROCEEDING?**

20 A. The Commission should recognize the benefits to customers and the
21 economy from more economically sensible pricing of all telephone
22 services, and ignore the temptation to bless upside-down thinking by
23 "allocating" the loop contrary to the reality of telephone network
24 economics and common sense. Accordingly, I recommend that the
25 Commission make these important findings to the Legislature:

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1. The loop and its associated fixed costs are a part of basic local exchange telephone service.

2. The impact of the total telephone bill on the customer is far more important than the rate for basic local exchange service, which is just one part of the bill.

3. Pricing reform that includes cost-based rates for residential basic exchange service can make telephone service more affordable if offsetting decreases are made to other telephone service prices now set well above cost.

4. Reforming telephone service prices to better reflect the actual cost of service will create numerous benefits for residential customers, including better access to competitive choices for telephone service, increased value from their use of telephone service, and potentially improved universal service and affordability, and greater fairness among residential customers in terms of paying and receiving hidden subsidies in their telephone bills.

5. In combination with pricing reform, an explicit universal service program such as authorized by Congress in the Telecommunications Act of 1996 will ensure that proper signals are sent to new competitors to take an interest in

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serving all Florida residential customers, while keeping rates affordable even in locations where service costs are high or customers are vulnerable. Pricing reform and universal service support will work hand in hand, since the former will reduce the size of the fund needed for the latter.

Q. HOW, SPECIFICALLY, MIGHT A UNIVERSAL SERVICE PROGRAM AND PRICING REFORM WORK TOGETHER TO BENEFIT CUSTOMERS?

A. Generally speaking, universal service support and pricing reform can work together in a number of ways.

As one option, if it wishes, the Legislature can establish a benchmark price for basic local service that would reflect the highest price that it believes a residential customer should be asked to pay. Then, to the extent a pricing reform process might lead to basic service rates rising above the benchmark, the Commission could provide that payments from a universal service fund be used to support the difference between the price of basic service paid to the telephone service provider (whether it was the incumbent local phone company or another competitor) and the price paid by the customer.

For example, suppose that the Commission decided that \$23/month was the basic service benchmark, and the need to recover cost meant that basic rates would need to rise to \$28/month for a group of

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customers. Using this sample benchmark, the customer's bill would show \$23 for basic service, and the universal service fund would reimburse the provider the remaining \$5.

This approach would also permit the market to recognize the full, reformed price of basic service for the purpose of promoting local competition for residential customers, even though the basic service price to the customer would be lower. In the example above, matching the existing price would create a \$28 basic service revenue opportunity for a new competitor, even though the customer paid only \$23 directly.

Another option would be for the Commission to use universal service support as a way to finance a pricing transition for the benefit of customers. For example, the Commission could bring overpriced services down to cost-based levels early on, while supporting the lost revenues through universal service support payments that would gradually be reduced as basic service rates were increased towards cost in several steps over a period of time. In this way, the Commission could show customers many of the benefits of pricing reform at the start before undertaking the transition in basic service rates needed to complete the process.

In any event, the more pricing reform occurs, the less funding will be needed for a universal service fund that would make all subsidies

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explicit, and supported. That is a critical linkage to keep in mind when considering these issues.

Q. SOME MAY ARGUE THAT PRICING REFORM SHOULD NOT OCCUR UNLESS TELEPHONE COMPANIES CAN PROVE THAT THEY ARE NOT "OVER EARNING." HOW SHOULD THE COMMISSION CONSIDER THAT ISSUE?

A. Aside from the fact that an earnings review would go beyond the scope the Legislature has established for this proceeding--and beyond the scope of the Commission's authority over price-regulated carriers--this argument misses the point. Whatever revenues Florida local telephone companies are to collect, customers will be better off paying cost-based prices. Irrespective of total telephone company earnings levels or revenues, there are better and worse ways to pay for telephone service, and going from worse towards better will benefit consumers.

Q. DOES THAT CONCLUDE YOUR PREPARED TESTIMONY?

A. Yes.



BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Undocketed special project:)
Fair and reasonable residential)
basic local telecommunications)
rates)

)

SPECIAL PROJECT 980000A-SP

**COMMENTS OF
DONALD M. PERRY
ON BEHALF OF
GTE FLORIDA INCORPORATED
BELLSOUTH TELECOMMUNICATIONS, INC.
AND
SPRINT-FLORIDA, INCORPORATED**

SEPTEMBER 24, 1998

1 GTE FLORIDA INCORPORATED
2 SPECIAL PROJECT 980000A-SP
3 COMMENTS OF DONALD M. PERRY
4

5 I. INTRODUCTION

6 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

7 A. My name is Donald M. Perry. My business address is 1800 41st Street,
8 Everett, Washington 98206.
9

10 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

11 A. I am employed by GTE Telephone Operations as the Manager in the
12 Demand Analysis Group, which is part of the Demand Analysis and
13 Forecasting Department.
14

15 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
16 WORK EXPERIENCE.

17 A. I received a B.S. in Oceanography and Chemistry from the University
18 of Washington in 1972. In 1980 I received a B.A. in Economics, and in
19 1982 an M.A. in Economics from the University of Washington. I have
20 successfully completed field exams in microeconomics, econometrics,
21 and natural resource economics. I have also successfully completed
22 my general exam for the dissertation. During my graduate studies I
23 was awarded a Sloan Grant for study in natural resources and
24 econometrics. I have taught courses and seminars in microeconomics
25 and advanced econometric techniques.

1 From 1981 through 1985 I was the Senior Economist for Synargic
2 Resources Corporation, responsible for project management, research
3 design and analysis. From 1986 through 1988 I was the Senior
4 Economist for Baker, Reiter and Associates, with similar
5 responsibilities. Specifically, I was responsible for developing demand
6 forecasting models for Seattle City Light, Puget Sound Power & Light,
7 the Bonneville Power Administration, Southern California Gas &
8 Electric Co., King County Housing Authority, and The Electric Power
9 Research Institute. In 1988 I joined GTE Northwest with responsibility
10 for new product forecasting. Currently, my work group is responsible
11 for developing new methods for forecasting the demand for our three
12 major service categories: customer lines, usage, and new products;
13 conducting demand studies; developing and analyzing market research
14 studies for intraLATA presubscription, local exchange competition and
15 new products; and providing analyses for rate filings.

16

17 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY**
18 **AGENCY?**

19 **A.** Yes, I have previously testified before regulatory commissions in
20 California, Florida, Illinois, New Mexico, Oregon, Pennsylvania,
21 Washington and Wisconsin as an expert witness in the areas of
22 demand elasticity estimation, forecast modeling, survey methodology,
23 and market research.

24

25 **Q. WHAT IS THE PURPOSE OF YOUR COMMENTS?**

1 A. The Florida Legislature has directed the Commission to report its
2 conclusions on the "fair and reasonable Florida residential basic local
3 telecommunications service rate," considering affordability, the value
4 of service, comparable residential basic rates in other states, and the
5 cost of providing residential basic local service here in Florida.
6 (Chapter 98-277, sec. 2(2)(a), Florida Laws.) My testimony principally
7 addresses the affordability criterion, including its relationship to the
8 value of service. I start by addressing some general principles which
9 should guide the Commission's consideration of affordability. I then
10 discuss the key affordability studies from other states and offer a
11 critique of the affordability survey conducted on behalf of this
12 Commission. In addition, I analyze consumer expenditure patterns
13 based on billing data and, finally, discuss the policy implications of
14 these studies and surveys.

15
16 **Q. DO YOU HAVE ANY SUMMARY OBSERVATIONS ABOUT THE**
17 **COMMISSION'S DELIBERATIONS ON AFFORDABILITY?**

18 A. Yes. In determining the affordable rate, the Commission should
19 evaluate subscribership levels and non-rate factors such as local
20 calling scope, income levels, cost of living, population density, and
21 other socioeconomic variables. Based on its consideration of what is
22 affordable in Florida, the Commission should draw the line on
23 "affordability" (and, in turn, on the price that may be charged for the
24 basic local service package) as close to the actual cost of providing
25 the basic local service package as possible. Setting price as close to

1 actual cost as possible minimizes losses in economic efficiency, as Dr.
2 Harris discusses.

3
4 While setting price as close as possible to cost furthers the goal of
5 economic efficiency, high subscribership rates can be maintained at the
6 same time by enacting rate rebalancing and targeted subsidies to low-
7 income subscribers. Rate rebalancing accomplished in conjunction
8 with an explicit universal service mechanism will result in a more
9 affordable total bill, including the bill for non-essential services.
10 Targeted subsidies to low-income subscribers can ameliorate or even
11 eliminate any potential reductions in penetration rates resulting from an
12 increase in the price of basic local service that is not offset by rate
13 rebalancing.

14
15 **II. EVALUATING AFFORDABILITY**

16
17 **Q. HOW SHOULD THIS COMMISSION EVALUATE THE**
18 **AFFORDABILITY OF RATES?**

19 **A.** An evaluation of affordability is necessarily from the consumer's
20 perspective. The determination of affordable rates depends on the
21 characteristics of consumers, which vary across the country. The
22 spatial differentiation of consumer characteristics has been
23 acknowledged by the FCC, which rejected the establishment of a
24 national affordability benchmark (*FCC Universal Service Report and*
25 *Order, CC Docket No. 96-45 (FCC Universal Service Report),*

1 Paragraph 111) and recognized that "states, by virtue of their local
2 ratemaking authority, should exercise primary responsibility for
3 determining the affordability of rates. (*FCC Universal Service Report*
4 at Paragraph 118.)

5
6 The affordability of a basic local service rate depends on the rates for
7 other telecommunication services that affect the customer's total bill as
8 well as non-rate factors. Non-rate factors such as local calling scope,
9 income levels, the cost of living, population density, and other
10 socioeconomic variables affect affordability. Rates for basic local
11 service may be deemed affordable according to resulting
12 subscribership levels, but the rates may be deemed not affordable
13 according to non-rate factors. For example, the Commission may
14 decide rates in a local community are not affordable because the rates
15 consume a disproportionate share of an individual's disposable income.
16 Therefore, both rate factors and non-rate factors are important in the
17 determination of affordability.

18
19 A good indicator of affordability is subscribership levels.
20 Subscribership levels indicate whether consumers have the means to
21 subscribe to telephone service. However, subscribership levels do not
22 reveal whether consumers are spending a disproportionate amount of
23 income on telecommunications services. That is, subscribership levels
24 do not indicate whether paying the rates charged for services imposes
25 a hardship for those who subscribe. As a result, subscribership levels

1 should be examined in conjunction with rate and non-rate factors. The
2 FCC agreed with this view, stating that when evaluating affordability,
3 "States should use subscribership levels, in conjunction with rate levels
4 and certain other non-rate factors". (*FCC Universal Service Report at*
5 *Paragraph 113.*)

6
7 **Q. CAN YOU PROVIDE ANY BACKGROUND ON SUBSCRIBERSHIP**
8 **LEVELS?**

9 A. Yes. According to the Current Population Survey ("CPS"), the
10 subscribership rate in Florida is 93.3%, as compared to the national
11 average of 94.1%. (The CPS is conducted quarterly. For Florida and
12 the United States, the most recent survey available was conducted in
13 March 1998.)

14
15 **Q. DO SUBSCRIPTION RATES DIFFER WITH HOUSEHOLD INCOME?**

16 A. Yes. Subscribership rates are lower at lower income levels. For low
17 income households, subscribership rates in the March 1997 CPS (the
18 most recent data for which subscribership levels are available by
19 income [income in 1989 dollars] level) were 84.4% for the state of
20 Florida, and 86.0% for the nation.

21
22 As household income bracket rises, subscribership levels rise until
23 plateauing. In Florida, the subscribership level rises to 92.0% for
24 households with income between \$10,000 and \$19,999, 95.4% in the
25 \$20,000 to \$29,999 income bracket, 94.7% in the \$30,000 to \$39,999

1 income bracket and 97.7% for households with annual income over
2 \$40,000.

3

4 This positive relationship between income and subscription is due, in
5 part, to the fact that income is related to other factors affecting
6 subscription, such as language barriers, mobility, and knowledge of the
7 requirements for telephone service.

8

9 **Q. HAVE SUBSCRIBERSHIP RATES REMAINED STABLE OVER TIME,
10 OR ARE THEY CHANGING OVER TIME?**

11 **A.** Subscription rates for all households have remained stable, while those
12 for low income households are somewhat higher than a decade ago.
13 In fact, when penetration rates are examined over time by income
14 bracket, it appears that the overall increase in subscribership during
15 the past decade has occurred entirely within the lower income brackets.

16

17 The proportion of low income households (annual income less than
18 \$10,000 in 1984 dollars) with telephone service rose from 80.2% in
19 March 1987 to 84.4% in March 1997. For households with annual
20 incomes between \$10,000 and \$19,000, the penetration of local
21 telephone service increased from 89.0% to 92.0%. Subscribership
22 rates were relatively stable in higher income brackets.

23

24 These changes in telephone penetration rates by income bracket in
25 Florida closely follow national trends. At the national level,

1 subscribership rose from 80.8% to 86.0% between March 1987 and
2 March 1997 for low income households. Households in the next
3 income bracket, with annual income between \$10,000 and \$19,999,
4 experienced an increase from 90.9% to 93.0%. As in Florida,
5 subscription rates were relatively stable at income levels above
6 \$20,000.

7

8 **Q. WHAT FACTORS HAVE AFFECTED THE SUBSCRIBERSHIP RATE**
9 **DURING THE PAST TEN YEARS?**

10 A. Subscribership depends on both rate and non-rate factors. In order to
11 identify key rate factors, it is necessary to examine the major
12 components of residential telecommunication bills. Section V
13 presents a discussion of consumer telecommunications expenditures
14 based on an analysis of customer bills. Other factors influencing a
15 household's decision to subscribe to telephone service are not directly
16 related to the price of telecommunications service. Non-rate factors
17 include items such as local calling scope, income levels, the cost of
18 living, population density, and other socioeconomic variables.

