

Before the
FLORIDA PUBLIC SERVICE COMMISSION

ORIGINAL

In re: investigation into the pricing of
unbundled network elements.

Docket No. 990649-TP

Rebuttal Testimony
of
TERRY L. MURRAY
on behalf of
Covad Communications Company
and
Rhythms Links Inc.

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1 **REBUTTAL TESTIMONY OF TERRY L. MURRAY ON BEHALF OF**
2 **COVAD COMMUNICATIONS COMPANY AND RHYTHMS LINKS INC.**

3 **Q. Please state your name, title and business address.**

4 A. My name is Terry L. Murray. I am President of the consulting firm Murray
5 & Cratty, LLC. My business address is 227 Palm Drive, Piedmont, CA
6 94610.

7 **Q. Have you previously testified in this proceeding?**

8 A. Yes, I filed direct testimony on behalf of Covad Communications Company
9 ("Covad") responding to the issues that the Commission posed in
10 Appendix A to Order No. PSC-99-1397-PCO-TP, with particular emphasis
11 on those issues that will affect the competitive offering of Digital
12 Subscriber Line ("DSL") services. That testimony provides a summary of
13 my qualifications and experience.

14 **I. INTRODUCTION AND OVERVIEW**

15 **Q. What is the purpose of your rebuttal testimony?**

16 A. Covad and Rhythms Links Inc. ("Rhythms") have asked me to respond to
17 various issues raised in the direct testimony of BellSouth witnesses Ms.
18 Caldwell, Dr. Emmerson, Mr. Hendrix and Mr. Varner and GTE Florida,
19 Inc. ("GTE") witnesses Mr. Doane and Mr. Trimble. Where appropriate,
20 in responding to these witnesses, I will also identify areas in which my
21 positions are consistent with those taken in their direct testimony by Sprint

1 Communications Company L.P. (“Sprint”) witness Mr. Sichter and
2 witnesses for various potential competitors.

3 **Q. Will your rebuttal testimony address all the issues raised in the**
4 **BellSouth and GTE testimonies?**

5 **A. No. A substantial portion of the voluminous BellSouth and GTE testimony**
6 **deals with issues that are being addressed, or will be addressed, in other**
7 **proceedings before the Federal Communications Commission (“FCC”) and**
8 **this Commission. For example, BellSouth devotes literally hundreds of**
9 **pages of testimony and attachments to the issue of whether various**
10 **unbundled network elements meet the “necessary and impair” test. The**
11 **FCC is currently addressing this issue on remand from the Supreme Court.**
12 **Therefore, rather than engage in a pointless debate about matters now**
13 **before the FCC, my rebuttal testimony will focus only on the issues this**
14 **Commission identified in Appendix A to Order No. PSC-99-1397-PCO-**
15 **TP. I will note in passing, however, that the Commission should reject**
16 **BellSouth’s suggestion for the Commission to compel competitors to**
17 **provide business plan and cost data that BellSouth wishes to use in making**
18 **its arguments concerning the “necessary and impair” standard. The data**
19 **that BellSouth seeks are irrelevant to the determination of the *incumbent’s***
20 **forward-looking economic costs, which are the costs relevant to the issues**
21 **identified for this proceeding.**

1 Similarly, I will not address testimony concerning specific cost
2 study input assumptions such as fill factor assumptions and labor rate
3 calculations that appear to be issues the Commission will take up in Phase
4 II of this proceeding. In this regard, I recommend that the Commission
5 hold over until Phase II any consideration of the methodology for
6 calculating shared and common cost factors described in the direct
7 testimony of BellSouth witness Mr. Reid. My review of his testimony
8 indicates areas in which I would agree with him conceptually and others in
9 which I have concerns about his approach based solely on the high-level
10 discussion that he has presented. It will be far simpler to resolve questions
11 concerning the merit of the new BellSouth approach to shared and
12 common costs when parties can review the company's cost studies to see
13 how it has actually applied the concepts Mr. Reid describes.

14 **Q. Please summarize your rebuttal testimony.**

15 A. The parties' proposals concerning the Phase I issues appear to follow
16 directly from their views of what the Commission's primary objective
17 should be in pricing unbundled network elements. They fall into two
18 distinct camps.

19 The first camp, which consists of BellSouth and GTE, apparently
20 believes that the Commission's primary goal should be to preserve the
21 status quo. To this end, both companies have proposed major delays in
22 adopting deaveraged prices and truly forward-looking non-recurring

1 charges for unbundled network elements, and GTE has proposed an
2 adjustment factor that would reconcile deaveraged prices for unbundled
3 network elements to retail prices minus the adopted resale discount.

4 The second camp, which includes all of the competitors as well as
5 Sprint, recommends that the Commission's primary goal should be the
6 establishment of cost-based prices. These parties recommend that the
7 Commission move forward with its efforts to deaverage costs, establish
8 truly forward-looking non-recurring costs and charges and ultimately set
9 prices for at least the deaveraged loop at Total Element Long Run
10 Incremental Cost ("TELRIC") plus a reasonable markup for shared and
11 "common" costs. The proposals that I set forth in my direct testimony fall
12 squarely into this second camp.

13 In the remainder of my rebuttal testimony, I will demonstrate that
14 the Commission should reject the BellSouth and GTE positions and instead
15 adopt positions consistent with those that I presented in my direct
16 testimony. I will make the following points:

- 17 • The Commission should reject the attempts of BellSouth and GTE
18 to preserve their monopoly positions by delaying the introduction of
19 non-recurring charges that truly reflect efficient, forward-looking
20 costs and deaveraged prices for all varieties of unbundled loops.

