ORIGINAL

JAMES E. "JIM" KING, JR.
PRESIDENT

Charles J. Beck
Interim
Public Counsel

STATE OF FLORIDA
OFFICE OF THE PUBLIC COUNSEL

c/o THE FLORIDA LEGISLATURE
111 WEST MADISON ST.
ROOM 812
TALLAHASSEE, FLORIDA 32399-1400
850-488-9330

JOHNNIE BYRD
SPEAKER

October 31, 2003

RECEIVED-FPSC
03 OCT 31 PM 3:14
COMMISSION
CLERK

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

Re: Docket Nos. 030867-TL; 030868-TL and 030869-TL

Dear Ms. Bayo:

Enclosed for filing in the above-referenced dockets are the original and 15 copies of the Direct Testimony of Dr. David J. Gabel.

Please indicate the time and date of receipt on the enclosed duplicate of this letter and return it to our office.

Sincerely,

Charles J Beck

Charles J. Beck
Interim Public Counsel

CJB:bsr

Enclosures

AUS 1
CAF
CMP
COM 5+1 original
CTR
ECR
GCL 1
OPC 1
MMS 1
SEC 1
OTH 1 to each docket

DOCUMENT NUMBER-DATE
10836 OCT 31 03
FPSC-COMMISSION CLERK

DOCKET NOS. 030869-TL, 030868-TL and 030867-TL

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the Direct Testimony of Dr. David J. Gabel has been furnished by U.S. Mail, hand-delivery and/or overnight delivery to the following parties on this 31st day of October. 2003.

Charles J Beck

Charles J. Beck

Beth Keating, Esquire
Division of Legal Services
Fla. Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Nancy B. White
c/o Nancy H. Sims
BellSouth Telecommunications, Inc.
150 South Monroe Street, Suite 400
Tallahassee, FL 32301

Michael B. Twomey
Post Office Box 5256
Tallahassee, FL 32314-5256

Mark Cooper
504 Highgate Terrace
Silver Spring, MD 20904

Lyn Bodiford
State Affairs Coordinator
AARP
200 West College Street
Tallahassee, FL 32301

Tracy Hatch/Chris McDonald
AT&T
101 North Monroe, Suite 700
Tallahassee, FL 32301

Donna McNulty
MCI WorldCom, Inc.
1203 Governors Square Blvd.
Suite 201
Tallahassee, FL 32301-2960

Richard Chapkis
Vice President & General Counsel
Verizon Florida, Inc.
201 North Franklin Street
FLTC0717
Tampa, FL 33601

Michael Gross
Florida Cable Telecomm. Assn.
246 East 6th Avenue
Tallahassee, FL 32303

Susan Masterton, Esquire
Sprint-Florida, Incorporated
P.O. Box 2214
Tallahassee, FL 32316

Charles Rehwinkel, Esquire
Sprint-Florida, Incorporated
1313 Blair Stone Road
FLTH00107
Tallahassee, FL 32301

John P. Fons, Esquire
Ausley & McMullen
P.O. Box 391
Tallahassee, FL 32302

Brian Sulmonetti
MCI WorlCom
Concourse Corporate Center Six
Six Concourse Parkway, Suite 3200
Atlanta, GA 30328

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
TALLAHASSEE, FLORIDA

IN THE MATTER OF

THE PETITIONS OF VERIZON FLORIDA INC.,

BELLSOUTH TELECOMMUNICATIONS INC., AND SPRINT-FLORIDA INC.

TO REFORM THEIR INTRASTATE NETWORK ACCESS

AND BASIC LOCAL TELECOMMUNICATIONS RATES

IN ACCORDANCE WITH FLORIDA STATUTES, SECTION 364.164

DOCKET NOS. 030867-TL, 030868-TL, 030869-TL

DIRECT TESTIMONY OF

DR. DAVID J. GABEL

ON BEHALF OF

THE OFFICE OF PUBLIC COUNSEL (OPC)

OCTOBER 31, 2003

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
TALLAHASSEE, FLORIDA

IN THE MATTER OF

THE PETITIONS OF VERIZON FLORIDA INC.,

BELLSOUTH TELECOMMUNICATIONS INC., AND SPRINT-FLORIDA INC.

TO REFORM THEIR INTRASTATE NETWORK ACCESS

AND BASIC LOCAL TELECOMMUNICATIONS RATES

IN ACCORDANCE WITH FLORIDA STATUTES, SECTION 364.164

DOCKET NOS. 030867-TL, 030868-TL, 030869-TL

DIRECT TESTIMONY OF

DR. DAVID J. GABEL

ON BEHALF OF

THE OFFICE OF PUBLIC COUNSEL (OPC)

OCTOBER 31, 2003

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF ACRONYMS

ADSL	Asymmetric Digital Subscriber Line
AT&T	American Telephone and Telegraph Company
BCM	Benchmark Cost Model
BLTS	Basic Local Telecommunications Service
BSTLM	BellSouth Telecommunications Loop Model
CLEC	Competitive Local Exchange Carrier
CMT	Common Line, Marketing and Transport Interconnection Charge
DEM	Dial Equipment Minutes
DLC	Digital Line Carrier
DSL	Digital Subscriber Line
FCC	Federal Communications Commission
IDLC	Next Generation Digital Line Carrier
ILEC	Incumbent Local Exchange Carrier
ISDN	Integrated Services Digital Network
LEC	Local Exchange Carrier
NARUC	National Association of Regulatory Utility Commissioners
NERA	National Economics Research Associates
NRRI	National Regulatory Research Institute
OPC	Office of Public Counsel
SLC	Subscriber Line Charge
TELRIC	Total Element Long-Run Incremental Cost
TSLRIC	Total Service Long-Run Incremental Cost
UNE	Unbundled Network Element
UNE-P	Unbundled Network Element Platform
USF	Universal Service Fund
VoDSL	Voice Over xDSL
xDSL	Digital Services Line (Symmetric or Asymmetric)

1 INTRODUCTION AND WITNESS BACKGROUND

Q. Please state your name and business address.

A. My name is David Gabel. My business address is 31 Stearns Street, Newton, Massachusetts 02459-2441.

Q. On whose behalf are you appearing.

A. I am appearing on behalf of the Office of Public Counsel (OPC).

Q. Could you please summarize your qualifications and work experience?

A. Since obtaining my PhD in economics from the University of Wisconsin in 1987, I have been a member of the Department of Economics at Queens College. I am also a Visiting Scholar in the Massachusetts Institute of Technology Internet and Telecommunications Convergence Consortium in Cambridge, Massachusetts, and a research fellow of the National Regulatory Research Institute at the Ohio State University. Prior to my job at Queens College, I was employed in both the public and private sectors.

As an employee of the Massachusetts Department of Public Utilities and the Wisconsin Public Service Commission, I was involved in cost and rate analysis. At the American Telephone and Telegraph Company (AT&T) I was responsible for developing interfaces between engineering simulation models and financial forecasting systems. While an employee of Dean Witter Reynolds, my primary area of responsibility was evaluating the economics of different telecommunications products. As an employee of the Yadkin Valley Telephone Membership Cooperative, I was involved in plant installation.

During the past seven years, I have been an advisor to the Washington, New Mexico, and Maine public utility commissions, as well as the Federal Communications Commission (FCC). I have assisted these Commissions with the resolution of various issues that have arisen due to the passage of the 1996 Telecommunications Act. I have also been a consultant to various foreign governments on telecommunications matters.

Q. What is your area of academic research?

A. I specialize in the field of telecommunications. I have conducted research on a number of topics. My dissertation focused on the evolution of the telephone market in Wisconsin between 1894 and 1917. Beginning with my tenure as a member of the Staff of the Massachusetts Department of Public Utilities, and continuing with subsequent jobs at the Wisconsin Public Service Commission and the American Telephone and Telegraph Company, I have had a strong interest in measuring the costs of providing telecommunication services. After I completed my doctoral dissertation, I conducted further study in this area. This work was partially funded by the National Regulatory Research Institute (NRRI). My curriculum vitae is attached to this testimony as Appendix 4.

I continue to spend a large share of my time exploring issues related to the cost function of the telecommunications industry. I am also an instructor at the National Association of Regulatory Commissioners (NARUC) summer training course held at Michigan State University each year. In addition, I was a co-author of two reports commissioned by the National Regulatory Research Institute on the FCC's Triennial Review Order. The first report developed an overview of the economic issues of impairment under the *Telecommunications Act* 1996, and the second provided a database and the means for estimating the costs of UNE-L (Unbundled Network Element Loop) supply on a granular basis. The reports have been disseminated to the members of the National Association of Regulatory Utility Commissioners (NARUC).

Q. Have you ever testified in a regulatory proceeding before?

A. Yes. I have testified before the Wisconsin, Maine, New York, Indiana, Maryland, Massachusetts, Connecticut, and the Pennsylvania Public Service Commissions, as well as the Canadian Radio and Television Commission.

Q. Have you previously submitted testimony in a Florida proceeding.

A. Yes, in Docket Nos. 981834-TP and 990321-TP on pricing of collocation elements, I submitted rebuttal testimony on behalf of the Staff of the Florida Public Service Commission on April 18, 2003.

2 OVERVIEW OF THE TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to:

- identify the germane policy and economic issues pertaining to the implementation of telecommunications law in Florida under Section 364.164 of the Florida Statute; and

- review the petitions of the ILECs for rebalancing of rates under this section.

Q. Can you summarize the most important issues addressed in your testimony.

A. Yes. Under the Tele-Competition Innovation and Infrastructure Act of 2003 ("the Act"), ILECs may petition the Commission to reduce intrastate access charges provided that any rate reductions are "revenue-neutral" when rebalanced against the other rates charged by the ILECs. The commission has 90 days to issue a decision on each petition.