19

20 **Q. HOW HAS THE PRICE OF BASIC LOCAL TELEPHONE SERVICE**
21 **CHANGED IN FLORIDA DURING THE LAST TEN YEARS?**

22 A. During the 1987-97 period, GTE's monthly recurring charges for a
23 single flat rate residential line in Florida rose by amounts varying from
24 1.4% to 7.7%, depending on the number of lines in the exchange. (All
25 rate changes measure nominal price changes unless otherwise

1 indicated.) Exhibit No. DMP-1 provides 1987 and 1997 monthly
2 recurring charges for residential single flat rate lines by exchange size.
3 For the largest exchanges, such as Tampa-St. Petersburg, the monthly
4 recurring charge rose by 1.6%. During the same period, real per
5 capita income in Florida rose 12.1% and the Florida CPI rose by
6 42.2%. So the price of basic local telephone service has risen less
7 than per capita income adjusted for inflation, and has risen much less
8 than the overall price level.

9
10 Note that while the inflation adjusted price of basic residential
11 telephone service has declined considerably in the past ten years, the
12 overall level of subscribership has been relatively stable. As discussed
13 in the next section, subscribership is relatively insensitive to changes
14 in the monthly recurring charge. Other factors such as inability to
15 control toll bills, mobility, and misperceptions regarding requirements
16 for telephone service play a much larger role in explaining why some
17 households are not telephone subscribers. (See "Affordability of
18 Telephone Service", Field Research Corporation (1993).)

19
20 **Q. PLEASE SUMMARIZE RECENT TRENDS IN SUBSCRIBERSHIP AND**
21 **LOCAL SERVICE PRICES IN FLORIDA.**

22 **A.** Overall subscribership levels have remained relatively stable in Florida
23 during the past decade, although levels for low-income customers have
24 risen somewhat. As in the rest of the nation, subscribership in Florida
25 rises with income bracket up to a household income level of \$30,000.

1 Once this income level is reached, there is little room for further
2 increases in subscribership, and subscribership rates plateau.

3
4 Subscribership levels have been stable despite a considerable decline
5 in the inflation-adjusted price of basic residential service. During the
6 past decade, the inflation-adjusted monthly recurring charge for basic
7 residential service has declined by about 40% in the Tampa-
8 St.Petersburg MSA. Clearly, subscribership rates are not highly
9 sensitive to the monthly recurring charge for basic residential service.
10 As discussed in the next section, other rate factors (such as toll rates)
11 and non-rate factors have been found to play an important role in
12 affecting subscribership.

13 14 **III. STUDIES OF RESIDENTIAL ACCESS DEMAND**

15
16 **Q. PLEASE DESCRIBE THE KEY RESULTS FROM STUDIES OF**
17 **RESIDENTIAL ACCESS DEMAND.**

18 **A. Economists have conducted a number of studies of subscriber demand**
19 **for access to the local exchange network. These studies attempt to**
20 **determine how the percentage of households with telephones is**
21 **affected by (1) the price of basic service, (2) the price of other**
22 **telecommunications services (such as toll), (3) a wide variety of**
23 **household characteristics (such as age, education, ethnicity, income,**
24 **and the number of persons in the household), (4) information on the**
25 **area served, e.g., number of lines per square mile and total number of**

1 subscribers and (5) a range of other factors such as geographic
2 mobility and the ability to control monthly expenses.

3

4 While studies vary considerably in methodology, type of data used, and
5 analytical methods, there are some common findings. First, studies
6 consistently find that residential customers' demand for access to the
7 local network shows little sensitivity to the price of local service. The
8 basic local service charge represents only about one-third of the typical
9 consumer's telecommunication expenditure (as shown in Table 5,
10 section V), and is difficult to adjust when consumers seek to change
11 their behavior in order to modify their telecommunications bill. In
12 contrast, purchases of vertical services or toll can be modified
13 incrementally by the consumer to alter the total telecommunications bill.

14

15 Secondly, the studies also indicate that household income is the most
16 important socioeconomic determinate of those subscribers most likely
17 to drop their service. From a policy perspective, this means that a
18 targeted "lifeline" service to low-income subscribers would mitigate or
19 perhaps even eliminate any decrease in subscriber levels (i.e.,
20 telephone penetration rates) resulting from such an increase in rates
21 for basic local service.

22

23 A third important finding of these demand studies is that subscribership
24 rates depend on the monthly recurring charges for both flat and
25 measured local service rates. As summarized by Professor Lester

1 Taylor, the "results indicate substantial substitution among service
2 options in response to changes in relative prices. This is an important
3 result for policy purposes, for it provides strong support for the view .
4 . . . that the threat to universal service caused by elimination of the toll-
5 to-local subsidy can be contained by a carefully designed budget
6 measured-service." (Taylor, L. 1994, TELECOMMUNICATIONS DEMAND IN
7 THEORY AND PRACTICE, Dordrecht, The Netherlands: Kluwer Academic
8 Publishers, pp. 127-128.) Thus, universal service can be maintained
9 and furthered if increases in prices for access to the network are
10 matched with either targeted subsidies to low-income individuals and/or
11 budget service offerings for local measured service that reflect cost-
12 based usage rates.

13
14 Finally, studies show the importance of the rates charged for other
15 telecommunication services, such as toll and installation charges, in
16 determining subscription rates.

17
18 **Q. WHAT ESTIMATE OF RESIDENTIAL ACCESS PRICE ELASTICITY**
19 **OF DEMAND DO YOU RECOMMEND USING?**

20 **A.** The most complete study relating residential access demand to the
21 price of basic service and the price of other telecommunications
22 services was developed by Professor Jerry Hausman of the
23 Massachusetts Institute of Technology, Dr. Timothy Tardiff of National
24 Economic Research Associates ("NERA"), and Dr. Alexander Belinfante
25 of the Federal Communications Commission ("FCC"). (This model was

1 described in the May 1993 American Economic Review, "The Effects
2 of the Breakup of AT&T on Telephone Penetration in the United
3 States.") This model relates the percentage of residential households
4 with telephone service to (1) the residential installation charge, (2) the
5 residential basic access price for measured service, (3) the percentage
6 price difference in the monthly recurring charge between flat and
7 measured service, (4) the price of toll and (5) demographic/economic
8 factors.

9
10 This study offers a number of advantages over other studies of
11 residential access demand. First, by using census data, this study is
12 based on household data which included people with and without
13 telephone service. As a result, the results in this study are based on
14 individuals' revealed preferences. This study is based on annual data
15 from 1984 through 1988 collected by the FCC. The data include
16 telephone penetration, demographic variables, and prices.
17 Demographic data was taken from the Current Population Survey, while
18 telephone penetration information was gathered as a supplemental
19 question on the survey. Price data was collected from the U.S.
20 Telephone Association.

21
22 Second, this study considers not only the monthly recurring charge
23 (MRC) considered by many other studies, but also considers other
24 factors such as non-recurring charges (NRCs) and toll prices that affect
25 the total bill paid by the consumer.

1 Q. PLEASE DESCRIBE THE PRICE ELASTICITY ESTIMATES
2 REPORTED BY HAUSMAN, TARDIFF, AND BELINFANTE.

3 A. In the model developed by Hausman, Tardiff, and Belinfante the price
4 elasticity of demand is a function of the estimated price coefficient, the
5 level of telephone penetration, and the price level. Using 1990 national
6 average prices and penetration levels, they obtain price elasticities of
7 -0.0206 with respect to the non-recurring installation charge, -0.0052
8 with respect to the monthly recurring charge for measured service,
9 -0.0027 with respect to the difference in the monthly recurring charge
10 for flat versus measured rate service, and -0.0086 with respect to the
11 intraLATA toll price.

12
13 There are two important implications of these elasticity estimates. First,
14 the magnitude of the price elasticities for the monthly recurring charge
15 is very small. Doubling the monthly recurring charge would cause less
16 than a one percent reduction in subscribership. Secondly, the
17 magnitude of the elasticity with respect to toll is actually greater (in
18 absolute value) than the magnitude of the elasticities for the monthly
19 recurring charge. This implies that the impact of a given percentage
20 increase in the monthly recurring charge on subscribership could be
21 more than offset by a comparable percentage reduction in toll rates.
22 For example, a 20% increase in the monthly recurring charge for flat-
23 rate service would reduce the percentage of households with telephone
24 service by 0.054% (calculated as .2 multiplied by -0.0027). in an area
25 with 1,000,000 residential households, this implies 540 households

1 dropping telephone service. But lowering toll rates by 20% would
2 increase the percentage of households with telephone service by
3 0.172% (calculated as .2 multiplied by -0.0086). In the same area with
4 ,000,000 residential households, this implies 1,720 households
5 adding telephone service due to the lower toll rates. The combined
6 effect of raising the MRC by 20% and lowering toll rates by 20% would
7 be to increase the percentage of households subscribing to telephone
8 service by 0.118%, or 1180 households in the example area with
9 1,000,000 households.

10
11 **Q. CAN VALUES BE CALCULATED FOR THESE PRICE ELASTICITIES**
12 **WHICH ARE SPECIFIC TO FLORIDA?**

13 A. Yes. Exhibit No. DMP-2 is a copy of a white paper I co-authored with
14 Mark Porter titled "An Analysis of Residential Access Penetration".
15 Using the same model and data set as the Hausman, Tardiff, and
16 Belinfante paper, this paper calculates state-specific elasticities based
17 on state level penetration and price level data. The estimated price
18 elasticities for Florida are -0.030 with respect to the non-recurring
19 installation charge, -0.010 with respect to the monthly recurring charge
20 for measured service, -0.0015 with respect to the difference in the
21 monthly recurring charge for flat versus measured rate service, and -
22 0.026 with respect to toll. While these elasticities are somewhat larger
23 (in absolute value) than the corresponding nationwide elasticities, it is
24 important to note that the price elasticity for residential access with
25 respect to toll is larger than the price elasticities for residential access

1 with respect to the monthly recurring charges. As a result, a
2 rebalancing of rates that combines toll reductions with increases in the
3 monthly recurring charges need not reduce, and indeed could increase,
4 telephone subscribership.

5

6 **Q. HOW DO THE PRICE ELASTICITY ESTIMATES FOR FLORIDA**
7 **COMPARE WITH THOSE FOR OTHER STATES?**

8 A. Exhibit No. DMP-2 provides elasticity estimates by state. Table 1 in
9 Exhibit No. DMP-3 summarizes the high and low values for each price
10 elasticity, as well as the values for Florida. Elasticity estimates for
11 Florida lie well within the range bounded by the high and low price
12 elasticity estimates.

13

14 **Q. SINCE SOME CUSTOMERS PURCHASE NO LOCAL TOLL,**
15 **INTERLATA TOLL, OR VERTICAL SERVICES, ISN'T IT TRUE THAT**
16 **SOME LOW INCOME CUSTOMERS WILL EXPERIENCE ONLY AN**
17 **INCREASE IN THE PRICE OF BASIC LOCAL SERVICE WITHOUT**
18 **COMMENSURATE DECREASES IN THE PRICES OF OTHER**
19 **SERVICES?**

20 A. Yes. However, the number of such customers is quite small, so that
21 targeted subsidies to such customers would not place a large burden
22 on other subscribers. I have analyzed GTE billing data from March
23 1998, and found that only 1.9% of residential customers with annual
24 income below \$20,000 do not purchase any vertical services, toll, or
25 long-distance.

1 Q. YOU HAVE DISCUSSED ECONOMETRIC STUDIES OF PRICE
2 ELASTICITIES FOR RESIDENTIAL BASIC ACCESS, AND THE
3 IMPORTANCE OF FACTORS OTHER THAN THE MONTHLY
4 RECURRING CHARGE IN DETERMINING SUBSCRIBERSHIP. DO
5 OTHER NONECONOMETRIC STUDIES SUPPORT THIS VIEW?

6 A. Yes. In response to a requirement from the California Public Utility
7 Commission, the Field Research Corporation conducted a study of
8 affordability of telephone service in California (hereafter denoted the
9 "FRC Study"). This study sought to determine the reasons why some
10 households do not have telephone service, to explore the affordability
11 of telephone service, and to provide a means of updating telephone
12 penetration rates by company and ethnicity/race in areas shown to
13 have low penetration rates by the 1990 U.S. Census. This study is
14 particularly valuable because of the effort made to contact households
15 without telephone service in areas with less than 90% telephone
16 penetration as indicated in the 1990 U.S. Census.

17
18 While the FRC study identified cost as a significant factor in not having
19 telephone service, it was not the recurring monthly charge that was the
20 most important factor mentioned. Approximately 25% of non-customers
21 indicated that they could not afford telephone service at perceived
22 rates, but the rates that concerned them most were costs that caused
23 their bills to vary on a month to month basis. Toll and collect calls were
24 among the costs that cause this month to month variation in bills.
25 Customers were most concerned with the ability to control their overall

1 monthly phone bills and recognized that monthly recurring charges
2 were only a fraction of that total cost.

3
4 When the costs non-subscribers already incur for telephone service are
5 considered, it is not surprising that most non-subscribers do not
6 consider the monthly recurring charge as a primary barrier to local
7 telephone service. The Field study shows that the average non-
8 subscriber is spending \$13.00 per month on public phones. This is
9 enough to cover the GTE monthly recurring charge in Florida. This
10 also illustrates that the monthly recurring charge is not, at current
11 levels, a primary barrier to subscribership — non-subscribers are
12 spending as much on public phones as the monthly recurring charge
13 in many states.

14
15 While ability to control costs is an important issue for some non-
16 subscribers, a significant group of non-subscribers incorrectly believes
17 that they are not eligible for phone service for reasons that have little
18 to do with cost. A large group in the non-customer survey believed it
19 is necessary to have a social security number, a driver's license, or
20 U.S. citizenship to obtain telephone service. Among immigrants, the
21 longer a non-customer has been in this county, the greater the
22 likelihood of subscribing to telephone service. While a portion of the
23 non-customers group is continually migrating to telephone service, new
24 individuals enter the non-customer group.