21 The BellSouth and GTE proposals would needlessly delay the time
22 when Florida consumers can obtain the full benefits of local
23 competition, including the innovative services that DSL providers

1 such as Covad and Rhythms can offer. Instead, the Commission
2 should move forward as rapidly as possible to implement cost-
3 based, competition-enhancing recurring and non-recurring prices
4 for the unbundled network elements at issue in this proceeding.
5 Expeditious determination of true forward-looking non-recurring
6 charges is especially important to DSL providers such as Covad and
7 Rhythms because the incumbents' high proposed non-recurring
8 charges relating specifically to DSL elements have yet to be
9 examined by this Commission.

10 • The only factors that the Commission should consider in setting
11 deaveraged prices are forward-looking economic costs and, more
12 generally, nondiscrimination between the incumbent and new
13 entrants. In their direct testimony, BellSouth and GTE pay lip
14 service to the concept of prices based on forward-looking costs, but
15 their repeated emphasis on the need to recover "actual" costs
16 makes clear that both companies seek to overturn the pricing
17 policies that this Commission and the FCC have endorsed. The
18 Commission should give no consideration to "actual" costs (other
19 than "actual" forward-looking economic costs), "market
20 conditions" or any other non-cost-based factor in establishing prices
21 for unbundled network elements and combinations.

22 • Specifically, the Commission should reject GTE's proposal for a
23 Deaveraging Adjustment Charge ("DAC"). This charge is

1 undesirable, unnecessary and unworkable. If adopted, it would
2 needlessly limit the ability of competitors to offer Florida
3 consumers innovative and cost-effective services using unbundled
4 network elements.

- 5 • The Commission should also reject BellSouth's proposal for two-
6 zone loop deaveraging based on its existing retail rate zones. The
7 proposal to base rates for these two zones on "market conditions"
8 is designed to preserve BellSouth's retail pricing structure, not to
9 implement cost-based prices. The Commission should base
10 deaveraged prices on forward-looking costs and leave the
11 determination of the number of zones and the precise geographic
12 basis for deaveraging to Phase II, where parties can make concrete
13 proposals based upon their review of company-specific cost data.
- 14 • The Commission should give no weight to BellSouth's claims that it
15 possesses no competitive advantage for advanced services such as
16 DSL-based services. As I explained in my direct testimony, there
17 are incumbency advantages in the advanced services market.
18 Unless the Commission recognizes these incumbency advantages,
19 and designs appropriate unbundled network element pricing policies
20 to combat them, many Florida consumers may lack competitive
21 options for advanced services.

1 **II. THE COMMISSION SHOULD REJECT THE EFFORTS OF**
2 **BELLSOUTH AND GTE TO PRESERVE THEIR MONOPOLY**
3 **POWER BY DELAYING THE ADOPTION OF COST-BASED,**
4 **DEAVERAGED RECURRING AND NON-RECURRING**
5 **CHARGES FOR UNBUNDLED NETWORK ELEMENTS.**

6 **Q. Both BellSouth and GTE have proposed that the Commission defer**
7 **acting on several of the issues within the scope of this proceeding (e.g.,**
8 **establishment of new non-recurring charges and geographically**
9 **deaveraged prices for unbundled network elements) until this**
10 **Commission, the FCC and the Florida legislature have taken action to**
11 **resolve other, allegedly related issues. What is your general reaction**
12 **to the proposals for delay?**

13 **A. Delay is a tactic that serves the private interests of BellSouth and GTE as**
14 **incumbent local exchange providers that still hold a near-monopoly**
15 **position in their respective local markets, but harms the public interest in**
16 **Florida. The pricing issues that the Commission has identified for this**
17 **proceeding must be resolved before Florida consumers can enjoy all of the**
18 **price and service quality benefits of local exchange competition. Rhythms**
19 **witness Mr. Geis explains in his concurrently filed rebuttal testimony that**
20 **providers of DSL-based services such as Rhythms and Covad cannot**
21 **provide a full range of competitive offerings in Florida until they are**
22 **assured that they will be able to obtain needed elements such as DSL-**

1 capable loops and transport from the incumbents at reasonable, cost-based
2 recurring and non-recurring prices. Any delay in establishing such prices
3 means that many Florida consumers may be deprived of an alternative to
4 the limited range of DSL offerings that BellSouth and GTE are making
5 available to their customers.

6 **A. The Commission Should Take Prompt Action to Establish**
7 **Truly Forward-Looking Non-Recurring Charges.**

8 **Q. GTE witness Mr. Trimble proposes at page 30 of his direct testimony**
9 **that the Commission defer any consideration of non-recurring charges**
10 **until the conclusion of the parallel docket addressing Operations**
11 **Support Systems (“OSS”). Do you agree?**

12 **A. No, I do not. I do agree with Mr. Trimble that the nature of the assumed**
13 **OSS can have a material effect on the estimated non-recurring costs**
14 **associated with unbundled network elements, particularly costs for pre-**
15 **ordering and ordering. Calculating forward-looking non-recurring costs,**
16 **however, does not typically require the level of operational detail with**
17 **which the Commission and the parties will be concerned in the OSS**
18 **docket. Instead, one need only assume the general properties of efficient,**
19 **forward-looking OSS to determine an appropriate level of non-recurring**
20 **charges. The Commission should certainly direct the parties to assume the**
21 **deployment of modern, efficient OSS throughout their recurring and non-**
22 **recurring cost studies, but it need not be concerned about the precise**

1 details of, *e.g.*, when such OSS will be ubiquitously deployed within the
2 incumbents' networks.