As set forth in Section 364.164 (1), Florida Statutes, the Commission is to consider certain criteria in reviewing companies' petitions filed pursuant to this section. Inter alia, the Commission is to consider whether granting the petitions will:

a) Remove current support for basic local telecommunications services (BLTS) that prevents the creation of a more attractive competitive local exchange market for the benefit of residential customers;

b) Induce enhanced market entry;

c) Require intrastate switched network access rate reductions to parity over a period of not less than 2 years or more than 4 years; and

d) Be revenue neutral as defined in subsection (7) within the revenue category defined in subsection (2).

It is the view of the Florida Office of Public Counsel (OPC) that the Commission should:

1) determine whether current prices support any form of BLTS to be rebalanced, especially residential BLTS, where the proposed rebalancings are concentrated;

2) if so, then whether this support acts to prevent the creation of a more attractive market for the benefit of residential customers; and

3) if so, then whether removal of the quantified support as proposed by the petition of the ILEC would create a more attractive market for the benefit of residential customers or whether the proposal should be rejected.

Q. Can you summarize the most important conclusions and recommendations of your testimony?

A. Yes, I have reviewed the petitions filed by Verizon, Sprint, and BellSouth to reform their intrastate network access rates and BLTS rates, and it is the position of the OPC that these petitions should not be approved by the Commission. The petitions do not provide adequate empirical evidence to support the ILECs' claims. In particular:

- The ILECs have not shown that residential BLTS is supported and therefore there is no record to support the proposed rebalancing. Thus, a substantial rebalancing by raising residential BLTS rates cannot be justified by any claim that such support exists. Indeed, the OPC demonstrates in this testimony that it is highly unlikely that such support exists.

- The ILECs have not made a showing that the proposed reform of these rates would create a more attractive competitive local exchange market for the benefit of residential customers or enhance market entry or that entry will be enhanced because they fail to demonstrate support of residential BLTS which underpins most of their arguments on entry, and, in any case, their analysis is based on a model that no entrant would ever use, so is irrelevant. Moreover, any claims of benefits to consumers based on the removal or reduction of support of residential BLTS are moot, since no such support exists.

- The ILECs have not demonstrated that the proposed rebalancing would benefit or protect consumers.[1] Again any claims of benefits brought by elimination or amelioration of support of residential BLTS are irrelevant (since residential rates are not supported), and ILEC evidence beyond this on the impacts of the rebalancing is very limited.

[1] On protect see Section 364.01 (3) and (4) (a) and (c).

The economic and policy environment in the telecommunications sector is undergoing rapid and fundamental change. The development of more competitive telecommunications markets in the area of mobile services has revealed what economically efficient prices are likely to look like in telecommunications markets generally. Relative pricing patterns in these markets are in sharp contrast to the prices recommended by the ILECs.

The OPC, therefore recommends that rebalancing, if it occurs, should result in prices that reflect the operations of a competitive market, rather than prices that are sustainable due to a lack of competition.

3 EXISTING RATES PROVIDE NO OR VERY LITTLE SUPPORT FOR BASIC LOCAL TELECOMMUNICATIONS SERVICES

Q. Do the ILECs demonstrate residential BLTS is supported.

A. No. The ILECs contend that a service is subsidized or supported if it is priced below the economic cost of providing the service. The ILECs' cost measures are inappropriate for use as a test of whether residential BLTS is supported since their methodology is based on TELRIC instead of TSLRIC estimates. Costs shared by residential BLTS and business and data services, which are captured in the TELRIC estimates used by the ILECs, are not part of the TSLRIC of residential BLTS. As I point out below, the ILECs contend that

TSLRIC is the appropriate test for subsidization.[2] In addition, the ILECs approach understates the revenue per line from BLTS as their analysis excludes revenues relevant to residential BLTS, the higher Subscriber Line Charge (SLC) for additional lines.

Taking these factors into account, it is highly probable that current retail prices for residential BLTS alone exceed the direct costs of providing these services, and consequently current total revenues from residential services gained through supply of residential exchange lines exceed the TSLRIC of residential services supplied over residential exchange lines by even more.

Q. Can you explain what are the key reasons why cost estimates used by the ILECs to form the basis for their rate rebalancing recommendations are inappropriate?

A. Yes. The ILECs' cost measures are not valid for evaluating subsidization of BLTS. The ILECs' estimates of TSLRIC for residential BLTS substantially exceed actual TSLRIC costs since they rely on TELRIC-based estimates that include costs of the loop shared by residential, business, and data services which should not appear in a TSLRIC estimate. For example, TELRIC estimates for a UNE loop include trenching, conduit, poles, cable placement and similar costs

[2] I explain the difference between TSLRIC and TELRIC on Page 16.

that are largely, but not entirely, *shared* by business and data services.[3] Such shared costs cannot be part of the TSLRIC of residential BLTS.[4]

3.1 TSLRIC AND NOT TELRIC SHOULD BE USED TO EVALUATE THE LEVEL OF SUPPORT, IF ANY, PROVIDED TO BASIC LOCAL TELECOMMUNICATION SERVICES (BLTS) SINCE TELRIC OVERSTATES THE CONTRIBUTION OF SHARED COSTS TO BLTS

Q. Why should TSLRIC be used instead of TELRIC to evaluate whether or not BLTS is being subsidized.

A. TSLRIC, and not TELRIC, should be used since TSLRIC excludes shared costs that are included In TELRIC. Consistent with this, the Commission has previously required TSLRIC to be the cost standard to be used when evaluating the reasonableness of a rate.[5]

---

[3] These costs are largely, but not completely, shared as the presence of residential service might lead to increased investments that otherwise would not have occurred. See discussion at Page 18 below.

[4] It is my view that the TELRIC costs of a UNE loop, including the costs of the copper pair are further shared by BLTS, long distance services, ADSL services and any other service that uses the copper pair. However, we do not press this point in these proceedings.

[5] Florida Public Service Commission, Commission Order PSC-96-1579-FOF-TP, Page 25 (as cited in D. Daonne Caldwell, Direct Testimony on Behalf of BellSouth Telecommunications, Inc. Before the Florida Public Service Commission, Petition of BellSouth Telecommunications, Inc. to Reform Its Intrastate Network Access and Basic Local Telecommunications Rates in Accordance with Florida Statutes, Section 364.164, August 27, 2003, Page 6, Lines 10-17).

The FCC takes a similar view. For example, the FCC has noted that if the level of analysis is an individual rate element, then the appropriate cost metric is the TSLRIC. The FCC made this distinction between costing methodologies because there are many shared costs that are not relevant to the incremental cost of an individual rate element. Shared costs are only appropriately included in the cost analysis when the revenue from the shared services is simultaneously considered.[6]

Q. Do any of the ILECs' witnesses support the use of TSLRIC in determining whether BLTS is supported.

A. Yes. BellSouth Telecommunications, Inc. witness William Taylor takes this same position in the present proceedings.[7] Taylor has also previously testified on this matter for Verizon on determining if a service is subsidized. In Massachusetts, Dr. Taylor took the position that TSLRIC, not TELRIC, should be used to determine if dial-tone was subsidized. He said: "If we are going to have a price floor for, say, dial-tone line, my own understanding is that, to avoid cross-

---

[6] Federal Communications Commission, FCC 96-325, The First Report and Order In the Matter of Implementation of the Loc.l Competition Provisions in the Telecommunications Act of 1996 (CC Docket No. 96-98) and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers (CC Docket No. 95-185), August 8, 1996, Paragraph 676-682, 695.

[7] William E. Taylor, Direct Testimony on Behalf of BellSouth Telecommunications, Inc. Before the Florida Public Service Commission, Petition of Sprint Florida Inc. to Reduce Access Rates, August 27, 2003, Page 13, Lines 7-17.

subsidy, we'd like to have TSLRIC," and not TELRIC or TELRIC minus joint and common costs.[8]

BellSouth Telecommunications, Inc.'s witness D. Daonne Caldwell also supports Taylor's argument in this proceeding, noting that: "TSLRIC studies are the basis for testing for cross-subsidization." She properly asserts that shared costs should be excluded from a TSLRIC study because the costs persist if one service is eliminated and a second service still requires the shared facility.[9]

Dr. Kenneth Gordon, representing all three ILECs, views support as occurring when forward-looking <u>direct</u> [emphasis added] costs of the <u>service</u> [emphasis added], not network element, are not covered.[10] Direct costs, by definition, do not include shared costs.

In summary, the testimony of these witnesses on the behalf of the ILECs is consistent with the Commission's rules and my support for use of TSLRIC to identify the level of support. Nevertheless, the ILECs effectively contradict their

---

[8] Massachusetts Department of Telecommunications and Energy (DTE), <u>Price Cap Regulation for Verizon</u>, DTE 01-31, Phase II, Volume 1, 10/22/02, Page 23.

[9] Caldwell, Page 8, Lines 9, 16-22.

[10] Kenneth Gordon, Direct Testimony on Behalf of Verizon Florida, Inc.; BellSouth Telecommunications, Inc.; and Sprint Florida Inc. Before the Florida Public Service Commission, <u>Petition of Sprint Florida Inc. to Reduce Access Rates</u>, August 27, 2003, Page 20, Lines 20-23, Page 21, Lines 1-4, and Page 34, Lines 1-17.

own witnesses by using TELRIC methodology to ascertain what they believe is the level of support for BLTS.