25

1 Q. ARE YOU AWARE OF ANY OTHER SURVEYS THAT SUPPORT THE
2 BELIEF THAT THE MONTHLY RECURRING CHARGE IS NOT THE
3 PRIMARY BARRIER TO TELEPHONE SUBSCRIBERSHIP, AND
4 THAT CURRENT MRCs COULD BE RAISED WITHOUT ADVERSELY
5 AFFECTING SUBSCRIBERSHIP?

6 A. Yes. The Wyoming Public Service Commission conducted a telephone
7 affordability study in 1997. This study included a direct mail survey
8 which was sent to one thousand Wyoming households to determine
9 affordability of telephone service for the average Wyoming resident.
10 The twelve questions were designed to obtain information about
11 subscribership, the ability to call essential services without incurring toll
12 charges, the amount people would be willing to pay for basic local
13 telephone service before they no longer consider it affordable, and the
14 importance they place on telephone service.

15
16 With regard to monthly recurring charges, this study concluded:

17 "The monthly basic charge for local telephone service
18 has room for some upward movement in which prices can
19 increase and subscribership levels will remain constant.
20 People may start disconnecting their service when the
21 charge goes above the \$30.00 range because the
22 benefits of having telephone service will not outweigh the
23 cost of remaining connected."

24 (See "Telephone Affordability Study" by Annemarie Burg (1997).)

25

1 **IV. FLORIDA PSC STAFF AFFORDABILITY SURVEY**

2

3 **Q. HAVE YOU REVIEWED THE FLORIDA PUBLIC SERVICE**
4 **COMMISSION (PSC) STAFF'S RESIDENTIAL AFFORDABILITY**
5 **SURVEY?**

6 **A.** Yes. I have reviewed the survey instrument and performed a
7 preliminary analysis of the survey data.

8

9 **Q. HOW WAS THE SURVEY INSTRUMENT DEVELOPED?**

10 **A.** It is my understanding that the Commission Staff drafted the survey.
11 During the design process, Staff took input from the parties by means
12 of teleconferences, in which I participated. I raised several issues with
13 regard to the initial survey draft. I was encouraged that Staff accepted
14 some of my suggestions for changes, and the final survey instrument
15 was an improvement over the initial draft. However, the final survey
16 still reflected some serious methodological flaws that, I believe, render
17 the estimates of affordability unreliable.

18

19 **Q. WHAT WAS THE OBJECTIVE OF THE FLORIDA PSC STAFF'S**
20 **SURVEY?**

21 **A.** The chief, stated objective of the survey research was to quantify the
22 affordability of basic local residential telephone service.

23

24 **Q. PLEASE DESCRIBE HOW THE FLORIDA PSC STAFF'S SURVEY**
25 **ADDRESSES AFFORDABILITY.**

1 A. Staff outlined two general methodologies for estimating the affordability
2 of basic local residential telephone service. The first methodology
3 relied on survey respondents' answers to a series of "willingness-to-
4 pay" questions. The survey design split respondents into two equally-
5 sized groups. In a series of four consecutive questions, survey
6 respondents in the first group were asked how they would respond to
7 having the local portion of their telephone bill increased by \$2, \$5, \$10,
8 and \$20. Survey respondents were "forced" to choose one of three
9 possible actions in response to each of these price increases. There
10 possible actions were (1) pay the increase and reduce spending in
11 other areas, (2) pay the increase and no adjust other spending, and (3)
12 discontinue basic local telephone service.

13
14 The second group was asked how it would respond to having the local
15 portion of their telephone bill increased by \$20, \$10, \$5, and \$2. While
16 the second group was asked about the same increases in local
17 telephone rates, the order was reversed from the first group, so that the
18 rate increases were presented in decreasing rather than increasing
19 order. In both groups, the order in which the three alternative
20 responses were presented was varied in order to minimize order bias.

21
22 The second methodology used by the Staff to estimate the affordability
23 of basic local residential telephone service would appear to be based on
24 a comparison of basic local rates to the price of a variety of utility goods
25 and services. These included cable TV, satellite TV, Internet service,

1 home security alarm service, cellular telephone service, and pager
2 service.

3

4 Q. CAN THE FLORIDA PSC STAFF'S SURVEY BE USED TO DEVELOP
5 AN ACCURATE AND RELIABLE EMPIRICAL MEASURE OF
6 AFFORDABILITY?

7 A. No. Several characteristics of the questionnaire's design result in
8 biased responses. As a result, the survey cannot be used to develop
9 an accurate, reliable empirical measure of affordability. Presenting
10 survey respondents with a series of price changes, as the Staff did, is
11 a survey technique known as iterative bidding. Use of an iterative
12 bidding approach creates a number of potential biases which make the
13 survey results unreliable.

14

15 Staff's second approach, which relies on a comparison of basic local
16 telephone service rates to other goods and services, may provide some
17 useful information about consumer spending patterns, i.e., the relative
18 levels of expenditures on these services. However, since the Staff did
19 not ask how "essential" or "important" each of these services was to
20 the respondent, we can not use the expenditures levels to "benchmark"
21 local phone rates to any comparably essential service. Thus, all that
22 we can do with the responses to these questions is report, on average,
23 what people are spending and what percentage of the population is
24 using these services. If the Staff's survey had included a value-of-
25 service or importance scale, then we could have compared different

1 services by their expenditure levels, penetration, and value to the
2 consumers.

3

4 **Q. WHAT BIASES MAKE THE FINDINGS FROM THE FLORIDA PSC**
5 **AFFORDABILITY SURVEY UNRELIABLE FOR PREDICTING HOW**
6 **CUSTOMERS WOULD RESPOND TO INCREASES IN BASIC LOCAL**
7 **SERVICE RATES?**

8 A. The biases introduced by using an iterative bidding approach include
9 (1) starting point bias, (2) strategic behavior, (3) too much of an
10 emphasis on price, and (4) too little realism in the alternatives
11 presented to survey respondents.

12

13 **Q. PLEASE DEFINE STARTING POINT BIAS.**

14 A. Under the iterative bidding approach, survey respondents face a
15 sequence of increasing/decreasing bids to determine their "willingness-
16 to-pay" for local telephone service. A number of researchers have
17 found that the starting point, or initial bid, has a significant impact on
18 the estimated willingness to pay. Cameron, Boyle, Bishop and Welsh,
19 and Sample have all found that the initial bid influences the
20 respondent's final determination of willingness-to-pay. (In the natural
21 resource economics literature, there is considerable evidence that
22 survey respondents' willingness to pay for natural resources (such as
23 parks and air quality) depends on the initial bid in an iterative bidding
24 design. See Trudy Ann Cameron, "Interval Estimates of Non-Market
25 Resource Values from Referendum Contingent Valuation Surveys"

1 *Land Economics*, November 1991, 67(4), pp.413-21.) Boyle, Kevin J.,
2 Richard C. Bishop, and Michael P. Welsh, "Starting Point Bias in
3 Contingent Valuation Bidding Games," *Land Economics*, 61(1985),
4 188-94, Samples; Karl C., "A Note on the Existence of Starting Point
5 Bias in Iterative Bidding Games," *West. J. Agr. Econ.*, 10 (1985), 32-
6 40.)

7

8 **Q. CAN A SURVEY BE DESIGNED TO AVOID THIS PROBLEM WITH**
9 **STARTING POINT BIAS?**

10 A. Yes. By using a randomized price design, in which each respondent
11 faces a single bid to take/refuse service, starting point bias can be
12 minimized. Richard Carson and Robert Mitchell, in *Using Surveys to*
13 *Value Public Goods: The Contingent Valuation Method, Resources for*
14 *the Future (1993)*, state (at pp. 104-105): "For most purposes the
15 bidding game technique is not recommended because it is prone to
16 starting point bias. Each of the other techniques requires the
17 researcher to be sensitive to their potential drawbacks. The take-it-or-
18 leave-it methods have gained favor in recent years because they
19 simplify the respondents' valuation choice and lend themselves to use
20 in mail or telephone surveys." In the context of the Florida PSC survey,
21 using a randomized price design would have required dividing the
22 sample into four groups. Respondents in each of the four groups would
23 have been asked how they would respond to a single increase in price,
24 either \$2, \$5, \$10, or \$20.

25

1 The design's tradeoff is that since the randomized price design obtains
2 a response to only one price change from each respondent, it is less
3 efficient than the iterative bidding design. However, one can simply
4 sample more respondents to offset the loss in efficiency while avoiding
5 the starting point bias. As a result, the randomized price design is the
6 approach recommended by most researchers measuring willingness to
7 pay in the natural resource economics literature. (See Carson and
8 Mitchell, *Using Surveys to Value Public Goods*, cited above.)
9

10 **Q. PLEASE DEFINE STRATEGIC BEHAVIOR.**

11 **A. Strategic behavior occurs when survey respondents attempt to**
12 **influence the outcome of the survey by their answers. Strategic**
13 **behavior has been defined as the fact that: "Respondents may be**
14 **induced to provide distorted or biased information in an effort to**
15 **influence some aspect of the process". (See Myrick Freeman, *The***
16 ***Benefits of Environmental Improvement*, Resources for the Future,**
17 **p.87.)**
18

19 **Q. PLEASE DESCRIBE HOW STRATEGIC BEHAVIOR BY SURVEY**
20 **RESPONDENTS COULD HAVE BIASED THE COMMISSION'S**
21 **SURVEY RESULTS.**

22 **A. The introduction to the Staff's survey specifically identified the survey's**
23 **sponsor, the Florida Public Service Commission, and then stated that:**
24 **"Your response will help the Public Service Commission understand**
25 **how Floridians view the price of local telephone service." The linking**

1 of the survey sponsor--i.e., the agency consumers view as controlling
2 phone rates--with the survey's avowed focus on price of local phone
3 service increased the likelihood that the respondents would believe that
4 their answers would affect future rate decisions and therefore increased
5 their incentive to behave strategically. (See Carson and Mitchell at p.
6 144 for a taxonomy of strategic behavior and its potential biases and
7 the implications for biasing the willingness-to-pay estimate.) In general,
8 market research firms in the private sector do not disclose the survey's
9 sponsor in order to minimize strategic behavior.

10

11 **Q. COULD THE STRATEGIC BEHAVIOR BIAS HAVE BEEN REDUCED?**

12 **A.** Yes. If respondents believed that the results of a survey could affect
13 telephone rates, they would have had an incentive to engage in
14 strategic behavior. In contrast, had respondents been unable to
15 determine what type of expenditures the survey focussed on, they
16 would have had little incentive (or ability) to engage in strategic
17 behavior. In the context of the Florida PSC survey, respondents could
18 have been told that the survey was investigating consumer
19 expenditures on a variety of utility services, and could have been
20 questioned on a variety of utility services to reduce their focus on basic
21 local telecommunications.

22

23 **Q. WHY DO YOU BELIEVE THAT THE FLORIDA PSC STAFF'S**
24 **AFFORDABILITY SURVEY PLACED TOO MUCH EMPHASIS ON**
25 **PRICE?**

1 A. Each respondent in the Staff's survey could face up to four rate
2 increase questions, depending on the price at they said they would
3 disconnect. The only difference between each question was the size
4 of the rate increase. Since the basic service rate is the only factor that
5 is changing between questions, the respondent deduces that it must be
6 particularly important to the surveyor, and may as a result become
7 more sensitive to changes in rates than he/she otherwise would be.
8 It is well known within the market research literature that such
9 "monadic" designs (where the only variable to change is the price of a
10 single good or service) can result in an overestimate of the sensitivity
11 of respondents to price changes.

12

13 **Q. WHY DO YOU BELIEVE THE LACK OF REALISM IN**
14 **ALTERNATIVES PRESENTED TO SURVEY RESPONDENTS BIASES**
15 **THE SURVEY RESULTS?**

16 A. In response to each increase in basic local service rates, respondents
17 to the Florida PSC survey were "forced" to either (1) discontinue basic
18 local phone service, (2) pay the increase and not adjust other
19 spending, or (3) pay the increase and reduce spending in "other areas."

20 While the disconnect option is clearly understandable and realistic, the
21 other options are rather vague. When faced with a mix of realistic and
22 vague alternatives that may not reflect their actual options, respondents
23 will be biased toward the more realistic alternatives.

24

25 **Q. HOW COULD SURVEY RESPONDENTS HAVE BEEN PROVIDED**

1 **WITH MORE REALISTIC ALTERNATIVE RESPONSES TO**
2 **INCREASES IN BASIC LOCAL SERVICE RATES?**

3 A. The above-described problem could have been mitigated by providing
4 respondents with greater specificity and more flexibility in their set of
5 options. Allowing the respondents to choose from reducing
6 expenditures on toll, long distance, or vertical services, would have
7 been more realistic. Econometric studies appear to show that
8 customers react to the total telephone bill. Also, allowing respondents
9 to choose more than one option, with a scale to rate the likelihood of
10 them taking the action, would be more realistic than a "forced" choice.
11 Providing greater realism in the list of options and allowing for multiple
12 choices is a more realistic depiction of consumers choices and
13 therefore provides more realistic responses.