3 Moreover, some non-recurring costs (including the costs that
4 underlie proposed "line conditioning" charges of great significance to
5 potential DSL competitors such as Covad and Rhythms) do not depend a
6 great deal on assumptions concerning OSS. Instead, these non-recurring
7 costs depend critically on the assumptions about the forward-looking
8 design of the network on which forward-looking *recurring* charges are
9 based. To estimate these non-recurring costs correctly, and to ensure that
10 high interim non-recurring charges do not delay the rollout of competitive
11 services, the Commission should review both recurring and non-recurring
12 costs in the same docket.

13 **Q. Does consideration of recurring and non-recurring costs in the same**
14 **docket automatically ensure proper coordination between the**
15 **estimation of these two types of costs?**

16 **A.** No, it simply provides the opportunity for such coordination.
17 Unfortunately, the *ad hoc* approach to developing non-recurring costs that
18 BellSouth witness Ms. Caldwell describes at page 17 of her direct
19 testimony reveals that the incumbents will not systematically establish a
20 consistent set of network design assumptions for recurring and non-
21 recurring costs unless the Commission forces them to do so. Such
22 consistency is essential because telecommunications networks are

1 engineered to minimize *total* costs, recurring and non-recurring, for the
2 entire scope of services that those networks provide. The best way to
3 reflect the “actual” forward-looking economic costs that the incumbents
4 would incur to provide unbundled network elements is to require a unified
5 set of recurring and non-recurring cost studies for a network designed to
6 provide both basic exchange services and advanced services such as DSL-
7 based services. Thus, the Commission should unequivocally reject Ms.
8 Caldwell’s suggestion at page 7 of her direct testimony that the forward-
9 looking network could differ depending on the combination of elements to
10 be provided, and should instead make clear that the forward-looking
11 network design assumptions should be consistent across all cost studies.

12 **Q. Can you provide a specific example of the problems that may arise if**
13 **the incumbents do not provide a unified set of recurring and non-**
14 **recurring cost studies for a network designed to provide both basic**
15 **and advanced services?**

16 **A. Yes. My direct testimony alluded to the high non-recurring charges that**
17 **BellSouth has proposed for what it calls an Unbundled Copper Loop**
18 **(“UCL”). As I stated in that testimony, BellSouth has proposed a monthly**
19 **recurring charge of \$21 and a non-recurring charge of \$450 *plus* individual**
20 **case basis “special construction” charges to “remove equipment and/or**
21 **bridge tap” if necessary to meet the transmission standards for data services**
22 **such as DSL.**

1 Assessment of the appropriateness of the non-recurring charges for
2 this DSL-capable loop will depend critically on an understanding of the
3 network design assumed in developing the monthly recurring charge. If the
4 recurring charges are based on a network design that does not include any
5 equipment or excessive bridge tap that would interfere with the provision
6 of DSL-based services, then there is no justification for “special
7 construction” charges (a form of “line conditioning” charge) to remove that
8 equipment. *This would be true even if the embedded plant in BellSouth’s*
9 *existing network includes excessive bridge tap or equipment such as load*
10 *coils and repeaters that BellSouth must physically remove to make a loop*
11 *DSL-capable.* Both recurring and non-recurring charges for unbundled
12 network elements must be based on a consistent network design to avoid
13 over- or undercharging for those elements because the cost-minimizing
14 solution to network design often involves tradeoffs between the kinds of
15 costs that are traditionally classified as recurring and non-recurring.

16 This concern is not merely a hypothetical one. I have participated
17 in several proceedings in which non-recurring charges for DSL-capable
18 loops have been at issue, but the cost basis for recurring charges had been
19 determined in a prior proceeding. In most cases, the record in the
20 recurring cost proceeding did not provide sufficient detail to determine
21 with certainty whether the approved recurring charges already incorporated
22 the costs that the incumbent was now seeking to recover through non-
23 recurring charges. Moreover, there was no opportunity to ensure that the

1 network design assumptions would minimize *total* recurring and non-
2 recurring costs, even if a particular assumption might result in a slight
3 increase in recurring costs.

4 To avoid these problems, and to ensure that the high non-recurring
5 charges that BellSouth has proposed for DSL-capable loops do not
6 unreasonably retard competition for advanced services in Florida, the
7 Commission should consider both recurring and non-recurring costs in
8 Phase II of this proceeding.

9 **B. The Commission Should Not Delay the Adoption of Cost-
10 Based, Deaveraged Prices for Unbundled Network Elements to
11 Accommodate Either Retail Rate Rebalancing or State Action
12 on Universal Service Support.**

13 **Q. Should the Commission delay cost-based pricing of unbundled
14 network elements until it adopts retail rate rebalancing, as both
15 BellSouth witness Mr. Varner and GTE witness Mr. Trimble
16 recommend at pages 29 and 30, respectively, of their direct
17 testimonies?**

18 **A. No, it should not. Both BellSouth and GTE have elected to operate under
19 the price regulation scheme adopted by the Florida legislature in 1995.
20 Under this scheme, BellSouth and GTE are free to exercise downward
21 pricing flexibility for any retail service priced too high in relationship to its
22 cost. In a price cap regime, the appropriate method for BellSouth and**

1 GTE to realign their retail price structures with cost is to exercise this
2 pricing flexibility, not for the Commission to delay properly deaveraged
3 pricing of unbundled loops (and, potentially, other elements) until it can
4 complete a protracted retail rate rebalancing proceeding.

5 **Q. Should the Commission defer consideration of geographic**
6 **deaveraging until the Florida legislature has taken action on universal**
7 **service support, as both Mr. Varner and Mr. Trimble also suggest in**
8 **their direct testimonies at pages 31 and 19 respectively?**

9 **A. No.** Geographically deaveraged prices for unbundled network elements
10 will not undermine the incumbents' ability to provide universal service. To
11 the contrary, geographically deaveraged prices can prevent uneconomic
12 bypass of the incumbents' local networks and thereby enhance the
13 incumbents' ability to provide universal service.