Q. Can you explain why TSLRICs are often lower than TELRICs.

A. The TSLRIC of a service that uses particular network elements is often lower than the network element's TELRIC. Incremental cost measures the cost avoided when a *service* is eliminated, while maintaining all other services.[11] It does not include any costs shared by services.[12] A service's TSLRIC is equal to the difference between the total forward looking long run costs of offering all services and the total forward looking long run cost of offering all services *except* the service in question.[13] A network element's TELRIC is the difference between

[11] Stephen J. Brown and David S. Sibley, The Theory of Public Utility Pricing (Cambridge: Cambridge University Press, 1986), Page53.

[12] Caldwell, in her testimony on behalf of Bell South Telecommunications, Inc. agrees that TSLRIC does not include shared and common costs (Caldwell, *Ibid.*, Page 8, Line 9); and also Gordon, see footnote 10.

[13] Bell South Telecommunications, Inc. witness, Taylor agrees in testimony provided in Massachusetts: TSLRIC is calculated by "loo[k]ing at the costs of the entire firm, with and without a particular service." Massachusetts Department of Telecommunications and Energy (DTE), Price Cap Regulation for Verizon, DTE 01-31, Phase II, Volume 1, 10/22/02, Page 35.

A similar definition of TSLRIC was offered by the Commission in "we find TSLRIC should be defined as the costs to the firm, both volume sensitive and volume insensitive, that will be avoided by discontinuing, or incurred by offering, an entire product or service, holding all other products or services offered by the firm constant." Florida Public Service Commission, Order PSC-96-1579-FOF-TP, Before The Florida Public Service Commission In Re: Petitions by AT&T Communications of the Southern States, Inc., MCI Telecommunications Corporation, MCI Metro Access Transmission Services, Inc., American Communications Services, Inc. and American Communications Services of Jacksonville, Inc. for Arbitration of Certain Terms and Conditions of a Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection and Resale Under the Telecommunications Act of 1996 (Docket No. 960833-TP, Docket No. 960846-TP, Docket No. 960916-TP), December 31, 1996, Page 26.

the total forward looking long run costs of supplying all network elements and the total forward looking long run cost of offering all network elements *except* the network element in question. The TELRIC cost estimate will include costs that are excluded from TSLRIC because TELRIC includes shared cost that are incurred in the provision of any two or more services that may use the element. These shared costs would be excluded from the TSLRIC of an individual service. In such cases, the TSLRIC of those services is lower than TELRIC because TSLRIC excludes shared costs that are included in TELRIC.

As an example, suppose an ILEC digs a trench along a road and places a cable into the trench that is shared by loops serving business and residential customers that subscribe to BLTS, as well as customers of data services. To estimate the (average) TELRIC of the local loop one would take the total cost of the trenching and the material and installation cost of the cable and divide it by the total number of loops in use. In contrast, to evaluate the (average) total long run incremental cost of residential BLTS (i.e., the TSLRIC of residential BLTS), one would ascertain the costs avoided by eliminating residential service while maintaining business and data services. This difference would be divided by the number of in-service residential lines. The absence of residential BLTS would not have an impact on the ILEC's trenching costs, and therefore the trenching cost should not be part of the TSLRIC of the loops used to provide residential

BLTS. Rather trenching is a shared cost of all services that have facilities running through the trench.[14]

Q. I understand that later you will provide specific cost estimates for residential BLTS TSLRIC (see Page 28 and Appendix 2), but for the present can you provide any general support for the proposition that the TSLRIC of a residential loop is likely less than the TELRIC for a loop?

A. Yes. Cost data generated by the Benchmark Cost Model (BCM) model is suggestive that the TSLRIC of residential service is approximately one-half of the TELRIC value.[15] BCM was developed by two of the three ILECs in this proceeding—Verizon and Sprint.[16]

3.2 THE ILECS USE TELRIC METHODOLOGY INSTEAD OF TSLRIC METHODOLOGY WHEN DEVELOPING THEIR COSTS OF SERVICE, AND THUS OVERSTATE THE COSTS OF PROVIDING BASIC LOCAL TELECOMMUNICATIONS SERVICE

[14] BellSouth witness Caldwell makes the same conceptual point when she argues that a license fee paid to a vendor that supports two or more services should be treated as a shared cost, and not as a component of the TSLRIC of the services. Caldwell Direct, Page 8, Lines 20-22.

The cable installation costs are also largely shared costs, and to the extent that the installation costs are not avoided when residential service is eliminated, they too should be excluded from the TSLRIC of residential service.

[15] David Gabel, Improving Proxy Cost Models for Use in Funding Universal Service, National Regulatory Research Institute (1996), Page 5.

Q. Can you demonstrate that BellSouth essentially relies on TELRIC estimates to incorrectly estimate TSLRIC?

A. Yes. BellSouth witness Caldwell indicates that BellSouth used its TELRIC data to estimate the TSLRIC of the local loop.[17] Caldwell claims that BellSouth Telecommunications, Inc.'s approach provides TSLRIC estimates,[18] because loop costs should not be treated as common costs, but are directly attributable to BLTS.[19] However, as explained above (Page 15), it is incorrect to assume that all loop costs are direct costs.

Caldwell also avers that a range of "direct costs required to promote and support retail services, e.g. billing, collections, marketing, sales, advertising and product management" should be included.[20] I only accept this, to the extent that these costs are shown to be incurred only and solely due to residential BLTS and that they would not be incurred otherwise, for example, if BellSouth Telecommunications, Inc. were to supply business and data services. BellSouth Telecommunications, Inc. do not demonstrate this.

---

[16] MCI and U S WEST also sponsored the development of the model.

[17] See especially Caldwell, *Ibid.*, Page 3, Lines 12-25, Page 4, Lines 1-22, and Exhibit DDC-3. In addition, the material investment passed from BSTLM to the BellSouth Cost Calculator were calculated using the BSTLM TELRIC methodology, Caldwell, Exhibit DDC-1.

[18] *Ibid.*, Page 6, Lines 10-19.

[19] *Ibid.*, Page 9, Lines 7-25, Page 10, Lines 1-13.

[20] *Ibid.*, Page 11. Quote from Lines 8-9; general point, Lines 8-18.

Q. Can you demonstrate that Sprint essentially relies on TELRIC estimates to measure TSLRIC.

A. Yes, witness Kent W. Dickerson, in his testimony on behalf of Sprint, indicates the method taken by Sprint in estimating the TSLRIC of BLTS:

> "Sprint is using the same cost studies that the Florida Public Service Commission approved in Docket No. 990649B-TP for Sprint's unbundled network element (UNE) prices [citation omitted]. Using the Commission-approved cost studies, Sprint deaveraged the investments to match the investments associated with R1 and B1 services. Since UNEs are sold to wholesale carrier customers, the UNE cost studies do not include any costs associated with retail functions. To appropriately account for the costs Sprint incurs to provide these services on a retail basis, the cost of retail service was added to the TSLRIC studies for R1 and B1 services."[21]

In short, Sprint's measure of TSLRIC takes the TELRIC estimate of a UNE loop and adds costs allegedly incurred due to retailing. However, the UNE loop TELRIC is a cost incurred jointly by a range of services including business lines, special access, and data services. Therefore, the cost estimate is biased upward because it includes shared costs.

Furthermore, some or all of Sprint's retail marketing costs may also be incurred jointly with the supply of other services beyond BLTS. More troublesome is Sprint's apparent assumption that the marketing, sales and product develop expenses are the same for residential BLTS as it is for data, business, and special access lines.[22]

Q. Can you demonstrate that Verizon essentially relies on TELRIC estimates to measure TSLRIC.

A. Yes. The testimony of Orville D. Fulp on behalf of Verizon in this proceeding indicates at least two flaws in Verizon's calculation of TSLRIC.[23] First, Verizon used its UNE rates to establish the cost of BLTS, and it avers that these rates "are a conservative estimate of the cost of provisioning basic local residential services because they do not reflect true TSLRICs."[24]

[21] Kent W. Dickerson, Direct Testimony on Behalf of Sprint Florida Inc., Before the Florida Public Service Commission, Petition of Sprint Florida Inc. to Reduce Access Rates, August 27, 2003, Page 3, Lines 15-25.

[22] Ibid., Page 7 of 7.

[23] Orville D. Fulp, Direct Testimony on Behalf of Verizon Florida Inc., Before the Florida Public Service Commission, Petition of Verizon Florida Inc. to Reform Its Intrastate Network Access and Basic Local Telecommunications Rates in Accordance with Florida Statutes, Section 364.164, August 27, 2003.

[24] *Ibid.*, Page 19, Lines 7-9, Page 20, Lines 9-11.

Second, Verizon's cost estimates include joint and common costs based on a common cost allocator of 12.11%.[25] This allocator should be excluded from a TSLRIC study since TSLRIC excludes all joint costs from being attributable to one service, and only includes costs that can be directly attributable to a service.

Q. Did the ILECs explain why they were using TELRIC as a proxy for TSLRIC?

A. Not to any significant degree. Expediency appears to have been a major factor. Verizon witness Fulp notes that given the time constraints of these proceedings the Commission has only 90 days to issue an order, and that therefore these previously developed rates would be adequate for the Commission's purposes. Witness Fulp argues that it would be less resource intensive and time consuming to analyze these rates previously approved by the Commission than to develop a new cost study.[26]

Q. Are time constraints a good reason for using TELRIC-based estimates of TSLRIC?

A. It is true that TELRIC estimates are more readily available than TSLRIC estimates, but this is no reason for not seeking to adjust these given the availability of data to do so. It would be untenable to rely on unadjusted TELRIC

---

[25] *Ibid.*, Page 21, Lines 1-3.