14
15 **Q. YOU HAVE DESCRIBED HOW STARTING POINT BIAS, STRATEGIC**
16 **BEHAVIOR, AN OVEREMPHASIS ON PRICE, AND LACK OF**
17 **REALISTIC ALTERNATIVES COULD BIAS INFORMATION**
18 **COLLECTED FROM SURVEY RESPONDENTS. HAVE YOU SEEN**
19 **EVIDENCE OF STARTING POINT BIAS IN YOUR ANALYSIS OF**
20 **THE DATA FROM THE FLORIDA PSC STAFF'S SURVEY?**

21 A. Yes. Analysis of the data collected in the Florida PSC Staff's survey
22 indicates significant problems created by these sources of bias.
23 Starting point bias is clearly present in the data. There is a dramatic
24 difference in the responses of those who started with a \$2 increase in
25 basic local service rates and faced ascending rate increases, and those

1 who started with a \$20 increase in basic local service rates and faced
2 descending rate increases. Of the survey respondent group that
3 started with a \$2 increase in basic local service rates, approximately
4 23% said they would disconnect if faced with a \$2 increase and nearly
5 54% said they would disconnect when the increase rose to \$20. But in
6 the survey respondent group that started with a \$20 increase in basic
7 local service rates and faced descending rate increases, slightly less
8 than 12% said they would disconnect due to a \$20 increase in basic
9 local service rates.

10
11 However, by the time that the rate increase had dropped to \$2, a total
12 of 45% had said that they would discontinue service. Clearly, these
13 two sets of results are at odds with each other. In one case, 23%
14 disconnect at \$2 and, in the second case, only 12% disconnect at a
15 \$20 increase. Also, an additional 32% (44%-12%) apparently decided
16 to disconnect when the rate change decreased from \$20 to \$2. This
17 result violates common sense and basic economic theory and suggests
18 either strategic behavior or confusion (or both) on the part of the
19 respondents. Without question, the percentage of customers
20 disconnecting in response to a given basic local service rate increase
21 was highly influenced by the order in which the price increases were
22 presented.

23
24 Table 3 in Exhibit No. DMP-3 provides the estimated subscribership
25 rate for the Tampa-St.Petersburg MSA using results from the Florida

1 PSC Staff's survey. At the current basic local service rate of \$11.81,
2 the subscribership rate is 94.9%. Table 3 also shows how this
3 subscribership rate would change if the basic local service rate were
4 increased to \$13.81, \$16.81, \$21.81, and \$31.81 using the results from
5 the two customer groups in the Florida PSC Staff's survey. The
6 "Ascending Group" shows results based on the customer group that
7 faced ascending rate increases, and the "Descending Group" shows
8 results for the customer group facing descending rate increases.

9
10 The inherent contradiction between the two sets of results is
11 highlighted by the second line of the table, which shows that
12 penetrations increase from 52% to 84% as the rate increase goes up
13 from \$2 to \$20. The empirical results from this survey are highly
14 dependent on which customer group is chosen, a clear indication of
15 starting point bias and probably strategic behavior as well.

16
17 **Q. HAVE YOU SEEN ANY EVIDENCE FROM REAL MARKET DATA**
18 **THAT SHOWS THAT THE SURVEY'S RESULTS ARE BIASED?**

19 **A.** Yes. When we examine basic local service rates and subscribership
20 rates in the FCC's report "Telephone Subscribership in the United
21 States" (July, 1998), we find that states with basic local service charges
22 \$2 (or more) higher than those in Florida have similar subscribership
23 rates. In fact, the 23% to 45% reduction in subscribership implied by
24 the Florida PSC survey would lower the subscribership rate in Florida
25 below 70%, while the lowest subscribership rate in any of the fifty

1 states is over 88%. Basic local rates in Florida would remain in the
2 range of many other states if increased by \$2; however, the Florida
3 PSC survey implies that the resulting subscribership levels would be at
4 least 20% below any other state in the nation.

5
6 As another "reality check," we can also compare the percentage
7 decrease in penetration predicted by the Staff's survey to that predicted
8 by the Hausman, Tardiff and Bellinfante (HTB) econometric model.
9 These results are shown in Table 4 in Exhibit No. DMP-3. The HTB
10 model was estimated from Current Population Survey data, which is
11 again based on observed, or real, market behavior. The HTB results
12 can be used to calculate the price elasticity of demand (The price
13 elasticity for the monthly recurring charge is defined here as the
14 percentage change in penetration divided by percentage change in
15 price. The HTB study and the price elasticity calculation were
16 discussed earlier in my testimony. The estimate is based on observed
17 changes in local telephone penetration rates and observed changes
18 in various charges including the monthly non-recurring charge,
19 recurring charge (flat and measured rates), and toll prices.) for the
20 monthly recurring charge, among other things. We can then use the
21 price elasticity to calculate the percentage change in penetration from
22 the HTB model and compare it to the results from the surveys.

23
24 These results again show that the Staff's survey greatly overestimates
25 the number of households that will disconnect when rates are

1 increased and therefore should be calibrated to reflect actual market
2 experience.

3
4
5

V. BILLING DATA ANALYSIS OF CONSUMER EXPENDITURE PATTERNS

7

8 **Q. HOW DOES ANALYSIS BASED UPON BILLING DATA DIFFER**
9 **FROM ANALYSIS BASED ON SURVEY DATA?**

10 A. When a researcher solicits customer response in a willingness to pay
11 survey, the basis for any analysis is expressed preferences of customer
12 sample. By carefully designing the customer sample, a sample which
13 is representative of the customer population can be obtained. As I
14 have explained, careful design of the survey questionnaire is
15 necessary to prevent biases in the customer responses, which
16 invalidate the resulting estimates of affordability.

17

18 In comparison, the use of billing data provides an opportunity to
19 observe and analyze the actual behavior of consumers in the
20 marketplace. As a result, I believe the examination of billing data for
21 telecommunications, as well as other services provided by public
22 utilities, can be a valuable source of information to be used in
23 conjunction with findings from a properly designed survey.

24

25 **Q. WHAT SOURCES OF CUSTOMER BILLING DATA HAVE YOU**

1 **EXAMINED?**

2 A. I have examined customer-billing data from two sources. First, I have
3 examined billing data collected from all GTE customers in Florida. This
4 data provides information on the composition of telecommunications
5 expenditures by consumers. Second, I have examined billing data
6 collected by PNR Associates as part of the Bill Harvesting Project. This
7 data source provides actual customers' bills for services such as cable
8 TV and wireless communications as well as local telephone service.

9
10 **Q. PLEASE DESCRIBE YOUR ANALYSIS OF GTE BILLING DATA AND**
11 **FINDINGS REGARDING LOCAL TELEPHONE EXPENDITURES.**

12 A. In order to analyze consumer expenditures on telecommunications
13 services, I first obtained billing data for all GTE Florida customers from
14 March 1998. Customer expenditures were classified as basic local
15 service, vertical services, other local services, GTE intraLATA toll, and
16 non-GTE toll/LD (long distance). Expenditures on the non-GTE toll/LD
17 category were calculated by converting access minutes to originating
18 toll minutes, and then multiplying by a rate of \$0.1253 per minute.
19 Customers were classified into five different groups based upon annual
20 income. For each expenditure category and income level, average
21 expenditure per local line is shown in Table 5 in Exhibit No. DMP-3.

22
23 In each of the five income classes, basic local service represents less
24 than 30% of the total expenditures in Table 5. Note that some types of
25 telecommunications expenditures, such as those for wireless and

1 Internet services, are not included in Table 5. At all income levels,
2 expenditures for toll and long distance are greater than expenditures
3 for basic local service.

4
5 Table 5 illustrates that items such as vertical services, toll, and long
6 distance are a significant portion of telecommunication expenditures for
7 customers in all income classes. The rates for these non-basic
8 services all play a role in determining the affordability of telephone
9 subscribership. These findings are consistent with the results of the
10 econometric model developed by Hausman, Tardiff, and Belinfante and
11 the Field Research Corporation survey that I discussed in section III.
12 Since toll and long distance account for a significant portion of
13 telecommunication expenditures of customers at all income levels, it is
14 not surprising that the Hausman-Tardiff-Belinfante model found that toll
15 and long distance rates are statistically significant variables for
16 predicting subscribership rates, and that the Field Research
17 Corporation found that inability to control and pay long distance bills is
18 a major reason for non-subscribership. Even in the lowest income
19 class, the potential impact of raising monthly recurring charges on
20 affordability can be offset by reductions in the rates for non-basic
21 telecommunications services such as vertical services, toll, and long
22 distance.

23

24

25 Q. PLEASE EXPLAIN YOUR ANALYSIS OF CONSUMER

1 **EXPENDITURES ON CABLE TV AND WIRELESS**
2 **TELECOMMUNICATIONS.**

3 A. Cable TV and wireless telecommunications services are not accounted
4 for in the GTE billing data used to construct Table 5. In order to obtain
5 a measure of Cable TV and wireless telecommunications expenditures
6 in Florida, I analyzed the customer bill data collected for Florida by the
7 PNR Associates Bill Harvesting Project. This project collects actual
8 bills from customers for a variety of public utility-type services as well
9 as socioeconomic data. The analysis presented in this testimony is
10 based on data from the first quarter of 1998.

11
12 The average local telephone customer in Florida spends \$20.41 per
13 month on cable TV. Among customers with an annual income below
14 \$20,000, the average monthly expenditure on cable TV is \$17.25. In
15 other words, the average household with an income below \$20,000
16 spends more each month for cable TV than to obtain basic local
17 residential telephone service. Note that this average is calculated over
18 all local telephone customers with an annual income below \$20,000;
19 among the 49.7% that have cable TV, the average monthly expenditure
20 is \$34.69. When local telephone customers from all income levels are
21 considered, 54.9% have cable TV, and these individuals spend an
22 average of \$37.20 per month.

23
24
25 While expenditures for wireless telephones are smaller than those for

1 cable TV are, they are not insignificant. Among customers with an
2 income below \$20,000, 12.0% have wireless telephones, upon which
3 they spend an average of \$28.43 per month. Among all local
4 telephone customers, 22.6% have wireless phones, and spend an
5 average of \$40.14 per month.

6
7 Florida customers, even those at lower income levels, choose to spend
8 a considerable amount of money on cable TV and wireless
9 communications as well as previously discussed telecommunications
10 services such as vertical services, toll, and long distance. If Florida
11 consumers were faced with increases in the monthly recurring charge
12 for basic local telephone services, many other expenditure areas could
13 be adjusted to keep basic local telephone service affordable. In view
14 of the significant expenditure levels on these other non-basic services,
15 many customers would likely find telephone service more affordable if
16 increases in the monthly recurring charge were combined with
17 reductions in the rates for some non-basic services.

18 19 VII. CONCLUSION

20
21 **Q. WHAT ARE THE POLICY IMPLICATIONS OF THE ANALYSIS YOU
22 SET FORTH IN THIS TESTIMONY?**

23 **A.** Telephone subscribership levels are high at the present time.
24 Subscribership levels have been relatively stable over the past decade
25 for all households, although some increase in the rate for low income

1 households has occurred. Yet during this time the inflation-adjusted
2 basic residential monthly recurring charge has declined by about 40%.

3
4 Econometric studies show that the monthly recurring charge can be
5 raised without lowering subscribership if toll rates or other components
6 of the monthly bill are reduced. Customer surveys support this result,
7 showing that the monthly recurring charge is not the primary barrier to
8 subscribership for most non-subscribers. Examination of billing data
9 supports these findings from econometric studies and surveys by
10 showing that monthly recurring charges for basic local service accounts
11 for only about 30% of the typical customer's telecommunications bill.

12
13 Targeted programs aimed at low income customers as well as
14 programs to enable customers to control monthly toll expenses would
15 appear to be more effective means of raising subscribership levels than
16 the current system of implicit subsidies between non-basic and basic
17 service. Indeed, many low income customers would potentially find
18 telephone service more affordable under rate rebalancing, as the rates
19 on services which account for a majority of their telecommunications bill
20 would potentially be lowered.

21
22 Since non-subscribers represent a small proportion of the population
23 and the monthly recurring charge is not a primary reason for non-
24 subscribership, a policy of subsidizing monthly recurring charges for all
25 customers in order to boost subscribership appears poorly focused and

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unlikely to have a significant effect on subscribership.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

GTE Florida

Monthly Recurring Charge For Fixed Rate R1 Service

| <u>Number of Lines</u> | <u>1987</u> | <u>1997</u> | <u>% Change</u> |
|------------------------|-------------|-------------|-----------------|
| 0 to 12,000 | \$ 8.83 | \$ 9.51 | 7.7% |
| 12,001 to 25,000 | \$ 9.33 | \$ 9.51 | 1.9% |
| 25,001 to 50,000 | \$ 9.78 | \$10.41 | 6.4% |
| 50,001 to 90,000 | \$10.27 | \$10.41 | 1.4% |
| 90,001 to 170,000 | \$10.68 | \$10.86 | 1.7% |
| 170,001 to 300,000 | \$11.18 | \$11.36 | 1.6% |
| 300,001 and more | \$11.63 | \$11.81 | 1.6% |

Special Project 980000-A
Comments of Donald M. Perry
Exhibit No. DMP-2
FPSC Exhibit No. ____
Page 1 of 8

An Analysis of Residential Access Penetration

July 27, 1993

Mark A. Porter
Donald M. Perry

GTE Forecast Methods

FORECAST METHODS

1. Background/Overview

This analysis was performed to investigate the impacts of changes in access price, installation charges and changes in toll prices on residential access penetration for each state.

The literature for access line studies is limited and dated. Taylor(1980) reports the results for several older(pre-divestiture) studies. More recent studies, such as the 1984 NERA study, suggest lower elasticities. In general, these studies show that the demand for residential access is highly inelastic. This study similarly finds that the demand for residential access is quite inelastic.

This analysis, which is based on census data, is more comprehensive and complete than what we have been able to do previously. All of our prior analysis has been on aggregate data. In this case actual household data which included people with and without telephone service were used. Thus we were able to measure peoples revealed decisions. We were able to estimate price elasticities for non-recurring charges (NRCs) which we have not been able to do before. We can look at the "total bill effect" and estimate the impact of toll price changes on residential access penetration. Hausman, et al and Belinfante have shown that declines in toll prices offset some of the impact of increases in access rates. We can estimate the impact on penetration of changes in both flat and measured rates. These results can be used to simulate the impact of various rate changes.