14 Consider the build-vs.-buy decision a new entrant makes when it
15 confronts a statewide-average price for an element that has strong
16 geographic variations in cost. The new entrant will have an incentive to
17 build its own facilities in low-cost areas, even though the true economic
18 cost of the incumbent's facilities in the same geographic area may be less
19 than the cost the new entrant would incur to build duplicative facilities.
20 The incumbent is less able to recover its efficient, forward-looking costs
21 when averaged pricing creates an incentive for uneconomic bypass, which
22 reduces its ability to support universal service.

1 **III. NEITHER “ACTUAL” (HISTORICAL) COSTS NOR “MARKET**
2 **CONDITIONS” SHOULD PLAY ANY ROLE IN SETTING PRICES**
3 **FOR UNBUNDLED NETWORK ELEMENTS AND**
4 **COMBINATIONS. INSTEAD, THE COMMISSION SHOULD**
5 **CONTINUE ITS POLICY OF SETTING NONDISCRIMINATORY**
6 **PRICES BASED ON FORWARD-LOOKING ECONOMIC COSTS.**

7 **Q. What objective should the Commission pursue in pricing unbundled**
8 **network elements?**

9 **A. Consistent with the pro-competitive goal of the Telecommunications Act**
10 **of 1996 (“Act”) and of this Commission, the Commission should price**
11 **unbundled network elements to maximize the opportunity for competitive**
12 **entry in all market segments of the local exchange market in Florida. In**
13 **making this statement, I do *not* mean that the Commission should**
14 **deliberately favor entry via unbundled network elements over any other**
15 **form of competitive entry, including the operations of the incumbent local**
16 **exchange carriers. Instead, I mean that the Commission should set prices**
17 **for unbundled network elements that comply with the pricing standards of**
18 **the Act — that is, prices for unbundled network elements should be cost-**
19 **based and nondiscriminatory (*see* § 251(d)(1) of the Act). Once the**
20 **Commission has established such prices, it should let the market determine**
21 **the success or failure of entry via unbundled network elements versus other**
22 **competitive strategies.**

1 Q. As an economist, how do you interpret the nondiscrimination
2 standard embodied in § 251(d)(1) of the Act?

3 A. To give meaning to the pro-competitive purposes of the Act, I can only
4 interpret the nondiscrimination standard to mean that *all* competitors —
5 incumbents and new entrants alike — should be treated in a competitively
6 neutral manner. This interpretation implies that the price the incumbent
7 charges new entrants for unbundled network elements should equal the
8 implicit price that the incumbent charges to itself when it uses the same
9 functionality to provide retail services.

10 When an incumbent uses the functionality of unbundled network
11 elements to provide retail services, the effective “price” that it pays is the
12 forward-looking economic cost for the functionality used to provide that
13 retail service. In this context, forward-looking economic cost equates to
14 what the FCC calls TELRIC. Any price for the unbundled network
15 element that exceeds this cost is discriminatory because it makes the cost to
16 the new entrant greater than the cost to the incumbent for use of the same
17 functionality. In fact, short of location-specific pricing of unbundled
18 network elements, there will inevitably be at least some discrimination
19 between incumbents and new entrants in the pricing of the functionality of
20 elements such as the loop that exhibit significant geographic variations in
21 costs. Thus, the FCC’s requirements that prices for unbundled network
22 elements be based on forward-looking economic cost and be

1 geographically deaveraged have a solid foundation in an economic
2 interpretation of the Act's nondiscrimination standard for pricing.

3 **Q. Are the BellSouth and GTE proposals consistent with your**
4 **recommended approach to costing and pricing of unbundled network**
5 **elements?**

6 A. No. BellSouth and GTE do not propose to rely strictly on the Act's cost-
7 based, nondiscriminatory pricing standards for pricing unbundled network
8 elements and then let the chips fall where they may. Instead, BellSouth and
9 GTE seek to achieve a particular competitive outcome, namely, the
10 preservation of the status quo in which the incumbents retain a near-
11 monopoly position in most segments of the local exchange market. The
12 Commission should reject these proposals and instead take timely steps to
13 implement deaveraged prices for at least unbundled loops that reflect
14 geographic variations in forward-looking economic costs and truly
15 forward-looking non-recurring charges for all elements that reflect
16 efficient, modern OSS and other forward-looking network design
17 assumptions.

18 **Q. Various witnesses for both BellSouth and GTE admonish the**
19 **Commission that it must be careful to base any prices established for**
20 **unbundled network elements in this proceeding on the incumbents'**
21 **"actual" costs, rather than some sort of "hypothetical" cost. Is this an**

1 **important consideration for the development of cost studies in this**
2 **proceeding?**

3 A. No, at least not in the sense that BellSouth and GTE almost certainly mean.
4 All too often, incumbents attempt to set up a distinction between “actual”
5 and “hypothetical” costs as a backdoor approach to relying on embedded,
6 rather than forward-looking, costs. Both the BellSouth and GTE direct
7 testimonies reveal the two companies’ intention to abandon the forward-
8 looking economic cost approach that this Commission and the FCC have
9 consistently endorsed. For example, BellSouth witness Mr. Varner in a
10 single written “breath” at page 18 of his direct testimony links the need for
11 prices to recover *actual* costs with a concern about the consequences of
12 prices that do not compensate the incumbent for its shared, common and
13 *historical* costs, in addition to its incremental costs. GTE witness Mr.
14 Trimble provides a similar, although less explicit, linkage when he states at
15 page 27 of his direct testimony:

16 The sum of the proposed prices for retail services
17 must provide a reasonable opportunity to recover the
18 ILEC’s actual costs; thus, the sum of the proposed prices
19 for UNEs should also equal the ILEC’s actual costs (less
20 any avoided retailing expenses).