[26] *Ibid.*, Page 19, Lines 18-21 and Page 20, Lines 18-21.

costs when, for example, I will demonstrate that the BellSouth state-wide TSLRIC of residential BLTS is approximately half of a TELRIC-based estimate.[27] This result is consistent with data generated by the ILECs' own Benchmark Cost Model (see Page 18). Even if my own conservative estimates, or those of the Benchmark Cost Model, contain errors, they are unlikely to be over 100% off, which would have to be the case for the TELRIC-based estimates to be more accurate.

Q. You stated that you would estimate the TSLRIC of residential BLTS using BellSouth's cost model. Would you explain how BellSouth's model works?

A. Yes. First, in my response I will only address the operation of BellSouth's loop model. I concentrate on that model because the overwhelming portion of the ILEC cost estimates for BLTS are associated with the loop.[28]

The BellSouth Model estimates the forward-looking economic cost of its loop network and then uses a series of fully distributed cost mechanisms to assign the loop network cost to each service. The loop network is designed to provide all of the services that BellSouth offers, including local residential, single line business,

[27] My conclusion is based on working with intermediate output data from BellSouth's loop model. Based upon my knowledge of the cost structure of the telephone industry, I conclude that the finding that TELRIC is much higher than TSLRIC applies equally to Verizon and Sprint.

[28] For example, Sprint witness Dr. Staihr states that "the cost of the loop accounts for over 90% of the cost of providing basic local service." Direct, Testimony Page 11, Lines 9-10.

multi-line business, Centrex, special access, and state private line services. Fully distributed allocators such as pair-feet for cable investment or DS0 (that is, a 64 kb/s channel circuit) equivalents for digital loop carrier investment are used to allocate the material investment in the network. Shared costs such as installation costs and poles and conduits are allocated across the various services through the use of in-plant factors and structure factors.

Q. Is BellSouth's methodology appropriate for estimating the TSLRIC of a service?

A. TSLRIC estimate should not use factors to estimate the portion of shared costs assigned to a service. Instead, the shared costs should be excluded from the TSLRIC estimate. For example, the TSLRIC estimate of residential BLTS equals the total cost of providing the combined services minus the stand-alone cost of providing all service with the exemption of residential BLTS. Costs shared by residential and all services would be included in the stand-alone cost of the other services and thus would be filtered out of the incremental cost of residential BLTS. This filtering process would remove, for example, the cost of the trench that contains any wires that serve customers other than residential customers. The BellSouth model, on the other hand, would allocate a share of that trench to the incremental cost of residential service, and because it allocates these and other shared costs to residential service, the BellSouth model does not properly estimate service incremental cost for any service. While BellSouth characterizes its study as being true to the TSLRIC methodology, it is more appropriately characterized as a fully distributed cost study.

Q. Is it possible to use the BellSouth model to estimate the TSLRIC of a service?

A. Yes. It is possible to make a reasonable estimate of the TSLRIC of a service by removing the shared costs from the model. Because the model is set-up to allocate all shared costs, it is not always possible to remove the theoretically correct amount of shared costs. However, removing a reasonable amount of the shared costs will allow the Commission to base its decision on an estimate of TSLRIC that is approximately right. This approximate value is likely to be significantly closer to the correct TSLRIC value than BellSouth's fully distributed estimate.

Q. Were you able to determine a reasonable estimate of the TSLRIC for residential BLTS?

A. Yes. I estimated that statewide average loop portion of the TSLRIC is **begin proprietary** XXXXX **end proprietary.**[29] This value is significantly lower than BellSouth's **begin proprietary** xxxxxx **end proprietary** loop estimate. I did not estimate the cost of the port, switching, and transport. For the purposes of

[29] The OPC is filing a copy of the proprietary work papers associated with all of the proprietary calculations presented in this testimony with both the Commission and BellSouth. See Appendix 3 for the list of proprietary files.

this proceeding I will accept BellSouth's estimates of port, and switching and transport costs even though their estimates of **begin proprietary** xxxxx **end proprietary** and **begin proprietary** xxxxx **end proprietary** per line, respectively, are probably too high. The sum of my retail cost adder of **begin proprietary** xxxxx **end proprietary** per residential line, my loop estimate and BellSouth's port, transport and switching estimates equals **begin proprietary** xxxxx **end proprietary**. This value, **begin proprietary** xxxxx **end proprietary**, is a reasonable estimate of the statewide TSLRIC for residential BLTS. I recommend that the Commission use this value to determine whether residential customers are receiving a subsidy from access services.

Q. What changes did you make to the BellSouth model when you estimated the TSLRIC for residential BLTS?

A. I removed a portion of the shared costs of the digital loop carriers and I reduced the material in-plant factors that add installation costs to cable material costs.

Q. How did you remove a portion of the shared costs of the digital loop carriers (DLC)?

A. The output of the BSTLM model lists three general types of DLC equipment. These are common, hardwire, and plug-ins. The common equipment is used to transport messages from the DLC remote terminal to the central office terminal. This equipment is shared by all services that use the DLC. I removed the common DLC material investment costs for the material investment costs that are passed from the BSTLM to the BellSouth cost calculator. The hardwire equipment includes the cabinets, shelves and batteries that are part of the remote and central office equipment. This is shared equipment. However, because I could not separate the amount of hardwire equipment that is truly incremental to residential service from the total hardwire investment, I did not reduce the material investment associated with hardwire equipment. The failure to remove the share cost associated with the hardwire equipment generates an upward bias to the TSLRIC estimate. Finally, because the plug-ins can be directly assigned to individual services, I did not change the BSTLM plug-in material investment estimated by BellSouth.

Appendices 1 and 2 of my testimony provide a description of the other adjustments that I made to the study.[30] The other adjustments were made with the objective of, as with the DLC equipment, to remove shared costs from BellSouth's loop cost estimate.

Q. Were you able to determine a reasonable estimate of the TSLRIC for business BLTS?

---

[30] I provide my own estimates of retail costs directly attributable to residential BLTS in Appendix 2.

A. Yes. Using the same method that I have just described when I estimated the TSLRIC for residential service, I estimated that BellSouth state-wide TSLRIC for business loops is **begin proprietary** xxxxx **end proprietary**. This value is significantly lower than BellSouth's **begin proprietary** xxxxxx **end proprietary** loop estimate. I did not estimate the cost of the port, switching and transport. For the purposes of this proceeding, I will accept BellSouth's estimates of port, switching and transport.

Q. What conclusion can be drawn from your analysis of TSLRIC?

A. I conclude that residential BLTS is not being subsidized by access service or any other service. This conclusion is based on the fact that the state-wide TSLRIC for residential BLTS is **begin proprietary** xxxxxx **end proprietary** and state-wide average revenue for residential BLTS is The **begin proprietary** xxxxxx **end proprietary**. The **begin proprietary** xxxxxx **end proprietary** state average was calculated by dividing the current residential BLTS revenue by the present statewide demand shown in BellSouth exhibit SB-1.[31] Business BLTS for single line business customers is also not being subsidized. For these customers the TSLRIC plus the retail adder is **begin proprietary** xxxxx **end**

[31] BellSouth Telecommunications, Inc., Direct Testimony of E. Steven Bigelow, Exhibit SB-1. For residential service, revenue equals the average revenue derived from SB-1 plus a $6.50 SLC. This value under-estimates the average revenue because a portion of the residential lines are non-primary and are charged a $7.00 SLC. For business service, because these customers are alleged to be single-line business customers, a $6.50 SLC was added to the average business revenue calculated using the data in Exhibit SB-1.

proprietary while average revenue is **begin proprietary** xxxxxx **end proprietary**.

Q. You have excluded shared costs from your estimate of the TSLRIC of a loop. But didn't Caldwell and Gordon argue that local loop costs are not shared over different services, but are directly attributable to BLTS, and claim the Commission has come to a similar conclusion? Does the Commission's earlier ruling invalidate your views?

A. No. As noted BellSouth Telecommunications, Inc.'s approach relies on TELRIC estimates.[32] Caldwell's testimony avers that these can be used to provide TSLRIC estimates for BLTS[33] because loop costs should not be treated as common costs, but are directly attributable to BLTS.[34] Caldwell quotes the Florida Commission as saying "the cost of local loop facilities [is] properly attributable to the provision of basic local telecommunications service."[35] The Commission in the same quote goes on to cite the Florida Statutes' definition of BLTS as including a wider range of services.[36] The services identified by the Commission were services that were are provided over a given loop. Caldwell

---

[32] See discussion above at Page 19.

[33] Caldwell, Page 6, Lines 10-19.

[34] *Ibid.*, Page 9, Lines 7-25, Page 10, Lines 1-13.

[35] *Ibid.*, Page 10, Lines 2-12.

[36] *Id.*

asserts that this demonstrates the Commission "rejected the claim that the cost of the loop should be recovered from non-basic local telecommunications services." Gordon provides the same citation to the same effect.[37]

I do not dispute that any long run incremental costs attributable to BLTS as defined by the Commission must be part of that service's TSLRIC, but this has no bearing on whether *residential* BLTS shares costs with business BLTS, other business, special access, or data services. I am not challenging the Commission's determination that the cost of a given loop should only be assigned to BLTS.[38] Rather I am pointing out that when the cost of the residential BLTS loop is estimated, costs shared with other services, such as special access, data and business BLTS, shared costs should not be treated as a direct cost. The Commission should estimate the cost of a residential loop given that the residential loop shares facilities with other services. Residential BLTS does share costs with business, special access and data services and these shared costs should not be included as part of residential BLTS TSLRIC.

Q. Can you go into additional detail regarding your analysis of Caldwell's testimony on use of TELRIC estimates for residential BLTS costs?