2. Data

Annual data from 1984 through 1988 were used in the analysis. This data was collected by the FCC and provided to us by National Economic Research Associates, NERA. The data include telephone penetration, demographic variables and prices. The demographic information is from the Current Population Survey, while the prices were collected from the U.S. Telephone Association. Telephone penetration information was gathered as a supplemental question by the Census Bureau as part of the surveys. There are data from about 200 areas for the first two years and approximately 500 areas for

the last three years. The toll price series is a weighted average of interstate, intrastate/interLATA and intrastate/intraLATA prices. The prices are weighted by volumes. The weighted average toll price is computed as follows:

$$\text{Weighted Index} = \frac{(\text{Volume A} * \text{Index A}) + (\text{Volume B} * \text{Index B})}{(\text{Volume A} + \text{Volume B})}$$

3. Theoretical Approach

In general the demand for telecommunications services such as residential access is a function of price, market size, economic activity and seasonal factors. This concept is described in Taylor and expanded by Hausman, et al (93) to address the post AT&T divestiture environment. In this case, which follows the Hausman, et al analysis, the proportion of households with telephone service was postulated to be a function of several demographic variables, the installation price, the measured service rate, the weighted average toll price index and the difference between flat and measured rates. The demographic variables are listed in the results section.

4. Model Specification

The binary logit model has the following form $P = 1 / (1 + e^{-L})$. Where P is the proportion of households with telephones and L is a linear combination of the explanatory variables.

5. Estimation

The model was estimated in three stages. The first stage was an OLS estimation with the dependent variable being the "log odds" of the penetration rate and the explanatory variables being those discussed above. The log odds is the inverse of the above logit model.

$$\text{Log odds} = \text{Log} \left(\frac{\text{Penetration}}{1 - \text{Penetration}} \right)$$

The second stage consisted of regressing the squared residuals from the first stage on state specific indicator variables and the inverse of the number of observations for each geographic area. This step was performed to develop weights (estimated variances) to be used to correct for heteroscedasticity (in this case differing

variances across geographic areas). This procedure is described in Theil(72).

In stage three, stage one is repeated with each observation(geographic area) weighted by the inverse of the corresponding variance estimated in stage two. The weighting performs the heteroscedasticity correction.

6. Results

Model Estimation(stage 3)

All of the estimates have the correct sign, that is they have the signs that we would expect from economic theory. Most of the estimates are statistically significant. Variables which were not statistically significant were retained in the analysis because it makes theoretical sense to do so. Their exclusion would bias the results.

| Variable | Estimate | T-Value | Adjusted R-sq .48 |
|----------|----------|---------|----------------------|
| INT | 2.1568 | 4.41 | |
| NRC | -0.0065 | -4.84 | |
| MRC | -0.0134 | -2.90 | |
| DELTA FM | -0.0047 | -.97 | |
| TOLLIND | -0.3635 | -4.75 | |

| Variable | Estimate | T Value |
|----------|----------|---------|
| B1 | -0.2727 | -3.67 |
| B2 | 0.1551 | 3.84 |
| B3 | -2.1777 | -7.05 |
| B4 | -3.2987 | -4.70 |
| B5 | 0.5064 | .61 |
| B6 | 1.0654 | 6.03 |
| B7 | 0.0581 | .17 |
| B8 | 0.8977 | 1.54 |
| B9 | -1.9347 | -4.89 |
| B10 | 0.1718 | .45 |
| B11 | -0.2664 | -2.43 |
| B12 | 0.4623 | 2.63 |
| B13 | -0.8718 | -2.84 |
| B14 | -1.9639 | -6.00 |
| B15 | -0.5482 | -2.91 |
| B16 | 0.3622 | .39 |
| B17 | 0.9008 | 2.76 |

| | | |
|-----|---------|-------|
| B18 | -0.1326 | -.17 |
| B19 | 1.8854 | 10.53 |
| B20 | -1.0417 | -2.91 |

WHERE

| | |
|----------------|---|
| INT | = intercept |
| NRC | = non-recurring charge |
| MRC | = monthly recurring charge (measured) |
| DELTA FM | = flat rate - measured rate |
| TOLLIND | = toll price index |
| B ₋ | = NONMSA (in MSA indicator variable) |
| B2 | = SUBURB (in MSA, but outside central city indicator) |
| B3 | = LQMOBH (proportion of households in mobile homes) |
| B4 | = LQROOM (proportion in rooming houses or hotels) |
| B5 | = GROUPQ (proportion living in group quarters) |
| B6 | = OWNH (proportion in owner occupied) |
| B7 | = PUBH (proportion in public housing) |
| B8 | = RENTSU (proportion receiving rent subsidy) |
| B9 | = FOODST (proportion receiving food stamps) |
| B10 | = ALONE (proportion households with only 1 person) |
| B11 | = NPU18 (avg number under 18 per household) |
| B12 | = NPAL18 (avg number at least 18 per household) |
| B13 | = SMC FAM (prop. households w. only one family) |
| B14 | = MHNW (prop. male householder w. no wife present) |
| B15 | = HHSPAN (prop. w. Hispanic householder) |
| B16 | = AL4U15 (prop. w. at least 4 children under 15) |
| B17 | = SEINCR (prop. receiving self employment income) |
| B18 | = FARMIR (prop. receiving farm income) |
| B19 | = INTIR (prop. receiving interest income) |
| B20 | = IBPOVL (prop. w. income below the poverty level) |

The elasticities, evaluated at the means for each state for the most recent year are given by the following formula:

$$e = (1 - \text{Penetration}) * \text{Price Coefficient} * \text{Price}$$

ELASTICITY ESTIMATES

| | INSTALLATION | TOLL | MEASURED | DIFF (FLAT-MEASURED) |
|---------|--------------|-------|----------|----------------------|
| ALABAMA | -.033 | -.042 | -.019 | -.0049 |
| ALASKA | -.025 | -.044 | -.015 | |
| ARIZONA | -.030 | -.034 | -.012 | -.0025 |

Analysis of Residential Access Penetration

Page 5

| | | | | |
|---------------|--------------|-------|----------|----------------------|
| ARKANSAS | -.045 | -.059 | -.023 | -.0052 |
| CALIFORNIA | -.013 | -.021 | -.006 | -.0012 |
| | INSTALLATION | TOLL | MEASURED | DIFF (FLAT-MEASURED) |
| COLORADO | -.019 | -.019 | -.006 | -.0012 |
| CONNECTICUT | -.010 | -.016 | -.005 | -.0012 |
| DELAWARE | -.010 | -.011 | -.005 | 0 |
| FLORIDA | -.030 | -.026 | -.010 | -.0015 |
| GEORGIA | -.025 | -.030 | -.018 | -.0008 |
| HAWAII | -.014 | -.017 | -.010 | |
| IDAHO | -.016 | -.026 | -.009 | -.0020 |
| ILLINOIS | .019 | -.022 | -.011 | -.0003 |
| INDIANA | -.026 | -.030 | -.018 | -.0001 |
| IOWA | -.012 | -.019 | -.008 | -.0012 |
| KANSAS | -.012 | -.018 | -.007 | -.0007 |
| KENTUCKY | -.027 | -.038 | -.018 | -.0026 |
| LOUISIANA | -.050 | -.047 | -.020 | -.0034 |
| MAINE | -.016 | -.021 | -.010 | -.0006 |
| MARYLAND | -.011 | -.012 | -.004 | -.0002 |
| MASSACHUSETTS | -.007 | -.012 | -.002 | -.0010 |
| MICHIGAN | -.015 | -.020 | -.005 | -.0020 |
| MINNESOTA | -.006 | -.011 | -.005 | -.0012 |
| | INSTALLATION | TOLL | MEASURED | DIFF (FLAT-MEASURED) |
| MISSISSIPPI | -.059 | -.058 | -.035 | -.0043 |

FORECAST METHODS

| | | | | |
|----------------|-------|-------|-------|--------|
| MISSOURI | -.019 | -.026 | -.008 | -.0020 |
| MONTANA | -.020 | -.032 | -.013 | -.0022 |
| NEBRASKA | -.007 | -.013 | -.006 | -.0010 |
| NEVADA | -.017 | -.029 | -.008 | -.0026 |
| NEW HAMPSHIRE | -.009 | -.013 | -.004 | -.0015 |
| NEW JERSEY | -.016 | -.021 | -.006 | -.0009 |
| NEW MEXICO | -.051 | -.052 | -.024 | -.0048 |
| NEW YORK | -.013 | -.015 | -.005 | -.0019 |
| NORTH CAROLINA | -.022 | -.035 | -.020 | -.0005 |
| NORTH DAKOTA | -.006 | -.012 | -.005 | -.0003 |
| OHIO | -.013 | -.021 | -.012 | -.0006 |
| OKLAHOMA | -.027 | -.037 | -.014 | -.0027 |
| OREGON | -.021 | -.037 | -.017 | -.0031 |
| PENNSYLVANIA | -.013 | -.014 | -.003 | -.0001 |
| RHODE ISLAND | -.007 | -.015 | -.005 | -.0022 |
| SOUTH CAROLINA | -.042 | -.042 | -.022 | -.0035 |
| SOUTH DAKOTA | -.019 | -.028 | -.012 | -.0017 |
| TENNESSEE | -.027 | -.030 | -.009 | -.0033 |
| TEXAS | -.046 | -.045 | -.015 | -.0029 |
| UTAH | -.019 | -.027 | -.016 | -.0003 |
| VERMONT | -.009 | -.015 | -.008 | -.0011 |
| VIRGINIA | -.014 | -.020 | -.006 | -.0002 |
| WASHINGTON | -.015 | -.024 | -.008 | -.0019 |
| WEST VIRGINIA | -.037 | -.044 | -.015 | -.0094 |

| | | | | |
|-----------|-------|-------|-------|--------|
| WISCONSIN | -.009 | -.016 | -.011 | -.0004 |
| WYOMING | -.018 | -.024 | -.008 | -.0010 |

| | INSTALLATION | TOLL | MEASURED | DIFF (FLAT-MEASURED) |
|---------------|--------------|------|----------|----------------------|
| T - STATISTIC | -4.8 | -4.7 | -2.9 | -1.0 |

7. Conclusions:

- (1) The elasticity estimates are reasonable.
- (2) Toll price and changes in toll price have a significant impact on penetration.
- (3) The results show the impact of tradeoffs between flat and measured rates upon penetration.

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TABLE ONE
DEMAND ELASTICITIES FOR LOCAL MEASURED SERVICE,
LOCAL TOLL SERVICE, AND INSTALLATION

| Service | Most Price Sensitive State and Elasticity | Least Price Sensitive State and Elasticity | Florida Elasticities |
|----------------|--|---|-----------------------------|
| Local Measured | Mississippi (0.035) | Massachusetts (0.002) | (0.010) |
| Local Toll | Arkansas (0.059) | Delaware (0.011) | (0.026) |
| Installation | Mississippi (0.059) | North Dakota (0.006) | (0.030) |

TABLE TWO
BASIC RESIDENTIAL SERVICE
AS A PERCENTAGE OF CUSTOMERS' TOTAL LOCAL PHONE BILLS

| State | Average Monthly Local Phone Bill | Average Monthly Basic Residential Service | Basic Residential Service as a Percentage of Total Local Phone Bill | Percent of Households With Telephone Service |
|----------------|----------------------------------|---|---|--|
| | (\$) | (\$) | (%) | (%) |
| Alabama | 41.22 | 18.25 | 44 | 92.0 |
| Arizona | 56.41 | 15.06 | 27 | 93.8 |
| Arkansas | 40.53 | 12.14 | 30 | 87.3 |
| California | 37.98 | 14.94 | 39 | 95.1 |
| Florida | 33.02 | 10.15 | 31 | 93.3 |
| Hawaii | 31.30 | 14.01 | 45 | 96.0 |
| Idaho | 46.55 | 13.81 | 30 | 92.1 |
| Illinois | 40.52 | 15.92 | 39 | 93.0 |
| Indiana | 37.46 | 13.38 | 36 | 94.5 |
| Iowa | 43.34 | 13.03 | 30 | 98.0 |
| Kentucky | 40.07 | 9.15 | 23 | 92.8 |
| Michigan | 40.25 | 13.66 | 34 | 95.5 |
| Minnesota | 36.93 | 16.38 | 44 | 97.2 |
| Missouri | 42.18 | 10.88 | 26 | 94.8 |
| Nebraska | 39.18 | 10.63 | 27 | 95.8 |
| Nevada | 35.48 | 9.19 | 26 | 92.7 |
| New Mexico | 41.67 | 10.06 | 24 | 86.1 |
| North Carolina | 40.01 | 13.82 | 35 | 95.3 |
| Ohio | 37.72 | 14.29 | 38 | 94.5 |
| Oklahoma | 36.61 | 12.90 | 35 | 92.4 |
| Oregon | 39.03 | 19.57 | 50 | 96.3 |
| Pennsylvania | 31.55 | 13.14 | 42 | 96.9 |
| South Carolina | 40.97 | 15.39 | 38 | 91.3 |
| Texas | 38.75 | 13.90 | 36 | 91.4 |
| Virginia | 44.05 | 12.32 | 28 | 93.8 |
| Washington | 38.63 | 12.32 | 32 | 94.8 |

TABLE 3

**TAMPA-ST.PETERSBURG SUBSCRIBERSHIP
 UNDER ALTERNATIVE BASIC LOCAL RATES**

| | \$11.81 | \$13.81 | \$16.81 | \$21.81 | \$31.81 |
|------------------|---------|---------|---------|---------|---------|
| Ascending Group | 95% | 74% | 64% | 53% | 44% |
| Descending Group | 95% | 52% | 66% | 73% | 84% |

Table 4: A comparison between HTB and Staff's Estimates of Penetration

| Source | Version | \$2 | \$5 | \$10 | \$20 |
|--------|-------------|-------|-------|-------|-------|
| Staff | \$2 to \$20 | -23% | -32% | -45% | -54% |
| Staff | \$20 to \$2 | -45% | -31% | -23% | -12% |
| HTB | | -0.2% | -0.4% | -0.8% | -1.7% |

Table 5
Monthly Expenditure and Annual Income

| | \$0 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$59,999 | \$60,000 and Higher |
|---------------------|-------------------|-------------------------|-------------------------|-------------------------|------------------------|
| Basic Local Service | \$13.10 | \$12.73 | \$13.35 | \$14.47 | \$15.58 |
| Other Local Service | \$0.43 | \$0.47 | \$0.50 | \$0.54 | \$0.55 |
| Vertical Service | \$3.67 | \$3.45 | \$3.55 | \$3.81 | \$3.96 |
| GTE | \$1.28 | \$1.50 | \$1.59 | \$1.56 | \$1.62 |
| Non-GTE Toll/LD | \$23.10 | \$25.07 | \$27.83 | \$32.03 | \$35.05 |
| Total | \$44.29 | \$46.16 | \$50.08 | \$56.17 | \$60.87 |



BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Undocketed special project:
Fair and Reasonable Residential
basic local telecommunications
rates

} SPECIAL PROJECT 980000A-SP

**COMMENTS OF
BERT I. STEELE
ON BEHALF OF
GTE FLORIDA INCORPORATED**

SEPTEMBER 24, 1998

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Exhibits:

| | |
|------------------------------------|-------------------|
| The Modeled Network | Exhibit No. BIS-1 |
| ICM Process Flow Diagram | Exhibit No. BIS-2 |
| TSLRIC Cost Results | Exhibit No. BIS-3 |

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**GTE FLORIDA INCORPORATED
SPECIAL PROJECT 980000A-SP**

COMMENTS OF BERT I. STEELE

**SECTION I - IDENTIFICATION OF WITNESS AND
ORGANIZATION OF COMMENTS**

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bert I. Steele. My business address is 600 Hidden Ridge Drive, Irving, Texas 75038.