21 Because GTE’s retail prices reflect the legacy of rate designs structured to
22 recover an embedded cost revenue requirement, Mr. Trimble’s proposed

1 rule would have the effect of setting prices for unbundled network elements
2 to recover actual *historical* costs.

3 The Commission should reject the BellSouth and GTE “actual” cost
4 proposals because they are thinly veiled disguises for pricing policies based
5 on embedded or historical costs. Both economic theory and the pricing
6 rules for unbundled network elements embodied in the Act and the FCC’s
7 First Report and Order preclude reliance on embedded costs.

8 Economic theory suggests that the Commission’s goal in this
9 proceeding should be to price unbundled network elements to emulate the
10 outcome that would occur if those elements were offered in a competitive
11 market. Competitive markets base prices on forward-looking costs, not
12 embedded costs.

13 Consistent with this theory, § 251(d)(1)(A) of the Act explicitly
14 precludes the use of costs from a rate-of-return or other rate-based
15 proceeding for setting prices for unbundled network elements. Rate-base,
16 rate-of-return regulation relies on *embedded or historical costs*; thus, the
17 Act’s prohibition on the use of rate-of-return-type costs implicitly
18 mandates use of forward-looking costs.

19 The FCC reached the same conclusion in its First Report and
20 Order, where it established pricing rules that implemented the Act. Section
21 51.505(d) of the FCC’s rules clearly states that prices for unbundled
22 network elements may not be based on historical or embedded costs.

1 Q. At page 26 of his direct testimony, BellSouth witness Dr. Emmerson
2 suggests that prices in competitive markets do not fall to the lowest
3 cost of any efficient provider. Does his discussion of competitive
4 market pricing change your conclusions about the desirability of using
5 “actual” company-specific costs that include certain embedded costs?

6 A. No, it does not. I agree with Dr. Emmerson that prices in competitive
7 markets equal the cost of the “marginal” unit sold (the last, most expensive
8 unit sold), but I disagree with the manner in which he attempts to apply this
9 observation to the case of unbundled network element pricing. The
10 economic theory of competitive markets assumes that each producer is
11 operating efficiently, given the scale and scope of its operations, and the
12 supply curve used in competitive market analysis reflects incremental or
13 forward-looking costs. Thus, the relevant cost in Dr. Emmerson’s example
14 is the long-run incremental cost associated with the marginal unit of output
15 from the marginal producer, *not* the embedded cost of some hypothetical
16 “least-efficient” producer. The TELRIC methodology is a reasonable
17 measure of that cost if the incumbent is the marginal producer; it *overstates*
18 the cost on which competitive prices would be based if a new entrant is the
19 marginal producer.

20 The TELRIC methodology measures the unit cost of output
21 assuming that the incumbent produces the entire quantity demanded, which
22 would be the case if the incumbent were the marginal supplier. TELRIC is
23 not the lowest possible cost achievable by a producer supplying the entire

1 market demand; instead, it reflects the constraints imposed by the number
2 and location of the incumbent's existing wire centers. Telecommunications
3 cost analysts widely agree that a "greenfield" approach to costing would
4 result in fewer switches and wire centers than the incumbents deploy today,
5 and thus lower costs.

6 A new entrant with less than a 100% market share could become
7 the supplier of the marginal unit of output if the cost savings it could
8 achieve via a "greenfield" approach to network design outweighed the loss
9 of scale and scope economies that the incumbent possesses. If this were
10 the case, the cost that the new entrant experienced to provide the marginal
11 unit of output would be *less* than the cost that the TELRIC methodology
12 measures.

13 **Q. BellSouth witness Ms. Caldwell points to ¶ 685 of the FCC's First**
14 **Report and Order in support of the use of "actual expected costs."**
15 **Does this testimony comport with your understanding of the FCC's**
16 **costing and pricing rules?**

17 **A.** No, it does not. At page 5 of her direct testimony, Ms. Caldwell cites ¶
18 685 as implicit support for the view that it is appropriate to base costs on
19 the mixture of technologies that BellSouth will actually deploy in the
20 future:

21 An important question to be answered in
22 determining costs is what mix of technologies will be

1 deployed in the future, not what is the most forward-
2 looking technology. The other parties usually advocate that
3 only a flash-cut approach to the latest and greatest design
4 will fulfill the FCC's mandates. However, this is not the
5 case. BellSouth's network is a mix of old and new
6 technologies and BellSouth will continue to deploy older
7 technologies where it makes economic sense to do so.

8 To the extent that BellSouth's future technology mix departs from the
9 least-cost, most-efficient technology available for deployment, it has no
10 place in a TELRIC study. The FCC concludes the very paragraph that Ms.
11 Caldwell cites, ¶ 685, with a finding that costs should "... assume that wire
12 centers will be placed at the incumbent LEC's current wire center
13 locations, but that the reconstructed local network will employ the most
14 efficient technology for reasonably foreseeable capacity requirements." I
15 cannot square the FCC's notion of *reconstructing the network* assuming
16 the most efficient technology with Ms. Caldwell's reading that forward-
17 looking cost studies should assume whatever technology the incumbent
18 plans to deploy. Moreover, §51.505(b)(1) of the pricing rules that the FCC
19 adopted pursuant to its First Report and Order seems to rule out Ms.
20 Caldwell's interpretation. The FCC ruled that:

21 The total element long-run incremental cost of an
22 element should be measured based on the use of the most
23 efficient telecommunications technology currently available

1 and the lowest cost network configuration, given the
2 existing location of the incumbent LEC's wire centers.