---

[37] Gordon, *Ibid.*, Page 34, Lines 19-22, Page 35, Lines 1-20.

[38] As noted, I do not accept that local loop costs are solely attributable to BLTS. However, this is not material to my position in this proceeding.

A. Caldwell incorrectly argues that, "[t]reatment of loop costs as shared or common costs also violates the cost-causation principle inherent in TSLRIC methodology"[39] because "[a] cost is caused when an activity takes place; if BellSouth provisions the loop, the cost is incurred."[40] Treating the shared costs of a loop as a direct cost violates the definition of TSLRIC because the shared cost is incurred whether or not residential BLTS is supplied. It is not a cost directly attributable to the service, residential BLTS. If residential BLTS were eliminated, there would be little or no change in many structure costs, such as trenching, and so these cannot be considered a TSLRIC of residential BLTS.

Caldwell also argues that BLTS rates should exceed TSLRIC estimates however estimated to make a contribution to shared and common costs.[41] This is not relevant for the purpose of deciding whether BLTS is subsidized, since a service is only cross-subsidized if it recovers less than its TSLRIC.[42] Caldwell correctly points out in her testimony that (1) TSLRIC does not include shared and common

---

[39] *Ibid.*, Page 9, Lines 20-21.

[40] *Ibid.*, Page 9, Lines 21-23.

[41] *Ibid.*, Page 10, Lines 14-21, Page 11, Lines 1-3.

[42] Faulhaber, G.R. (1975) "Cross-subsidization: Pricing in Public Enterprises," American Economic Review, 65 (5) December 966-77.

Furthermore, neither Caldwell nor any of the ILEC witnesses provide evidence regarding the degree to which the price of BLTS needs to be marked-up above TSLRIC or TELRIC to comply with the requirements of the governing statute. Therefore, her statement that there is a need to set prices in excess of TELRIC provides little if any instruction.

costs,[43] and (2) that, "TSLRIC studies are the basis for testing for cross-subsidization".[44] The view that TSLRIC is the relevant standard for testing for a subsidization is consistent with the Commission's ruling that TSLRIC is the appropriate cost standard,[45] as recognized by Caldwell,[46] another BellSouth witness (Taylor),[47] and the ILECs' joint witness (Gordon).[48]

Q. You stated that the ILECs used TELRIC cost estimates to test if residential service is subsidized. If TELRICs are used to measure support or subsidies, is it consistent to use BLTS only revenues in testing for support?

A. No. Costs must be matched with equivalent revenues when testing for support or seeking to align rates to costs. If TELRIC estimates for a network element over which many services are supplied are to be relied on (as the ILECs

[43] Caldwell, *ibid.*, Page 8, Lines 16-25, Page 9, Lines 1-5.

[44] *Ibid.*, Page 8, Line 9.

[45] Florida Public Service Commission, Order PSC-96-1579-FOF-TP, Before The Florida Public Service Commission In Re: Petitions by AT&T Communications of the Southern States, Inc., MCI Telecommunications Corporation, MCI Metro Access Transmission Services, Inc., American Communications Services, Inc. and American Communications Services of Jacksonville, Inc. for Arbitration of Certain Terms and Conditions of a Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection and Resale Under the Telecommunications Act of 1996 (Docket No. 960833-TP, Docket No. 960846-TP, Docket No. 960916-TP), December 31, 1996, Page 26.

[46] Caldwell, *ibid.*, Page 6, Lines 10-19.

[47] See footnotes 7 and 8 above.

[48] See Footnote 10 above.

advocate),[49] then these must be compared to revenues from all services that use that network element. Consequently, the average revenue from all users of the shared facility should also be used. It would be inappropriate to count shared costs on one side and residential BLTS revenues only on the other.

Another way to see this is to understand that when a firm evaluates an entry or expansion decision it compares the difference between expected total revenues and costs attributable to undertaking the activity in question (a position the ILECs have long advocated). Therefore, a hypothetical firm, LOOPCO, would compare its average revenue for all loops to the average cost of the loops. The average cost of a loop would include shared and direct costs of residential and business BLTS, as well as such costs from business, data and special services. This is essentially how the ILECs have calculated costs for this proceeding. The average revenue would include income derived from all products, residential, business, data, and special access loops.

Furthermore, if this type of analysis is conducted, the result of the test will only tell the Commission if the family of products that use loops are profitable and it will provide no meaningful economic information regarding the profitability of any one particular service, such as residential BLTS. No service specific conclusions

[49] For a general discussion see Section 4, pp. 46 ff below. Specifically on the ILECs' positions on this questions see Section 4.2, pp. 52 ff.

can be reached because it is a test for the family of products that require loops, and indicates nothing about the profitability of individual services. In order to determine the profitability of an individual service, the Commission must undertake the type of TSLRIC studies that I support in this testimony.

Q. If the Commission finds that residential BLTS prices do cover TSLRIC then are there any important implications for the claims by the ILECs and their witnesses about the benefits of adjusting these prices?

A. Yes. The ILECs and their witnesses have made a range of claims about benefits that would arise if BLTS prices currently fail to cover TSLRIC,[50] but

---

[50] Examples of these claims include:

1. regulatory policies that result in "uneconomically low residential basic local prices" imply lower [rates] than one would expect to find in undistorted competitive markets." (Gordon, *Ibid.*, Page 9, Lines 21-24).

2. if "the prices of residential basic local services [were better aligned] with their underlying costs, a broader base of residential customers will obtain the benefits of competition." (For Gordon's full position, see *Ibid.*, Page 29, Lines 11-13, and Page 30, Lines 15-18).

3. economic benefits would be generated if prices for residential BLTS prices were appropriately set. (Gordon, *Ibid.*, pp. 31 ff.).

4. "the lower the residential basic local price (when set governmentally without regard to whether the prices cover cost), the more unattractive those customers to actual and potential competitors". (Gordon, *Ibid.*, Page 11, Lines 4-6).

5. "If... incumbents rates are lowered artificially with the help of subsidy support, but their incremental costs do not change, potential competitive entrants that are not entitled to comparable subsidy support are likely to be deterred from entering the market." (Taylor, *Ibid.*, Page 5, Lines 19-22). I also do not accept that prior to rebalancing "subsidies" from intra-LATA access charges are not available to a CLEC provider of exchange lines. There is no competitive reason why CLECs cannot charge similar intra-LATA access charges.

6. that levels of CLEC provision to residential consumers are aggravated by prices being especially below TSLRIC as compared with other states (Gordon, *Ibid.*, Page 11, Lines 6-

through rebalancing were set so as to bring them closer to or achieve coverage of TSLRIC.[51] If the Commission finds that the ILECs have failed to show that residential BLTS prices are not so supported, as I have argued, then these assertions are moot.

It should also be noted that Dr. Gordon's claim that "the legislature has perceived that low residential basic local prices have led the residential local exchange market to be less attractive to competitors than would be the case with more economically rational residential basic local prices" is without basis.[52] The legislature came to no such conclusion, but rather directed the Commission to consider rebalancing more favorably if it were to "remove current support for basic local telecommunications services (BLTS) that prevents the creation of a more attractive competitive local exchange market for the benefit of residential customers; [and] [i]nduce enhanced market entry."[53]

Q. Does the ILEC analysis of BLTS take into account the correct level of BLTS revenue?

---

11). I also do not accept Gordon's comparison of Florida's residential BLTS rates to what he calls the national average, and nor that residential BLTS prices alone should be compared with TSLRIC. Instead, the comparison should be to total revenues earned through the supply of exchange lines.

[51] See Page 14 above.

[52] Gordon, *Ibid.*, Pages 10-11.

[53] Section 364.164 (1) (a) and (b).

A. No. The ILECs look at the profitability of residential service by adding in the Subscriber Line Charge (SLC) for the first line — $6.50 in the case of Verizon, Sprint, and BellSouth.[54] However, their analysis of profitability excludes the higher SLCs that are allowed for additional lines, and therefore understates the revenue per line earned from BLTS. This, in turn, results in an understatement of the margins earned on BLTS.

3.3 THERE IS LITTLE OR NO EVIDENCE TO SUPPORT THE ILECS' CONTENTION THAT REBALANCING WILL STIMULATE ENTRY

Q. The ILECs contend that rebalancing will stimulate competition in Florida, claiming the CLECs appear less interested in serving the residential market in Florida than in other states because current BLTS

---

[54] Orville D. Fulp, Direct Testimony on Behalf of Verizon Florida Inc. Before the Florida Public Service Commission, Petition of Verizon Florida Inc. to Reform Its Intrastate Network Access and Basic Local Telecommunications Rates in Accordance with Florida Statutes, Section 364.164, August 27, 2003, Page 22, Line 6.

The primary residential rate for the SLC is the lesser of the Common Line, Marketing and Transport Interconnection Charge (CMT) per line or the capped rate of $6.50, while for non-primary residential lines the rate is the lessor of $7.00 or the greater of the rate as of June 30, 2000 or the average price cap CMT revenue per line and the multi-line business rate is the lessor of $9.20 or the greater of the rate as of June 30, 2000 or the average price cap CMT revenue per line.

	Primary Residential	Non-Primary Residential	Multiline Business	Subscriber Line Charge	CMT
BellSouth:	6.50	7.00	7.13	7.13	7.07
Sprint	6.50	7.00	8.51	8.51	7.61
Verizon	6.50	7.00	8.98	8.98	8.37

See FCC Rules Section 69.152.

rates are too low in Florida. Do they provide any empirical evidence for this line of reasoning?