Q. BY WHOM ARE YOU EMPLOYED, AND IN WHAT CAPACITY?

A. I am employed by GTE Service Corporation as Manager – Pricing and Tariffs Support. In this capacity I am responsible for sponsoring incremental cost models and their application in support of the pricing of network services for all of GTE telephone operating companies, including GTE Florida Incorporated.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I have a Bachelor of Science Degree in Mathematics from Gannon University, and a Master of Engineering Degree from Pennsylvania State University.

1 I joined GTE in 1972 with General Telephone Company of Pennsylvania.
2 During the course of my career with GTE, I have held various marketing
3 services, pricing, valuation engineering, product management, and
4 regulatory positions throughout GTE's telephone operations. I assumed
5 my present position in November 1995.

6
7 Approximately 14 of my 25 year career in telecommunications have
8 been in the area of costing and pricing services. I have taken a number
9 of incremental cost and pricing courses from AT&T, Bellcore, the United
10 States Telephone Association ("USTA"), GTE, and the University of
11 Chicago. For nine years, I was an active participant of the USTA
12 Economic Cost Analysis Subcommittee and the USTA Economic
13 Analysis Training Work Group responsible for promoting awareness,
14 understanding, and proper application of economic principles. I served
15 as the chairman of the USTA Economic Analysis Training/Education
16 Work Group from 1992 through 1996.

17
18 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY STATE OR**
19 **FEDERAL REGULATORY COMMISSIONS?**

20 **A.** Yes. I have previously testified before this Commission on behalf of
21 GTE Florida Incorporated. I have also testified on behalf of other GTE
22 Telephone Operating Companies as an expert witness in the area of
23 incremental costing before public utility commissions in Alabama,
24 California, Hawaii, Illinois, Indiana, Michigan, North Carolina, Oklahoma,
25 Pennsylvania, South Carolina, Texas, Virginia, and Wisconsin.

1 **Q. WHAT IS THE PURPOSE OF YOUR COMMENTS?**

2 A. The Legislature has directed this Commission to report its conclusions
3 as to the fair and reasonable basic local residential service rate,
4 considering affordability, value of service, rates in other states, and the
5 cost of providing residential basic local service. In addition, the
6 Legislature directs this Commission to study and report, by February 15,
7 1998, to the President of the Senate and the Speaker of the House of
8 Representatives the relationships among the costs and charges
9 associated with providing basic local service, intrastate access, and
10 other services provided by local exchange telecommunication
11 companies. (Chapter 98-277, sec 2, par (1) and (2)(a), Florida Laws.)
12 As a result of these requirements, the Commission Staff issued their
13 June 19, 1998 data requests. In response, GTE conducted a total
14 service long-run incremental cost (TSLRIC) study. GTE used the
15 Integrated Cost Model (ICM) to produce the requested TSLRIC
16 estimates for these services, including residential and business voice-
17 grade, flat rate single-line services, PBX trunk service, vertical services,
18 intrastate switched access, and intraLATA toll. My testimony provides
19 a brief overview of ICM, reviews the economic concepts and
20 assumptions underlying the cost model, and presents the cost study
21 results.

22

23 **Q. WHAT EXHIBITS ARE YOU SPONSORING?**

24 A. I am sponsoring GTE's TSLRIC Study, contained in binders 1 through
25 15, which was provided July 31, 1998 in response to the FPSC Staff's

1 data requests. In addition, I am sponsoring the following three exhibits,
2 which are appended to my comments:

- 3 1. Exhibit No. BIS-1, The Modeled Network
4 2. Exhibit No. BIS-2, ICM Process Flow Diagram
5 3. Exhibit No. BIS-3, TSLRIC Cost Results
6
7

8 **SECTION II - OVERVIEW OF ICM**
9

10 **Q. WHAT COSTS IS THE INTEGRATED COST MODEL DESIGNED TO**
11 **CALCULATE?**

12 A. ICM is designed to estimate the long run, forward-looking incremental
13 costs of provisioning retail and wholesale telecommunication services.
14 ICM studies are not embedded cost studies, nor do they reflect the costs
15 of a hypothetical, nonexistent company. Instead, the studies reflect
16 GTE's long run economic costs, using forward-looking technology at
17 currently available prices, of provisioning telecommunication services in
18 GTE's serving territory.
19

20 **Q. PLEASE BRIEFLY DESCRIBE THE INTEGRATED COST MODEL.**

21 A. ICM is an engineering process model that was developed to calculate
22 the long run forward-looking incremental costs of providing
23 telecommunication services in GTE's serving areas. To obtain these
24 costs, ICM designs an efficient network using forward-looking
25 technology for loops, switching, interoffice transport, and SS7 signaling

1 based on GTE's current engineering practices, material costs, labor
2 costs, equipment prices, operating characteristics, existing wire center
3 locations, and its actual customer counts. Exhibit No. BIS-1 provides a
4 diagram illustrating the main components of the modeled network. ICM
5 is comprised of six modules - Loop, Switch, Interoffice Transport,
6 Signaling System 7 (SS7), Expense, and Mapping/Reporting. The
7 overall modeling process is depicted in Exhibit No. BIS-2.

8
9 ICM is a user-friendly cost model that can be run on personal
10 computers. The model software provides multiple screens where user
11 inputs can be added, or changed to conduct sensitivity analyses. The
12 ICM Model Methodology and User Guide are provided in GTE's TSLRIC
13 Study, filed 7/31/98 in response to the FPSC data requests. Reference
14 binder 2, tab 6 and binder 3, tab 7 respectively.

15
16
17 **Q. PLEASE SUMMARIZE EACH OF THE SIX MODULES OF ICM.**

18 **A.** The Loop Module estimates the investments needed to construct the
19 loop -- that portion of the telephone network that extends from the Main
20 Distribution Frame in the wire center to the Network Interface Device at
21 the end user's customer's location. These investments include items
22 such as telephone poles, manholes, copper and fiber optic cables, and
23 conduit. ICM models the loop network based on GTE's engineering
24 practices, installation costs, and material prices. ICM builds the loop
25 from existing wire center locations to customer locations determined

1 through the use of detailed census information, access line counts by
2 wire center, tariffed exchange boundaries, U.S. Government soil maps,
3 and road length data. For additional detail on this module, refer to
4 pages 7 through 43 of the ICM Model Methodology.

5
6 The Switch Module calculates the investment needed to provide the
7 circuit connections needed to complete telephone calls. The switch
8 module designs a network based on GTE's existing wire center locations
9 and the digital switch types that GTE deploys in its network. Costs are
10 based on the actual prices GTE obtains for initial switch placements and
11 expansions. This module is detailed in pages 44 through 55 of the ICM
12 Model Methodology.

13
14 The Interoffice Transport Module designs the facilities needed to carry
15 traffic among GTE offices and between GTE's network and the rest of
16 the public switched network. These facilities consist of specialized
17 transmission equipment within wire centers and outside plant facilities
18 that carry communication signals between hosts, remotes, and tandem
19 offices. ICM models the investments associated with these facilities
20 using the most efficient fiber optic equipment and technologies. Further
21 details of this module are on pages 56 through 64 of the ICM Model
22 Methodology.

23
24 The SS7 Module calculates the investments needed for a stand-alone
25 signaling network. This signaling network, via connections at end office

1 and tandem switches, tells the switched telephone network how to
2 operate by setting up calls and controlling the network for efficient
3 utilization of facilities. This module is explained further on pages 65
4 through 69 of the ICM Model Methodology.

5

6

7 The output of the four modules described above represents the
8 investment needed to build a modern, efficient telephone network. The
9 Expense Module determines the factors and ratios used to calculate the
10 costs of operating this network. In addition, the Expense Module
11 calculates the capital cost ratios (depreciation, return on investment, and
12 taxes) associated with the network investments. The Expense Module
13 is detailed on pages 70 through 77 of the ICM Model Methodology.

14

15 The Mapping/Report Module applies the factors and ratios developed in
16 the Expense Module to the investments generated by the other four
17 modules. This module also aggregates the costs of Basic Network
18 Functions (BNFs) (e.g., network access channels, line terminations, and
19 call set-up and minutes of use) to TSLRICs of services and develops
20 detailed output reports. Further information on this module can be found
21 on pages 78 through 80 of the ICM Model Methodology.

22

23 **Q. WHY IS ICM THE BEST TOOL AVAILABLE FOR CALCULATING**
24 **GTE'S TSLRICs?**

25

1 A. ICM is the best tool because it produces estimates of the long run
2 forward-looking costs that GTE would incur in provisioning
3 telecommunication services in its serving area, given the assumptions
4 underlying the cost study described in section four below. This is
5 accomplished through (1) the use of GTE specific inputs and data
6 sources, and (2) the inclusion of GTE-specific engineering standards,
7 practices, and operating characteristics into the model platform.

8
9 As explained below, it is inappropriate for a model used to estimate
10 GTE's costs to be based on input prices that GTE is unable to obtain.
11 The material costs used by ICM are based on GTE's actual contracts
12 with vendors, and the labor costs are based on GTE's experience of
13 what labor actually costs in Florida. Likewise, unless a model reflects
14 GTE's engineering practices and operating characteristics, it cannot be
15 expected to produce estimates of the long run costs GTE would incur.
16 ICM reflects a forward-looking loop network designed according to the
17 Company's engineering practices and guidelines, along with switches
18 using GTE's forward-looking technology and engineered to the service
19 characteristics of GTE's system. In particular, the switching costs
20 produced by ICM are based on the host/remote relationships and
21 technology mix found in GTE's network, and on the switch prices that the
22 Company is able to obtain.

23
24
25

1 Q. IS THERE ANY OTHER REASON WHY ICM IS THE BEST TOOL FOR
2 CALCULATING GTE'S TSLRICS?

3 A. Yes. In addition to its use of GTE-specific inputs and engineering
4 practices, ICM is the best tool for estimating GTE's costs because it is
5 integrated. That is, it combines all of the components of GTE's network
6 -- the loop, switching, transport and signaling -- into one model. This not
7 only makes the model easier to use but, more importantly, it makes the
8 cost studies internally consistent. ICM can be used to support
9 regulatory proceedings dealing with both retail and wholesale
10 telecommunication services. Because a common set of inputs and
11 modeling assumptions is used, the results are consistent across the
12 various network components and across the various uses for which ICM
13 is employed.

14
15 Q. MIGHT OTHER PARTIES CLAIM GTE'S COST OF SERVICE SHOULD
16 BE DETERMINED USING A MODEL THAT IS NOT GTE-SPECIFIC?

17 A. Yes. Based on the companies' list of witnesses and associated subject
18 matter, it appears that AT&T (and possibly others) may argue that the
19 Commission should accept the Hatfield (or HAI) Model to calculate the
20 incumbent local exchange carriers' costs. AT&T and MCI have
21 sponsored this Model in the Commission's ongoing Docket No. 980696-
22 TP. As GTE witnesses Tardiff and Murphy testified there, the
23 Commission should soundly reject the Hatfield Model, which is subject
24 to economic and engineering flaws so numerous and so severe that the
25 Model is unusable for its intended purpose. Dr. Tardiff and Mr. Murphy

1 outline these flaws in their rebuttal testimony. In summary, they explain
2 that the Hatfield Model is practically insensitive to structural changes; its
3 input database is flawed and is neither user-adjustable nor open for
4 inspection by third parties; many of its default inputs are not supported
5 by empirical data; its sponsors fail to provide external or internal
6 justification of the Model's validity; and it does not accurately reflect how
7 a telecommunications firm operating in the real world would efficiently
8 provide services and network elements for new entrants or even for its
9 own retail customers.

10

11 As Dr. Tardiff and Mr. Murphy further point out, because the Model
12 produces forward looking-costs that are less than one-half of GTE's
13 costs, it is simply not credible. For a much more complete exposition of
14 the Hatfield Model's flaws, please refer to the respective, prefiled
15 rebuttal testimony presentations of Dr. Tardiff and Mr. Murphy in Docket
16 No. 980696-TP.