3 This rule gives no weight whatsoever to the incumbent's actual technology
4 deployment decisions.

5 **Q. Is it your position, then, that prices must be based on purely**
6 **"hypothetical" costs?**

7 **A.** No, it is not. Prices should be based on "actual" (that is, company-specific)
8 forward-looking economic costs that take into consideration the existing
9 location of the incumbent's wire centers, the physical constraints in the
10 incumbent's service territory (*e.g.*, location of roads, major bodies of water
11 and other factors that influence the layout of physical plant), and the
12 physical and temporal distribution of demand. The Commission cannot and
13 should not, however, assume that the incumbents' actual network design
14 and technology decisions are efficient or forward-looking, as Ms. Caldwell
15 and other BellSouth and GTE witnesses seem to imply.

16 **IV. THE COMMISSION SHOULD REJECT GTE'S PROPOSED**
17 **DEAVERAGING ADJUSTMENT CHARGE.**

18 **Q. GTE has advocated that the Commission establish a Deaveraging**
19 **Adjustment Charge to avoid arbitrage between geographically**
20 **deaveraged prices for unbundled network elements and the prices for**

1 **GTE's retail services. How would GTE's Deaveraging Adjustment**
2 **Charge work?**

3 A. At page 13 of his direct testimony, GTE witness Mr. Doane states that the
4 Deaveraging Adjustment Charge would equal the retail price of a GTE
5 service minus the relevant resale discount minus the cost of the unbundled
6 network elements required to provide that service. This definition is
7 algebraically the equivalent of saying that the Deaveraging Adjustment
8 Charge would be the difference between the pricing of unbundled network
9 elements and the pricing of bundled wholesale services (*i.e.*, total service
10 resale). (*See also* Mr. Doane's direct testimony at page 12.)

11 In other words, the Deaveraging Adjustment Charge would
12 effectively make competition via unbundled network elements no different
13 from competition via total service resale. Under these conditions, the only
14 competitive pressure that a new entrant using unbundled network elements
15 could bring to bear on GTE's retail prices would be to prevent GTE from
16 recovering inefficient retailing costs through its retail prices. This cannot
17 be all that Congress intended to achieve by requiring incumbents to offer
18 both unbundled network elements and total service resale, subject to two
19 distinct pricing standards.

20 **Q. Is the primary function of GTE's proposed Deaveraging Adjustment**
21 **Charge the need to address some consequence that flows directly from**

1 **this Commission's decision to consider deaveraged pricing of**
2 **unbundled network elements?**

3 A. No. The Deaveraging Adjustment Charge has nothing to do with
4 deaveraging *per se* and everything to do with protection of GTE's
5 revenues. The suggestion at page 26 of GTE witness Mr. Trimble's direct
6 testimony to apply the same charge to facilities-based competitors that do
7 not even purchase GTE's unbundled network elements makes this
8 abundantly clear. GTE's position vis-à-vis facilities-based carriers will not
9 change as a result of deaveraging prices for unbundled network elements.
10 GTE simply wants to avoid what its witnesses repeatedly describe as
11 cream-skimming.

12 Unfortunately for GTE, the Act's cost-based, nondiscriminatory
13 pricing standard for unbundled network elements leaves no wiggle room
14 for pricing mechanisms designed to provide implicit subsidy support for
15 specific services. Also, § 51.505(d) of the FCC's pricing rules explicitly
16 prohibits the consideration of the Efficient Component Pricing Rule, which
17 is precisely the differential pricing strategy described at page 10 of the
18 article by Professor Baumol attached as Exhibit MJD-2 to Mr. Doane's
19 testimony and identified by Mr. Doane at page 9 of his testimony as being
20 his deaveraging proposal.

21 **Q. Should the Commission link the prices for unbundled network**
22 **elements to the prices of the bundled wholesale services that GTE**

1 **offers, as would occur under GTE's Deaveraging Adjustment Charge**
2 **proposal?**

3 A. No. Linking the prices for unbundled network elements to the prices for
4 bundled wholesale services is undesirable, unnecessary and unworkable.

5 **Q. Why is it undesirable to link prices for unbundled network elements**
6 **to the prices of bundled wholesale services?**

7 A. Setting the effective price for unbundled network elements equal to the
8 price of total service resale is undesirable because it would severely reduce
9 the pressure on GTE to exercise its pricing flexibility to reduce its retail
10 prices to cost. To the extent that prices for unbundled network elements
11 are set at forward-looking economic costs, new entrants purchasing those
12 elements can put pressure on all of the incumbent's above-cost retail prices.
13 A more efficient pricing structure, in turn, will benefit all Florida consumers
14 by promoting efficient resource allocation and encouraging consumption of
15 services that today's above-cost prices inefficiently deter. Thus, the
16 "arbitrage" that Mr. Doane decries is actually desirable because it promotes
17 cost-based pricing.

18 **Q. Why is it unnecessary to link prices for unbundled network elements**
19 **to the prices of bundled wholesale services?**

20 A. Contrary to several statements in the direct testimonies of GTE witnesses
21 Mr. Trimble and Mr. Doane, there is no need to protect above-cost retail
22 prices to provide an implicit subsidy to targeted below-cost retail services

1 such as residential local exchange service. The current schedule for this
2 proceeding is unlikely to produce final deaveraged prices until some time in
3 2001, approximately five years after the passage of the Act. GTE and
4 other incumbent local exchange carriers will have had ample time to rid
5 themselves of inefficient costs that are relics of a pre-competitive era and to
6 bring their cost structure more closely in line with efficient, forward-
7 looking economic costs. The FCC will have completed its review of any
8 remaining need for a subsidy for specific targeted services such as
9 residential local exchange service and will have implemented its
10 competitively neutral universal service support mechanism. Thus, there is
11 no reason for the Commission to adopt the kind of mechanism that GTE
12 proposes.