A. Yes, Dr. Gordon provides data suggesting that that residential BLTS charges in Florida are sharply lower than the national average and argues that this is hindering competition.[55]

Q. Can you comment on this evidence?

A. Yes. At best, Dr. Gordon's evidence is highly misleading. Dr. Gordon cites an FCC statistic that shows the average residential BLTS rate for 95 U.S. cities on October 15, 2002 was $14.55.[56] He also cites Florida Senate Staff estimates of the average rates for BellSouth, Sprint, and Verizon. The lowest of these rates is $7.57—nearly $7 below the 95 city average, and the highest of these rates is $12.06—$2.49 less than the 95 city average. However, Dr. Gordon is comparing apples with oranges. His averages include many different cost areas that are not comparable to what is a sample of the largest 100 cities in America. He also ignores the fact that SLCs in Florida are more than 15% above the 95 city average.[57] Yet, Gordon could have chosen to cite the data in the same FCC report that would have allowed a comparison of apples with apples.

---

[55] Gordon, *Ibid.*, Page 10-11.

[56] Gordon, *Ibid.*, Page 10. The original source is: http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/ref03.pdf, Table 1.1.

[57] The 95-city average of federal and state SLCs was $5.64 (FCC, *ibid.*, Table 1.1.), Florida's SLC for residential lines is typically $6.50 -- see footnote 54.

FCC Table 1.3 includes three cities in Florida, Miami, Tampa and West Palm Beach. The cost of these lines including SLCs and State and Federal taxes, respectively, is $20.24, $22.45 and $19.41. These prices, respectively, are $3.14, $0.93 and $3.97 below the 95 city average -- a substantially different picture to the $2.49 to nearly $7 difference that Gordon portrays.

Q. You mentioned that the ILECs contend that there is comparatively less residential competition in Florida than in many other states. Do you agree with Dr. Gordon's arguments that the comparative lack of entry by CLECs into Florida's residential services market is due to residential retail rates in Florida being too low and that these rates should be raised as a consequence?

A. No, I do not. Dr. Gordon's chart identifies the States where a large share of the CLECs lines are residential and small business customers.[58] Dr. Gordon's chart illustrates that Florida's CLECs are far from the nation's leaders, Iowa, Illinois, and Michigan, in terms of successful entry into the residential and small business market (mass market).

Due to data and time limitations, I will focus my comments on two of the three states that have the highest ranking in terms of CLECs serving the residential

[58] Direct Testimony of Dr. Kenneth Gordon, Attachment B.

market -- Illinois and Michigan.[59] In Illinois and Florida, the mass market accounts for approximately 85% and 50% of the CLECs customers, respectively.

As the first row in Table 1 below illustrates, consistent with the 95 city data just discussed, that Florida's residential retail rates are not that much lower than what is reported for Illinois. What is considerably lower, however, are the gross margins achievable by CLECs in Florida vis-à-vis the margins obtainable in Michigan and Illinois (see Row 3 of Table 1).[60]

Table 1: Comparative UNE Rates and Retail Rates

	Florida	**Illinois**	**Michigan[61]**
Residential Retail Rates[62]	$20.70	$21.31	$26.91

[59] To be consistent with Gordon's analysis, I relied on FCC data for the price of basic residential service (Gordon, Page 10). Iowa was left out of this analysis as the FCC's *Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service* only contained retail rates for Frontier Communications, whose Iowa UNE rates could not be tracked down in the short time available for presenting testimony in this proceeding.

[60] The table reports the margin based on a comparison of the price of exchange service and cost of the UNEs. I present the data in this manner in order to illustrate the error in Gordon's analysis. Entry is, of course, determined not by the price of BLTS, but rather the margin earned on all services sold over a network.

[61] The residential rate of $26.91 is the average of the rates of $27.59 for Detroit, $24.97 for Grand Rapids, and $28.16 for Saginaw (from the FCC's Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service). However, a review of Michigan Bell Telephone Company Tariff M.P.S.C. No. 20r, Part 4 Section 2, 14th Revised Sheet No. 3 (Issued: June 7, 2002) shows a residence services rate of $14.31 for call plan unlimited in metro access area. Taking Saginaw as an example, we add to the $14.31 $5.35 for the federal SLC, $2.78 for the state SLC, $0.53 for Federal USF, $0.42 for number portability and $2.89 for 911 charges, which brings the total to $26.28. The remaining $1.88 is, presumably, state and federal taxes.

[62] Data in this row is from the FCC *Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service*,2003, at Table 1.3. These rates are inclusive of all surcharges, touch tone service charges, and taxes. Data is as of October 2002.

	Florida	Illinois	Michigan[61]
Nov 2002 UNE-P Price[63]	$20.59	$12.22	$14.50
Gross Margin	$0.11	$9.09	$12.41
UNE-L Rates[64]			
Metro	$9.77	$2.59	$8.47
Suburban	$13.88	$7.07	$8.73
Rural	$24.63	$11.40	$12.54

Q. What accounts for the difference in CLEC entry between Florida and Illinois?

A. Dr. Gordon suggests the difference in entry is attributable the unreasonable rate structure in Florida. It certainly can not be the rate of residential BLTS -- as Row 1 of Table 1 above demonstrates, the price of residential BLTS is essentially the same in the Illinois and Florida. The data in the table indicate that a more plausible explanation for the comparative lack of CLEC entry in Florida vis-à-vis Illinois is that Florida's UNE prices are not as conducive to profitable CLEC entry into the market as the UNE prices found in Illinois. The UNE platform in Florida costs $20.59, versus $12.22 in Illinois. This implies that the lack of CLEC entry could be addressed just as effectively by lowering UNE prices. While I am not advocating in this docket a reduction in UNE prices, the observed difference in entry is more easily explained by the differences in UNE rates found in the two states, not the price of BLTS.

[63] Data in this row derived from: *Commerce Capital Markets, The Status of 271 and UNE-Platform in the Regional Bells' Territories* (November 2002) by Anna Maria Kovacs, Kristin L. Burns, and Gregory S. Vitale. (The UNE-P price used assumes Dial Equipment Minutes (DEM))

[64] *Id.*

Q. What accounts for the difference in CLEC entry between Florida and Michigan?

A. The data indicates that the price of residential BLTS is lower in Florida and the UNE prices are higher. These factors work together to explain why the pattern of entry is different between Florida and Michigan. Nevertheless, the Commission must be mindful that the decision of entry is based on a comparison of cost and revenues for the platform, not the margin from just one of the services sold over the platform.

Q. Can you provide any other evidence that the differences and CLEC entry between Florida and other states, such as Michigan and Illinois, is due to the margin of profitability of entry rather than residential BLTS rates *per se*?

A. Yes. In the fourth quarter of 2002 UNE prices in Florida were cut.[65] Using a weighted average of three density zones, the price fall was a substantial 11.6%.[66] A study found, as a result of this change, that "[r]esidential competition

[65] Consumer Federation of America, Competition at the crossroads: Can public utility commissions save local phone competition?, 7 October 2003, http://www.consumerfed.org/unep_200310.pdf, last paragraph of p. 9.

[66] B. Gregg 2002, 2003, (http://www.nrri.org/reports) the density zone weighted average monthly loop cost to be $15.81 in July 2002 falling by 11.8% to $13.95 by January 2003. Porting costs also fell from $1.40 to $1.17. With switching costs constant at $0.77, the total cost of UNE-P fell from $17.98 to $15.89.

increased sharply and has moved Florida much closer to the national average in terms of balance between residential and business in a short period of time."[67]

Q. Based on the analysis above, can you explain why the ILEC's analysis of entry into the Florida market is flawed?

A. Yes. The ILECs focus on the price of BLTS as the primary determinant of entry when elsewhere they contend that entry is based on the relationship between total revenue and total cost. The evidence provided by the ILECs has been superficial, in conflict with their positions on this issue before the FCC, and most importantly, it has failed to explain why rate rebalancing will induce new entry. Yes, some prices will be higher (BLTS), but others will be lower. Since entry decisions are based on total revenue, the ILECs have only offered speculation regarding the possibility that rebalancing will spur entry. This kind of superficial evidence would be given little weight in an impairment proceeding that addressed the economics of entry,[68] and neither should be accepted here. I will return to this point below (in Section 4).

---

[67] Consumer Federation of America, *id.* The change in share of residential CLEC lines is illustrated in Exhibit 4 on Page 11.

[68] (Federal Communications Commission, Triennial Review, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking in the Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (Docket Number 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (Docket Number 96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (Docket Number 98-147), August 21, 2003, Paragraph 485.

Q. Does Dr. Gordon cite any additional evidence that supports his proposition that entry is impeded due to the current rate structure?

A. Yes. Dr. Gordon, testifying on behalf of Sprint, Verizon, and BellSouth gives great weight to a study co-authored by two of his colleagues at his consulting firm, National Economics Research Associates (NERA).[69]

Q. Have you reviewed the study?

A. Yes.

Q. Do you believe that the study has any forensic value?

A. No. This study is severely flawed and therefore provides no useful insights on the issue of how rate rebalancing influences entry. I will briefly identify a few of the flaws. The authors, Ros and McDermott, used a few different econometric specifications to estimate how the ratio of business and residential rates affects competitive entry. Ros and McDermott contend that if the ratio of business to residential rates is high, residential rates are inefficiently low (Page 157 of the study). This conclusion, based solely on residential prices, and not underlying costs is unwarranted.

Ros and McDermott also make a range of modeling errors:

---

[69] Gordon, Page 27, footnote 15 and BellSouth's response to Citizens 2nd Set of Interrogatories, No.37. The study was provided in response to Citizens' 2nd Request for Production of Documents, Item No. 30.