17

18

19 **Q. HAS THIS COMMISSION EVER EXPRESSED AN OPINION ON THE**
20 **VALIDITY OF THE HATFIELD MODEL?**

21 **A.** Yes. The Commission already rejected the Hatfield Model on numerous
22 occasions in the ILECs' arbitrations with various interconnecting parties.
23 In GTE's arbitration with MCI and AT&T, for example, the Commission
24 held:

25

1 [u]pon consideration of the evidence, we find that the Hatfield
2 Model does not produce estimated costs that are representative
3 of the costs of GTE's network in Florida. The model does not
4 represent any one specific LEC network, but was designed
5 to be adaptable to any LEC or geographic area....Moreover...our
6 review leads us to conclude that the Hatfield Model appears to
7 understate costs.

8
9 (Order No. PSC-97-0064-FOF-TP (Jan 17, 1997), at 35.)

10
11 As Dr. Tardiff and Mr. Murphy explain, the Hatfield Model continues to
12 have the same flaws that made it unacceptable to the Commission in
13 1997. And no amount of revision to the Model will change the fact that
14 it "does not represent any one specific LEC network." The only model
15 that represents GTE's specific network is GTE's ICM.

16
17 **Q. IS IT APPROPRIATE TO USE A SINGLE MODEL TO DETERMINE**
18 **ALL OF THE ILEC'S COSTS OF PROVIDING BASIC RESIDENTIAL**
19 **SERVICE?**

20 **A.** No. By definition, a "one size fits all" model cannot capture the unique
21 operating characteristics and engineering practices of all companies.
22 The cost estimates produced by such models are less accurate than
23 those produced by company specific models using company specific
24 inputs. I am not aware of any requirement that obligates the
25 Commission to use a single model to calculate the cost of service for all

1 companies, nor should there be. The Commission could (and should)
2 adopt GTE's TSLRICs produced by ICM without being precluded from
3 adopting other ILEC's cost results using the models those companies
4 sponsor.

5

6

7

SECTION III - UNDERLYING ECONOMIC CONCEPTS

8

9 **Q. WHAT ARE THE KEY ECONOMIC CONCEPTS UNDERLYING GTE'S**
10 **TSLRIC STUDIES?**

11 **A.** The key economic concepts underlying GTE's TSLRIC studies can be
12 identified by considering the components of Total Service Long run
13 Incremental Cost. The three key concepts that comprise TSLRIC are:
14 (1) total service, (2) long run, and (3) incremental cost.

15

16 **Q. WHAT IS MEANT BY THE TERM "TOTAL SERVICE"?**

17 **A.** Total service cost analysis in the telecommunications industry means an
18 analysis of the cost of providing the entire quantity of a particular service
19 in a particular geographic market or region (e.g., the state of Florida).
20 For example, if providing access to the public switched network in
21 Florida, along with local calling, is defined as a service, then the
22 relevant quantity of output for purposes of TSLRIC is the total demand
23 for all subscribers in GTE's Florida serving area. Thus, the "TS"
24 component of TSLRIC means that the unit of analysis is the total output
25 provided by GTE for a particular service in Florida, and that the cost

1 estimates necessarily include both volume-sensitive and volume-
2 insensitive costs.

3

4 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY THE TERM "LONG RUN."**

5 A. The question of run has to do with the nature and number of constraints
6 a company faces in making decisions. In the long run, a firm
7 theoretically can vary any and all of its inputs. This is in contrast to the
8 short run, where a firm faces many constraints and may be able to
9 control only one parameter, such as price. These two theoretical
10 extremes are useful as illustrative tools, but they need to be tempered
11 with practical considerations to be meaningfully applied. In practice,
12 regulated firms differentiate between long run and short run by including
13 or excluding, respectively, the cost of changing capacity through new
14 construction or through the liquidation of existing plant. Short-run
15 incremental costs can be considered to reflect only the cost of
16 maintaining and operating existing capital assets and do not account for
17 the costs of the assets themselves. Long run incremental costs consider
18 all of the cost consequences of a change in output, including any
19 adjustments to the firm's capital assets that must be made. The "LR"
20 component of TSLRIC means that the cost analysis is made from a long
21 run perspective (*i.e.*, it considers both operating costs and capital costs).

22

23 **Q. WHAT IS MEANT BY THE TERM "INCREMENTAL COSTS"?**

24 A. Incremental costs are the costs that are *directly attributable* to providing
25 a defined quantity or increment of a particular service. This quantity can

1 range from one unit to the entire output of the service under study.
2 Because TSLRIC studies require that the incremental costs be
3 calculated on a total service basis, incremental costs in this proceeding
4 are the costs that are directly attributable to providing the total quantity
5 of the service. In this context, incremental costs can also be defined as
6 the costs the firm would not incur if it ceased providing all of a particular
7 service. Thus, the "IC" component of TSLRIC means that only those
8 costs directly attributable to providing the entire quantity of a particular
9 service in a particular geographic market shall be considered.

10

11 **Q. ARE GTE'S TSLRIC ESTIMATES FORWARD-LOOKING?**

12 A. Yes. GTE's TSLRIC estimates represent the long run incremental cost
13 of provisioning a particular service using efficient and cost-effective
14 technologies. GTE's TSLRICs are forward-looking because they reflect
15 the costs the Company would incur in the long run given the
16 assumptions underlying the study, as opposed to what it has incurred
17 (*i.e.*, embedded or historical costs).

18

19

20 **Q. DO THE TSLRIC'S PRODUCED BY ICM REFLECT THE COSTS THAT**
21 **GTE WILL INCUR OVER THE NEXT FEW YEARS IN PROVISIONING**
22 **TELECOMMUNICATION SERVICES IN ITS FLORIDA SERVING**
23 **AREAS?**

24 A. No. The cost estimates produced by ICM are GTE's forward-looking,
25 long run economic costs. As explained above, the concept of "run" has

1 to do with the number of constraints faced by the firm. The assumptions
2 underlying ICM, or any long run economic cost model, do not reflect
3 many constraints that GTE will face over the next few years. In
4 particular, long run economic cost models do not account for the costs
5 of transitioning the existing network to the network contemplated by the
6 model. Additionally, the costs produced by ICM are based on
7 economies of scope and scale that would not be realized in the real
8 world. For example, suppose that along a particular route, ICM places
9 a 400-pair cable. In the real network, the required capacity may be
10 provisioned with a 300-pair cable, followed by a 100-pair cable, because
11 of the way that demand is realized through time. The cost of the
12 modeled network in this instance will be lower than what would actually
13 occur -- hence, the long run costs produced by ICM are a lower bound
14 on the costs that would actually result, even if all other constraints could
15 be ignored.

16
17 **Q. DO GTE'S TSLRICS INCLUDE SERVICE ORDER COSTS?**

18 **A.** No. Service order costs are the initial costs GTE incurs when a
19 customer orders a service. While these costs are non-recurring, they
20 are incurred
21 every time a customer places a service request. Service order costs are
22 not
23 included in the TSLRICs.

24
25

1 **SECTION IV - GTE'S TSLRIC ASSUMPTIONS**

2

3 **Q. WHAT ARE THE MAJOR ASSUMPTIONS UNDERLYING GTE'S**
4 **TSLRIC STUDIES?**

5 **A. The major assumptions are that the cost studies:**

6

7 (1) are based on the input prices for material, equipment and
8 labor that GTE expects to pay;

9 (2) are based on forward-looking capital costs;

10 (3) reflect sharing parameters based on GTE's actual
11 operating experience;

12 (4) are based on the forward-looking technology mix that GTE
13 expects to employ in its network; and

14 (5) exclude common costs.

15

16

17 **Q. WHY IS IT APPROPRIATE FOR GTE'S COST STUDIES TO BE**
18 **BASED ON THE INPUT PRICES FOR MATERIAL, EQUIPMENT, AND**
19 **LABOR THAT GTE EXPECTS TO PAY?**

20 **A. It is appropriate because, unless the input prices correspond to what**
21 **GTE expects to pay, there is no reasonable expectation that the**
22 **resulting cost estimates will reflect GTE's long run costs of provisioning**
23 **telecommunication services. In particular, the labor costs must reflect**
24 **the wage rates GTE pays in Florida, and any sales taxes or shipping**
25 **costs, included in the prices of material and equipment, must reflect**

1 whatever GTE pays. Also, the discount factor used to estimate
2 switching costs must reflect a blend of the pricing realized for expansion
3 and initial switch purchases.
4

5 **Q. WHAT IS THE BASIS FOR GTE'S MATERIAL PRICES AND LABOR**
6 **ACTIVITY COSTS USED IN ICM?**

7 **A.** The material prices used in ICM reflect GTE's current experience. GTE
8 purchases materials on a nationwide basis to capture the economies of
9 scale associated with buying in quantity. The material prices used in
10 ICM are made specific to Florida through the use of state-specific sales
11 tax, provisioning expenses, freight and material loadings.

12
13 Labor activity costs are developed for the placement activities used in
14 ICM to provision a network. Florida-specific company labor and vendor
15 contracts are used to determine the labor costs associated with the
16 placement of the network. GTE has incorporated terrain conditions into
17 its development of labor costs by, for example, reflecting the different
18 placement costs associated with different soil types. Examples of the
19 types of labor activities included in ICM are the placement of cable and
20 support structures, and placement preparation activities such as
21 trenching and cable splicing.

22

23

24 **Q. WOULD IT BE CORRECT TO BASE GTE'S TSLRIC ESTIMATES ON**
25 **THE LOWEST INPUT PRICES FROM AMONG ALL OF THE PRICES**

1 **THAT MAY BE PROPOSED BY THE PARTIES TO THIS**
2 **PROCEEDING?**

3 A. No. Only company-specific inputs reflect each company's current
4 contracts with various material, construction and other service vendors.
5 It would be inappropriate to select the lowest inputs from among all
6 those offered, or from among the proxy model default inputs, for the
7 simple reason that the resulting set of prices would likely not be
8 attainable by any one company. The contract prices negotiated by a
9 company are very often a package deal, covering a variety of products
10 and at times specifying minimum volume requirements. Therefore, it is
11 not reasonable to mix and match the terms of different contracts to
12 develop a set of pricing inputs that purports to represent the costs that
13 any real company could expect to incur.

14
15 Consider the analogy of a customer choosing between two different
16 calling plans offered by two different providers of toll service. Suppose
17 that the plan offered by the first toll provider has a relatively low rate per
18 minute, and that it also requires a recurring payment of \$5 per month.
19 Suppose also that the plan offered by the second carrier has a relatively
20 higher rate per minute, but has no recurring monthly charge. Is it
21 realistic to believe the customer can obtain the lower per-minute charge
22 from the second provider, or that the first provider will drop the fixed
23 monthly charge? The answer is "No." Similarly, it is not realistic to
24 believe that any local exchange carrier can mix and match input prices
25 from a variety of vendors -- whether these input prices result from

1 market-based transactions or are based on the "expert" judgement of an
2 engineering team.

3
4 **Q. WHY IS IT APPROPRIATE FOR GTE'S COST STUDIES TO BE**
5 **BASED ON FORWARD-LOOKING CAPITAL COSTS?**

6 A. Capital costs are the costs associated with the capital used by the firm.
7 These costs include both a *return on* and a *return of* the invested capital.
8 The *return on* component of capital costs is called the cost of capital or
9 the cost of money. The providers of GTE's capital do so on the basis of
10 their required expected, or *ex ante*, rate of return. This required rate of
11 return is largely determined by the risk associated with investing in a
12 local telecommunications carrier. This risk has increased because of
13 several factors: the prospect of increased competition and the attendant
14 loss of market share; the uncertainty surrounding the prices to be
15 charged for resale services and for unbundled network elements; the
16 magnitude of implementation costs and the question of how or whether
17 they will be recovered; the loss of geographical diversification of
18 regulatory risk due to the simultaneity of arbitration proceedings among
19 the states; and the possibility that prudently made historical investments
20 will not be recoverable. Unless GTE's TSLRIC estimates are based on
21 a risk-adjusted, forward-looking cost of capital, they will not reflect the
22 long run costs of provisioning telecommunications services in GTE's
23 network. As supported by GTE witness Vander Weide in Docket No.
24 980696-TP, I have used a cost of capital of 12.65 percent in estimating
25 GTE's TSLRICs.

1 The *return of* component of capital costs is called depreciation. This
2 component reflects the using up of the service potential of an asset. It
3 accounts for the change in the market value of an asset due not only to
4 its utilization in providing a service, but to other factors as well. For
5 example, the loss in the market value of a machine may be due to wear
6 and tear resulting from the provision of the service or element, or it may
7 simply be due to obsolescence resulting from changing demand
8 conditions or technology. While obsolescence may not physically
9 destroy an asset, it nonetheless reduces its economic or market value.
10 Depreciation lives that account for such a loss in the value of an asset
11 are called economic lives. Because GTE's TSLRIC estimates are based
12 on the economic lives of the underlying assets, they reflect the long run
13 costs of provisioning telecommunications services in GTE's network.
14 The economic lives used in GTE's TSLRIC study are supported by GTE
15 witness Sovereign in Docket No. 980696-TP.