13 Furthermore, at page 11 of his direct testimony, GTE witness Mr.
14 Doane freely admits that his Deaveraging Adjustment Charge proposal is a
15 second-best solution “required to preserve competitive neutrality in an
16 environment in which retail prices contain implicit support.” There is no
17 need for such a second-best solution when GTE has the option pursuant to
18 Commission Order PSC-95-1592-FOF-TP to seek the first-best solution —
19 explicit universal service support — if it can demonstrate that such support
20 is necessary. If GTE can make the requisite showing that there is an
21 immediate need for *explicit* universal service support as a result of losses
22 attributable to competition, it should do so and ask for interim, company-
23 specific universal service support. The Commission should not even

1 consider departing from cost-based pricing of unbundled network elements
2 when GTE has failed to request explicit universal service funding under the
3 terms of Order PSC-95-1592-FOF-TP.

4 **Q. Why is it unworkable to link prices for unbundled network elements**
5 **to the prices of bundled wholesale services?**

6 A. Attempting to avoid arbitrage between prices for unbundled network
7 elements and prices for bundled wholesale services is unworkable because
8 there are multiple prices for bundled wholesale services that use the same
9 or nearly the same combinations of unbundled network elements. To
10 address this problem, GTE has proposed a cumbersome approach in which
11 the Deaveraging Adjustment Charge varies according to the retail service
12 for which the new entrant purchases unbundled network elements. This
13 solution is much more complicated than GTE's testimony implies because a
14 competitor may use a given element or combination of elements to provide
15 several retail services (e.g., basic exchange service, advanced services such
16 as DSL-based services, vertical services and access for toll services). GTE
17 would need to know the exact services that the competitor is providing *and*
18 the volumes of each service being provided to calculate the Deaveraging
19 Adjustment Charge correctly. Such information on customer demand
20 patterns is competitively sensitive. Moreover, the mix of services and the
21 volumes for each service could vary from month to month, necessitating

1 complex and contentious recalculations of the Deaveraging Adjustment
2 Charge.

3 In addition, GTE's resale prices can and will change as GTE
4 exercises its pricing flexibility for retail services, making it even more
5 impossible to peg prices for unbundled network elements to any particular
6 bundled wholesale price. GTE's proposed formula for its Deaveraging
7 Adjustment Charge would require the Commission to reevaluate unbundled
8 network element prices whenever any retail price or the resale avoided cost
9 discount changes. Thus, if GTE were to use the retail pricing flexibility it
10 enjoys under price regulation, the Commission would need to redetermine
11 the Deaveraging Adjustment Charge for purchasers of unbundled network
12 elements used to provide the newly priced retail services.

13 **V. THE COMMISSION SHOULD REJECT BELLSOUTH'S TWO-**
14 **ZONE PROPOSAL FOR UNBUNDLED LOOPS AND RELY**
15 **EXCLUSIVELY ON COSTS TO DETERMINE DEAVERAGED**
16 **LOOP PRICES.**

17 **Q. BellSouth witness Mr. Hendrix proposes that the Commission divide**
18 **the company's existing retail price zones into two groups and use**
19 **those groupings as the basis for establishing geographically**
20 **deaveraged prices for unbundled network elements. Is this proposal**
21 **consistent with the cost-based, nondiscriminatory pricing standards of**
22 **the Act, as you understand them?**

1 A. No. Mr. Hendrix states at page 6 of his direct testimony that deaveraged
2 prices should be based on “market conditions” rather than cost and would
3 differ depending on the extent of competition within an area. Thus, it
4 appears that any correspondence between forward-looking economic cost
5 and BellSouth’s methodology for setting deaveraged loop prices would be
6 purely coincidental. I know of nothing in the Act or the FCC’s pricing
7 rules that would permit “market conditions” to be used as the basis for
8 pricing unbundled network elements. To the contrary, as Mr. Hendrix
9 admits on that same page, the FCC’s pricing rules require states to set
10 deaveraged prices *“in defined geographic areas within the state to reflect*
11 *geographic cost differences.”* BellSouth’s proposal to establish market-
12 based prices in zones based on its existing retail rate groups is inconsistent
13 with the clearly stated FCC requirement for geographic deaveraging and
14 would function solely to preserve BellSouth’s competitive position and
15 existing retail rate structure.

16 **Q. On a more general level, BellSouth, GTE and Sprint all propose that**
17 **deaveraging be based on wire-center-level costs, although GTE**
18 **implies it might be acceptable to consider some deaveraging below the**
19 **wire-center level. What is your reaction to their proposals?**

20 A. As GTE witness Mr. Trimble explains at pages 11 and 12 of his direct
21 testimony, there can be significant differences in loop costs within wire
22 centers. I would expect Mr. Trimble’s conclusion to hold for the other

1 incumbents as well. Thus, the Commission should require the incumbents
2 to provide cost studies at a level of detail that would permit deaveraging
3 below the wire-center level (*e.g.*, as GTE suggests, for long vs. short loops
4 within wire centers). The Commission and the parties will be better able to
5 decide the appropriate level of deaveraging after review of the cost data,
6 not before. The incumbents should not construct their cost studies in a
7 manner that precludes useful analysis of within-wire-center cost variations.