- The authors attempt to explain the variation in the number of CLECs assigned numbering codes in each state through a number of explanatory variables (Page 163). The authors do not control for the size of the state.[70] Therefore they fail to take into account that the size of the market in California is many times greater than the size of the market in Wyoming. They repeat this error in their modeling of resold access lines. Such a misspecification would likely so bias their results as to render them without content.

- Two of the three facility based specifications involve trying to explain the variation in collocation at ILEC wire centers (Page163). The authors fail to control for 47 U.S.C. § 251 exemption to rural carriers of unbundling requirements. The statute establishes a barrier to entry that is highly relevant to explaining why different levels of observation are observed throughout the country. Therefore I am concerned that the researchers model specification leads to biased parameter estimates.

[70] Paradoxically, the authors suggested the need to control for the size of the market and indicated that they would include the total gross state product. Page 157, 162. However, this variable, or any proxy for it, was dropped by the authors (Pages 163 and 166).

- The authors effectively assume that the ratio of business to residential rates is uniform throughout a state (Footnote 19) or that the variance is of no relevance. Therefore the model fails to adequately measure the variable of interest.

- The study is based on aggregate state data and therefore fails to take into account the variation of profitable entry opportunities within a state.

- Variables are dropped from the different specifications without any adequate explanation of why it is appropriate to include a variable, such as per capita income, in one specification, but not another (Pages 163, 166). If a relevant variable has been dropped from the model, the coefficient estimates are likely biased. Additionally, such inclusions and omissions raise questions as to whether variable choices were made with an outcome in mind rather than allowing the data to speak for itself.

In summary, this paper suffers from omitted variable bias, measurement errors, and coefficient estimates that appear to be the result of a fishing expedition rather than the product of a sound research methodology.

4 ENTRY DECISIONS BY CLECS ARE NOT BASED ON A COMPARISON OF THE PRICE OF RESIDENTIAL BLTS TO THE TSLRIC OF BLTS – ENTRY DECISIONS ARE BASED ON A COMPARISON OF TOTAL REVENUES FROM ALL SERVICES WITH THE TOTAL TSLRIC OF ALL SERVICES

Q. The ILEC witnesses have testified that entry may be impeded by the allegedly supported residential BLTS rates.[71] Is it sensible to understand the economics of entry by looking at the price of BLTS only?

A. No. Entry decisions are not made on the basis of the price of an individual product. Rather a firm's entry is controlled by the relationship between expected <u>total</u> revenue and costs.

Q. Can you elaborate on this point?

A. Entry decisions are made on the basis of the expected total revenues and costs of all services an entrant can offer.

Traditional economic analysis points out that new firms enter a market with no entry barriers when economic profits are positive, and that entry will continue to occur until economic profits are driven to zero. Thus, it is not solely the price of one product or a number of products that determine the firm's entry decision –

[71] For some examples see footnote 50.

rather it is whether total expected revenues exceed total expected costs associated with entry.

More generally, a firm chooses to supply or extend supply of a service or services, or to enter a market or markets, when the net expected return from doing so, accounting for risk, is positive. It is completely irrelevant to a firm's decision, say, to supply local access lines, that it might make an expected loss on BLTS according to some measure, if total expected revenues, including those earned from retailing vertical and ADSL services, and wholesaling or retailing long distance services, cover the total expected cost of entry and the BLTS losses must be incurred to gain this overall position of profit.

Indeed, the fact that revenue neutrality is required under any rate rebalancing in these proceedings implicitly acknowledges that ILECs look at the entire revenue package and not each component in isolation. In requiring rebalancing, the section takes account of the <u>total</u> impact on the ILEC's revenues. The Legislature could have chosen to simply cut intra-state network access rates to interstate network access rates, but this would have been inconsistent with ensuring continued cost-coverage. Rebalancing provides a means of lowering intrastate network access rates while ensuring the ILEC's were able to continue recovering their costs. Indeed, as I will discuss below, given total revenues earned by the ILECs (and hence potential earnings of new entrants) are rebalanced, it is unlikely that there will be a substantial change in the attractiveness of entry broadly in the supply of BLTS.

Q. Can you comment on how a typical CLEC might make an entry decision?

A. Yes. CLECs entry decisions will be based on total expected revenues and costs associated with all the services that can be sold given entry into the market, and would take account of whether entry would result in access to universal service support fund. An entry decision would not be based on the price of any particular service or product such as residential BLTS.

For example, assume that the cost of providing residential BLTS for a CLEC is $18, and that rates are rebalanced so that the price of this service increases from $15 to $20. According to the ILEC arguments presented in their petitions, the increase in the price will induce more competitive entry into the provision of BLTS since the profit will be $2 per customer. However, this is hardly the whole picture. A CLEC, by investing in a local loop, can also offer long distance services (either at the wholesale or retail level), and other non-basic services (for example, customer calling services and ADSL), just as the ILEC does. In considering the profitability of investing in the local loop, the CLEC would have to take account of the fact that prices on some of these other services would fall on average by $5 due to rebalancing.

On these terms, net profitability would not change at all, and while it is true there would be other effects, these are hardly likely to be decisive. Demand would increase for those services for which prices were adjusted downwards just as it would fall for residential BLTS, and due to cross-product effects, demand for some of the other services the CLEC could sell might also vary slightly. The net impact might make entry slightly more or less profitable, but the effect is unlikely to significant and could be negative. In any case, the ILECs present no evidence at all as to how shifts in demand due to rebalancing might affect the profitability of entry. Instead, they naively argue CLECs will pay attention to the $5 price increase on residential BLTS and ignore the $5 price falls elsewhere.

4.1 THE FEDERAL COMMUNICATIONS COMMISSION HAS PREVIOUSLY ACKNOWLEDGED THAT ENTRY DECISIONS ARE BASED ON THE CONSIDERATION OF THE MARKET AS A WHOLE AND NOT ON THE CONSIDERATION OF ANY ONE PARTICULAR SERVICE

Q. You have advocated that the Commission consider total expected revenues when it considers the profitability of entry into the residential

market. Does the FCC's Triennial Review refer to how the profitability of entry Is determined?

A. Yes. In assessing impairment, the FCC points out that "...in conducting our impairment analysis, we recognize that decisions on whether to enter are based not just on the cost of entry but also on the revenues to be gained."[72] The FCC goes on to emphasize that the analysis of impairment should "...consider all the revenue opportunities that a competitor can reasonably expect to gain over the facilities, from providing all possible services that an entrant could reasonably expect to sell."[73]

Furthermore, the FCC notes that:

> "...the impairment standard we adopt today considers whether all potential revenues from entering a market exceed the costs of entry, taking into account consideration of any advantages a new entrant may have ... we take into the account the fact that there are a number of services that can be provided over the stand-alone loop, including voice, voice over xDSL (i.e., VoDSL), data, and

[72] Federal Communications Commission, Triennial Review, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking in the Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (Docket Number 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (Docket Number 96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (Docket Number 98-147), August 21, 2003, Paragraph 100.

[73] *Ibid.*, Paragraph 100

video services. In so doing, we conclude that the increased operational and economic costs of a stand-alone loop (including costs associated with the development of marketing, billing, and customer care infrastructure) are offset by the increased revenue opportunities afforded by the whole loop."[74]

Q. Does the FCC take a position on the role of the state commissions in evaluating competitive entry issues?

A. Yes, the FCC has made it quite clear that the state commissions have a responsibility to examine all revenue sources when evaluating competitive entry issues, and that (implicitly) looking at the price and cost of BLTS in a vacuum is misguided:

"In determining the likely revenues available to a competing carrier in a given market, the state commission must consider all revenues that will derive from service to the mass market, based on the most efficient business model for entry."[75]

"...our analysis must take into consideration the full range of revenues that are likely to be obtained by an entrant providing voice

---

[74] *Ibid.*, Paragraph 258

[75] *Ibid.*, Paragraph 519

and related services, and the costs likely to be incurred. All factors affecting a competing carrier's likely revenues and costs must be examined to determine if they affect its ability to enter a market economically. Because economic entry depends on whether the sum total of all likely revenue sources exceeds the sum total of all likely costs of serving the market, any factor that limits or lowers the potential revenues available to a competing carrier, or raises the cost of serving a set of customers, is a potential barrier to entry. It is only by evaluating all the factors together that we may determine whether the likely revenues from entry will exceed the likely costs. Therefore, no factor should be examined in isolation."[76]

4.2 THE ILECS CONTEND IN OTHER PROCEEDINGS THAT ENTRY DECISIONS BY CLECS ARE BASED ON A CONSIDERATION OF TOTAL REVENUES, NOT THE PRICE OF AN INDIVIDUAL SERVICE

Q. Have the ILECs in other proceedings advocated the position that entry decisions are made based on a comparison of the total revenue and costs associated with serving a customer?

A. Yes. Elsewhere the ILECs argue that the attractiveness of a market is judged by the total revenue generated by a customer, not by the profitability of any one service, and this is consistent with FCC requirements that the States take this into account when carrying out impairment analysis. As noted by the FCC, in its evaluation of BellSouth's discussion of what revenues should be considered in an impairment analysis, BellSouth avers that the entry decision into the mass market is based on the combined revenues of business and residential customers. And with respect to the residential customers, BellSouth advocates taking into account all revenue derived over the access line, such as moneys received for the provision of call-waiting.[77] I see no reason to disagree with this previously held position of BellSouth.

The reply comments of Verizon in the FCC's Triennial Review are also indicative that the ILECs are fully aware that entry decisions on the part of CLECs are made on the basis of the bundles of services and revenues that can be generated from its customers, and not solely on the basis of the profitability of residential BLTS.