16
17 **Q. WHY IS IT APPROPRIATE FOR GTE'S COST STUDIES TO REFLECT**
18 **STRUCTURE SHARING PARAMETERS BASED ON ITS ACTUAL**
19 **OPERATING ENVIRONMENT?**

20 **A.** Unless these parameters are based on GTE's actual operating
21 environment, then the resulting cost estimates will not reflect the long
22 run forward-looking costs of GTE's network. In other proceedings, some
23 parties have attempted to justify levels of sharing that substantially
24 exceed actual experience based on the conclusory statement that
25 opportunities for sharing will be greater in the future. Such proposals

1 conveniently overlook the fact that GTE's network is in place today.
2 They assume that GTE (or other utilities) would have had the foresight
3 to install poles and conduit systems that were large enough to
4 accommodate these greatly expanded levels of sharing. With respect
5 to buried cable, these parties apparently believe that GTE will dig up its
6 existing cable in order to immediately rebury in a shared trench. Even
7 if one takes the position that the costs which should be modeled are that
8 of some hypothetical new entrant that is going to rebuild the entire
9 network, greatly increased levels of sharing still cannot be supported.
10 Even under this hypothesis, the required coincidence of demands in
11 space and time among the sharing utilities must be assumed as well.
12 However, there is no hypothetical new entrant that will completely
13 rebuild the electric power and cable TV networks in GTE's serving
14 areas. Like GTE, their networks are already in place along with sharing
15 arrangements that made sense at the time. GTE does not expect the
16 level of sharing to significantly change in the long run.

17

18 **Q. WHY IS IT APPROPRIATE FOR GTE'S COST STUDIES TO BE**
19 **BASED ON THE FORWARD-LOOKING TECHNOLOGY MIX THAT IT**
20 **EXPECTS TO EMPLOY IN ITS NETWORK?**

21 **A.** To use a forward-looking technology mix other than GTE's would mean
22 there would be no reasonable expectation that the resulting cost
23 estimates will reflect the long run costs of provisioning
24 telecommunication services in GTE's network. Switching costs in
25 particular must be based on the technology and host/remote mix found

1 in GTE's network, assuming that any existing non-digital switches are
2 replaced by the appropriate forward-looking switch. It would be
3 inappropriate to base the switching costs on a different technology mix
4 or network configuration, or to base switch input prices on some
5 composite of other companies' experiences. In its long run analysis,
6 GTE has also designed its interoffice transport network using
7 Synchronous Optical Network ("SONET") technology. ICM also utilizes
8 Digital Loop Carriers ("DLCs") to provide digital services to customers
9 located outside of the core area surrounding the central office. Use of
10 these efficient forward-looking technologies is combined with GTE's
11 serving area characteristics and input prices to produce GTE's cost of
12 provisioning its network.

13
14 **Q. WHY IS IT APPROPRIATE FOR GTE'S TSLRIC ESTIMATES TO**
15 **EXCLUDE COMMON COSTS?**

16 **A.** TSLRICs, by definition, represent the costs that can be directly assigned
17 to an individual service -- they exclude any costs, including common
18 costs, that would be incurred if the service were not provided. Common
19 costs are those costs that are not directly attributable to any particular
20 service. In other words, even though they are necessary for the
21 provisioning of services and for the operation of the company as a
22 whole, common costs cannot be directly assigned to specific services
23 and the TSLRIC estimates should exclude them.

24
25

1 Q. DO THE COMPANY'S COST STUDIES SATISFY THE "TSLRIC"
2 REQUIREMENTS OF SECTION 364.3381(2), F.S.?

3 A. Yes, they do. For all the reasons and testimony stated above, the
4 inputs, model methodology and assumptions underlying the Company's
5 cost studies result in total long run incremental costs. This satisfies the
6 cost methodology requirement of the cross-subsidization statute.

7

8

9

10 SECTION V - GTE'S TSLRICS

11

12 Q. WHAT ARE THE COST ESTIMATES PRODUCED BY GTE'S COST
13 STUDIES?

14 A. Exhibit No. BIS-3 summarizes TSLRIC estimates for the services studied
15 for the contribution analysis as requested by the FPSC staff in their data
16 request. To facilitate review by the FPSC staff, the services are
17 identified in the left hand column of this exhibit as they are identified in
18 the contribution analysis. These cost estimates are GTE's
19 forward-looking, long-run incremental costs for these services.

20

21 Q. DOES THIS CONCLUDE YOUR COMMENTS?

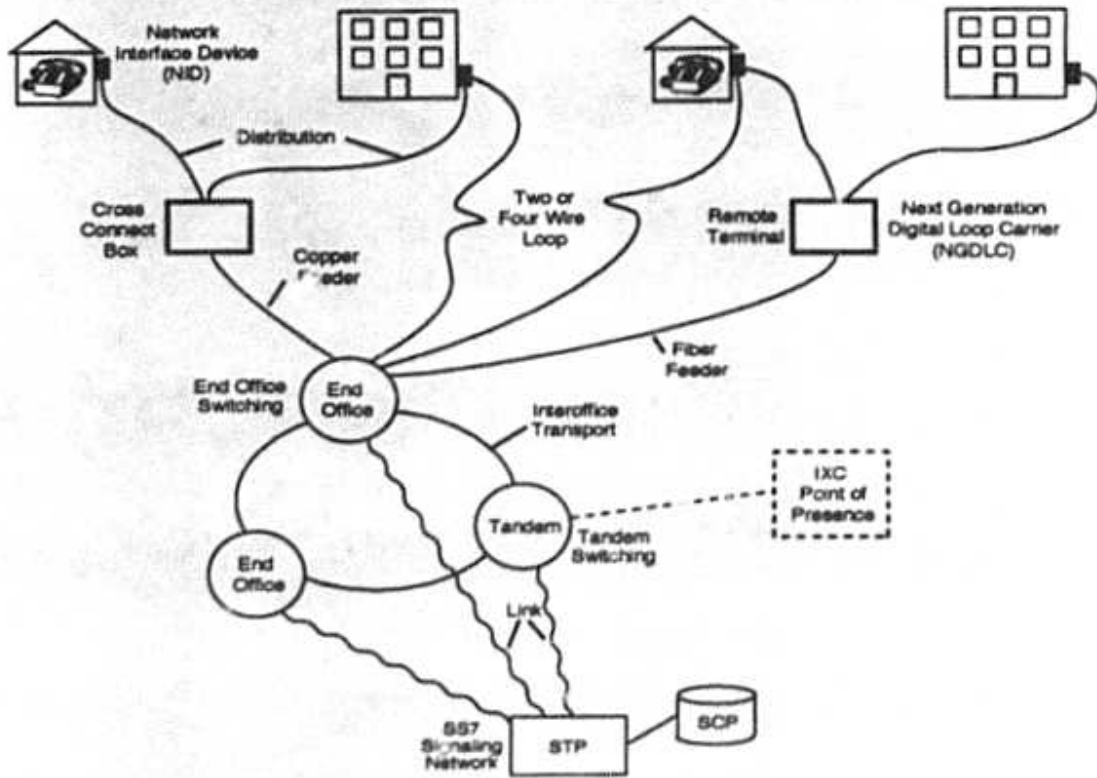
22 A. Yes, it does.

23

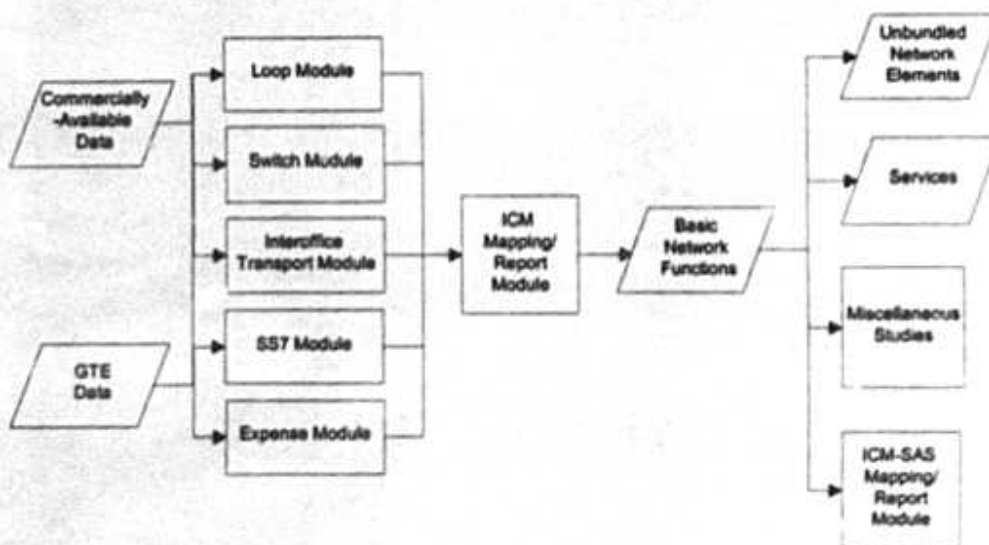
24

25

THE MODELED NETWORK



ICM Process Flow Diagram



TSLRIC COST RESULTS

| Service Description | Rate Group 1 | Rate Group 2 | Rate Group 3 | Rate Group 4 | Rate Group 5 | Statewide Average |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|
| 1a. Residence - Flat Rate | | | | | | |
| Flat Rate | \$64.95 | \$32.82 | \$34.24 | \$30.47 | \$27.73 | \$29.29 |
| Flat Rate with Rotary | \$64.98 | \$32.84 | \$34.26 | \$30.52 | \$27.82 | \$29.36 |
| Vacation | \$62.33 | \$29.91 | \$31.33 | \$27.85 | \$24.82 | \$26.41 |
| Vacation with Rotary | \$62.36 | \$29.93 | \$31.35 | \$27.90 | \$24.91 | \$26.49 |
| 1c. Business - Flat Rate | | | | | | |
| Flat Rate | \$50.95 | \$36.24 | \$35.71 | \$29.37 | \$26.04 | \$27.92 |
| Vacation | \$47.41 | \$31.86 | \$31.33 | \$25.83 | \$22.46 | \$23.68 |
| 1i. Business - Multi-Line | | | | | | |
| Flat Rate with Rotary | \$50.98 | \$35.42 | \$34.90 | \$29.41 | \$26.11 | \$27.31 |
| Message Rate with Rotary | \$47.44 | \$31.88 | \$31.36 | \$25.87 | \$22.57 | 23.77 |
| 1g. PBX Trunk Service | | | | | | |
| Flat Rate | \$52.22 | \$36.67 | \$36.14 | \$30.64 | \$27.27 | \$28.49 |
| Message Rate | \$47.41 | \$31.86 | \$31.33 | \$25.83 | \$22.46 | \$23.68 |

| Service Description | TSLRIC |
|---|-------------|
| 1e. CentraNet Service | |
| A. Wire Center Line Charge (Weighted Cost) | \$16.20 |
| CentraNet Main Station | |
| Analog | \$19.02 |
| Digital | \$35.11 |
| B. Network Access Register (NAR) | \$4.81 |
| C. Feature Packages - Analog | |
| CentraNet 1000 | \$4.05 |
| CentraNet 2000 | \$5.20 |
| CentraNet 3000 | \$6.24 |
| CCLASS Feature Package | \$1.51 |
| D. Feature Packages - Digital | |
| ISDN MBKS Basic | \$13.95 |
| ISDN MBKS Deluxe | \$14.13 |
| ISDN 3000 Deluxe | \$14.45 |
| E. ISDN Channel Capability | |
| B-Voice | \$0.01 |
| B-Voice/CSD | \$11.50 |
| B Packet | \$21.42 |
| D Packet | \$1.95 |
| 2a. IntraState Switched Access | |
| A. Switched Transport | |
| 1) Tandem Switching | |
| Tandem Switched Transport Facility | \$ 0.000003 |
| Tandem Switched Transport Termination | \$ 0.000055 |
| Tandem Switching | \$ 0.002983 |
| 2) Direct Trunked Transport Facility - Voiceband | \$2.89 |
| 3) Direct Trunked Transport Facility - DS1 | |
| Per ALM | \$ 1.23 |
| Per Termination | \$26.02 |
| 4) Direct Trunked Transport Facility - DS3 | |
| Per ALM | \$23.18 |
| Per Termination | \$217.85 |
| 5) Entrance Facility - Voiceband | |
| 2 Wire - Monthly | \$40.83 |
| 4 Wire - Monthly | \$51.27 |
| 6) Entrance Facility - DS1 | |
| First System - Monthly | \$85.52 |
| Add'l System - Monthly | \$85.52 |
| 7) Entrance Facility - DS3 | |
| Protected Electrical - Monthly | \$596.37 |
| 8) Multiplexing | |
| DS1 to Voice - Monthly | \$321.65 |
| DS3 to DS1 - Monthly | \$229.39 |
| 9) Interconnection | \$0.0000 |
| B. End Office Switching - Bundled | \$0.0038 |
| C. Information Surcharge | \$0.0000 |
| D. Carrier Common Line | |
| Originating CCL | \$0.0000 |
| Terminating CCL | \$0.0000 |

| Service Description | TSLRIC |
|--|----------|
| 3a. IntraLATA Service | |
| A. Two Point Service | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| B. GTE Discount Calling Plans | |
| 1) Easy Savings Plan - Residence | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| 2) Easy Savings Plan - Business | |
| Month to Month | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| 1 Year Term | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| 2 Year Term | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| 3 Year Term | |
| Peak | \$0.0127 |
| Off Peak | \$0.0087 |
| C. WATS and 800 Service | |
| 1) Outward WATS - Access Lines | \$23.68 |
| 2) Outward WATS - IntraLATA per hour of use | \$0.67 |
| 3) 800/888-ACCESS LINES | \$23.68 |
| 4) 800/888 - IntraLATA Usage per hour of use | \$0.67 |
| 4a. Vertical Services (Residential & Business) | |
| 1) Three Way Calling | \$1.39 |
| 2) Call Waiting / Cancel Call Waiting | \$0.08 |
| 3) Call Forwarding Variable | \$0.23 |
| 4) Automatic Call Return | \$0.23 |
| 5) Automatic Busy Redial | \$0.10 |
| 6) VIP Alert | \$0.20 |
| 7) Special Call Forwarding | \$0.32 |
| 8) Caller ID - Name and Number | \$0.55 |
| 9) Custom Code Restrictions | |
| Option 1 | \$1.34 |
| Option 2 | \$1.35 |
| Option 3 | \$1.35 |
| Option 4 | \$1.35 |
| Option 5 | \$1.35 |