8 **Q. Should the Commission adopt a specific rule or guideline for the**
9 **determination of the geographic zones, such as the proposal at pages**
10 **14 and 15 of the direct testimony of Sprint witness Mr. Sichter to**
11 **design geographic zones “such that the average rate in each zone is no**
12 **more than 20% higher or 20% less than the forward-looking cost of**
13 **providing that element”?**

14 **A.** Not at this time. I agree with the spirit of Mr. Sichter’s proposal to
15 establish geographic pricing zones that minimize the cost variations within
16 zones; however, I am concerned that any specific rule adopted prior to
17 review of the cost studies could be counterproductive. In prior reviews of
18 cost studies, I have found that there are natural breakpoints in the
19 distribution of costs that serve as ideal points of demarcation for identifying
20 the optimal structure of deaveraged prices. In the same cost studies,
21 however, there are also ranges over which there is no obvious breakpoint,
22 yet the cost variation from the lowest cost area to the highest cost area is

1 much greater than 20 percent. Determining the optimal number and
2 definition of the geographic pricing zones within this range becomes an art
3 as well as a science, requiring the analyst to trade-off the precision of the
4 cost-based pricing signal against the ease of billing and administration of
5 the resultant prices. Based on this experience, I suggest that the
6 Commission endorse the underlying principle of Mr. Sichtler's proposal, but
7 defer determination of any specific rule for geographic deaveraging to
8 Phase II.

9 **VI. THE COMMISSION SHOULD BE CONCERNED ABOUT THE**
10 **EFFECT OF INCUMBENCY ADVANTAGES ON COMPETITION**
11 **FOR ADVANCED SERVICES.**

12 **Q. BellSouth witness Mr. Varner argues that the company has no**
13 **competitive advantages in the market for advanced services such as**
14 **DSL-based services. Is he correct?**

15 **A. No. As I explained in my direct testimony, BellSouth is able to leverage its**
16 **near-monopoly position in the local exchange voice market to gain a**
17 **competitive advantage in the market for DSL-based services. It does so by**
18 **providing Asymmetric Digital Subscriber Line ("ADSL") service over the**
19 **same loop that it uses to provide voice service to a customer. This line-**
20 **sharing approach allows BellSouth to recover all of its loop costs from the**
21 **underlying voice service and eliminates the need for the company to**
22 **recover any of its loop costs from its ADSL service. Because BellSouth**

1 does not permit competing providers of DSL-based services to offer their
2 DSL services over the same loop that BellSouth uses to provide voice
3 service to a particular customer, new entrants must either recover their
4 loop costs from their DSL-based services or succeed in winning both the
5 customer's data *and* voice business away from BellSouth. Thus, by
6 refusing to extend line-sharing to its DSL competitors on the same terms
7 that it allows its own voice and data services to share a single line,
8 BellSouth has converted the market for a new service — DSL-based
9 services — into a market in which it possesses all the incumbency
10 advantages gained through decades of a legal monopoly in the provision of
11 local voice services.

12 Moreover, as Rhythms witness Mr. Geis points out in his rebuttal
13 testimony, new entrants providing DSL-based services must purchase
14 loops, transport (in at least some areas) and collocation from BellSouth.
15 This control over bottleneck facilities gives BellSouth a competitive edge
16 because it creates the opportunity for BellSouth to disadvantage its rivals
17 by offering them prices, terms and conditions that are less favorable than
18 those on which BellSouth provides the same functionality to itself for its
19 retail DSL-based services. For example, an incumbent such as BellSouth
20 can deny new entrants the opportunity to collocate their DSLAM
21 equipment at the remote terminal of a fiber-fed loop, thus making it
22 impossible for a competitor such as Rhythms or Covad to provide DSL-
23 based services over that loop.

1 Q. Would there be any adverse consequences if the Commission were to
2 disregard these incumbency advantages in establishing prices for
3 unbundled network elements in this proceeding?

4 A. Yes. Unless the Commission takes active steps to ensure that BellSouth
5 and other incumbents provide unbundled network elements to their
6 competitors in a nondiscriminatory manner that offsets the kinds of
7 incumbency advantages I have described, new entrants that are equally
8 efficient as BellSouth will be unable to offer Florida consumers competitive
9 alternatives for advanced DSL-based services. This lack of competition
10 could affect the price and quality of the DSL-based services available to
11 Florida consumers. Indeed, it could deny some customers *any* DSL-based
12 option whatsoever, if the incumbent service provider chooses for whatever
13 reason to offer its services only in selected geographic areas.

14 Q. What specific steps should the Commission take to address these
15 incumbency advantages?

16 A. The Commission should require an incumbent such as BellSouth to offer
17 unbundled network elements at prices, terms and conditions that are at
18 least as favorable as those on which the incumbent provides the same
19 functionality to itself for its retail DSL-based services. I have already
20 explained that nondiscrimination in pricing requires that prices be based on
21 forward-looking economic costs, or TELRIC. Furthermore, as I explained
22 in my direct testimony, nondiscrimination also requires that the recurring

1 and nonrecurring charges for unbundled network elements reflect the
2 assumption that new entrants have access at parity to the incumbents' OSS
3 and related databases.

4 Nondiscrimination in terms and conditions is also essential. It
5 means, among other things, that new entrants must be allowed to collocate
6 their DSLAMs at the remote terminals if the incumbent is able to place its
7 own DSLAM equipment at those locations. True nondiscrimination in
8 terms and conditions would also require that the incumbent make line-
9 sharing available to its competitors if it exercises that option to provide its
10 own DSL-based services. This issue, however, is currently before the
11 FCC, so I am not recommending that this Commission take any action on
12 line-sharing at this time.

13 **Q. Does that conclude your testimony at this time?**

14 **A. Yes, it does.**