> "... the CLECs likewise disregard the various sources of revenue, beyond local exchange service, that they can tap into

---

[76] *Ibid.*, Paragraph 484, Footnote 1497

[77] *Ibid.*, Paragraph 485, Footnote 1511

BellSouth Ex Parte Presentation to the FCC, Letter from Jon Banks to FCC Commission Kevin Martin, January 30, 2003, Page 2. In this filing, BellSouth encouraged the FCC to include in its impairment analysis the revenue derived from vertical and local services, not just local service.

once they deploy their own facilities. Unlike the ILECs (which in most states remain prohibited from providing interLATA services), CLECs can immediately offer the full range of services to their customers -- not just local exchange service, but also long distance voice, high-speed Internet access, and video distribution, for example. That is precisely the strategy pursued by successful overbuilders such as RCN. The Commission therefore must dismiss arguments that CLECs cannot deploy their own facilities because the local exchange revenues available from the vast majority of customers are insufficient to justify such investment. No CLEC competes solely for the local telephone service revenues of potential customers, and no ILEC would either, if it had a choice."[78]

Q. Is Verizon's testimony in this proceeding consistent with its advocacy before the FCC?

A. No. The testimony of Verizon in the Triennial Review that is noted above is inconsistent with its witness in this proceeding, Carl Danner. Dr. Danner asserts that "historical patterns of entry and competition show that the prices of

[78] Reply Comments of the Verizon Telephone Companies, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (Docket Number 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (Docket Number 96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (Docket Number 98-147), July 17, 2002, Page 43.

individual services influence competition."[79] In addition, Danner goes on to state that entrants will be deterred by the low price of providing local service when he states that "competitors that have cost structures similar to Verizon's simply can not compete against Verizon's existing supported rates."[80] Yet, we have witnessed entry by CLECs in Florida and elsewhere with a variety of cost structures -- the reason being that entry decisions are based on revenues and costs as a whole and not on the costs or revenues of any one particular service such as residential BLTS.

In addition, previous testimony in Massachusetts on behalf of Verizon by Dr. William E. Taylor (one of BellSouth's expert witnesses in this Florida proceeding) clearly supports the argument that entry decisions are based on the total revenues available to the entrant, and not from any one particular service:

> "[S]ometimes we ask the question, can a LEC make money in residential service, for example? And for that, what matters is the full panoply of services that a CLEC or ILEC can expect to provide when it attracts a customer. So for that it

[79] Carl R. Danner, Direct Testimony on Behalf of Verizon Florida Inc. Before the Florida Public Service Commission, <u>Petition of Verizon Florida Inc. to Reform Its Intrastate Network Access and Basic Local Telecommunications Rates in Accordance with Florida Statutes, Section 364.164</u>, August 27, 2003, Page 8, Lines 22-23.

[80] *Ibid.*, Page 7, Lines 10-12.

makes...sense to include the revenues and the costs from vertical services in the calculation."[81]

Q. You have presented evidence that indicates the entry decisions are based on a comparison of the total revenue and costs associated with entry, not just the price of BLTS. Have CLECS in other proceedings at times taken the position that lowering access rates is not a sound public policy?

A. Yes. Testimony by Cox Communications in Connecticut indicates that some CLECs fully recognize that lowering access rates is just as likely to impede as enhance competition, and it further supports the argument that CLECs base their entry decisions on total revenues available. CLECS may be concerned that lowering access rates would harm their entry plans by reducing their potential to raise revenues, recover their costs, and attract capital -- and thus could impede competition rather than promote it.

In his testimony in Connecticut, William Lafferty states on behalf of Cox Communications that:

[81] Massachusetts Department of Telecommunications and Energy, Price Cap Regulation for Verizon, DTE 01-31, Phase II Order, April 11, 2003, Page 82.

". Access charges are a critical source of revenue to provide the financial resources for competitors to establish viable businesses themselves ... Absent the opportunity to generate the necessary revenue to finance their growth, CLECs will be constrained in their ability to provide customers the level of choices, quality and market based prices contemplated by the 1996 Act. Thus, the future of competition requires the Department to move slowly in making further adjustments to CLEC (and ILEC) access charges or risk the possibilities of less competition and higher local service rates for customers in Connecticut."[82]

In response to whether or not Cox reviews the profitability of individual services such as access charges and how it determine whether to enter a market or not, Mr. Lafferty replied:

"The potential revenues from all telecommunications services are compared to the total expected expenses and investments required to operate in the market. ...Cox looks at its total

[82] Pre-Filed Testimony of F. Wayne Lafferty on Behalf of Cox Connecticut Telecommunications, L.L.C., State Of Connecticut, Department Of Public Utility Control (DPUC), DPUC Investigation of Intrastate Carrier Access Charges (Docket 02-05-17), June 3, 2003, Page 4. http://www.dpuc.state.ct.us/DOCKCURR.NSF/22af672892a9d75b85256afe0059fc24/7d0914bc13f012dd85256d3c00449134/$FILE/TESTIMONY.DOC

telecommunications operations. The revenues, expenses, profitability and cash flow of all telephony services including basic local service, calling features, toll and access are reviewed in the aggregate."[83]

Q. Even if total revenues are considered and these rise making entry more profitable does this necessarily induce more entry?

A. No, most especially when prices are regulated to prevent abuse of market power. An unregulated incumbent with substantial market power can price well-above competitive levels without attracting entry that constrains their pricing power. In such a case, a rise in total revenues from regulated levels may not be sufficient to allow entrants to overcome existing entry barriers. Thus, price and indeed total revenues may rise above the regulated level toward monopoly levels without attracting entry.

Q. The ILECs have argued that rebalancing is also sensible in light of the pending entry by new suppliers of telecommunication services. Do you have any comments regarding the speculation of the ILECs?

[83] Ibid., Page 18.

A. Yes. Sprint witness Dr. Brian Staihr, for example, points out that power lines may be used to provide broadband services to residential customers.[84] In my view, the success or failure of broadband over power lines will have little to do with rate rebalancing. Rather broadband over power has to address such impediments as the sharing of electronic equipment with a small number of houses, say six.[85] By contrast, telephone companies are often able to spread the cost of the field electronics over a much larger number of households.

Moreover, while new technologies, such as power lines, are a potential threat, the potential entrants described by the ILECs do not currently constrain the pricing power of the ILECs because of economic and technical constraints. As recently pointed out by the former chair of the FCC's Technology Advisory Council's Broadband Access Working Group, Stagg Newman, "any new technology platform will be quite challenged in most markets to compete with the cable operators and incumbent telephone companies for the delivery of highspeed Internet access either on a stand-alone basis or in conjunction with other services."[86]

---

[84] See, for example, Direct Testimony of Brian K. Staihr, Page 9.

[85] Six households being a reasonable estimate of the number of households that share a power transformer. The terminal electronics used in the provision of broadband over power are likely to be located on the secondary side of the transformer.

[86] Stagg Newman, "Broadband Access Platforms for the Mass Market An Assessment," http://intel.si.umich.edu/tprc/papers/2003/254/BbandAccessPlatforms.pdf. Newman's paper also

The ILECs also mention that wireless and cable telephony can constrain the pricing power of the incumbents. The FCC recently concluded that at this juncture these modes of communication (all commercially available in contrast to supply over power lines) do not impose a significant constraint on the incumbents pricing power. For example, with reference to wireless service, the FCC stated mobile providers are "not yet a suitable substitute for local circuit switching [footnote omitted]." The FCC added that mobile wireless connections "in general do not yet equal traditional landline facilities in their quality and their ability to handle data traffic[footnote omitted].[87]

Similarly, the FCC finds that the presence of cable and mobile telephony is not sufficient to reverse a general presumption of impairment of CLEC entry in residential markets.[88] Entry to supply residential BLTS, even where it can be said to have occurred on new technologies such as over pay-television cabling, remains, in the FCC's eyes, a very difficult proposition.

---

addresses some significant engineering limitations associated with using alternative technologies to provide voice services.

[87] Federal Communications Commission, Triennial Review, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking in the Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (Docket Number 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (Docket Number 96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (Docket Number 98-147), August 21, 2003, Paragraphs 444-445.

[88] FCC, *ibid.*, paragraph 198.

I recommend that the Commission not order rate rebalancing on the unsupported proposition that the deployment of new technologies will be enhanced if rates are rebalanced.

4.3 PRICING BEHAVIOR IN OTHER INDUSTRIES STRONGLY SUGGESTS THAT FIRMS SET PRICES TO GAIN AND RETAIN MARKET SHARES, AND NOT SIMPLISTICALLY ON THE BASIS OF THE PRICES AND COSTS OF INDIVIDUAL PRODUCTS

Q. The ILECs contend that prices should be market based.[89] Do you concur that market operations provide insights into how prices should be set by regulators?

A. Yes and therefore, in this section, my testimony points out how unregulated competitive firms set prices for products, which, like the loop, provide complementary benefit to other products. I will show that in unregulated markets, these complementary goods are often sold below cost to induce demand for complementary products.

Q. Does the experience of pricing behavior in other industries that offer complementary products indicate that entrants often set prices to attract

[89] William E. Taylor, Direct Testimony on Behalf of BellSouth Telecommunications, Inc. Before the Florida Public Service Commission, Petition of Sprint Florida Inc. to Reduce Access Rates, August 27, 2003, Page 16, Lines 7-8

market share, and that existing firms also set prices to retain market shares rather than focus on a simple comparison of prices and costs of individual products?

A. Yes. Based on economic theory, it is clear that a firm may have an incentive to set its price for the complementary good at a level below the marginal cost of production in order to stimulate demand for a complementary product. As pointed out by Tirole, "An interesting phenomenon that may arise with complements is that one or several of the goods may be sold below marginal cost...so as to raise the demand for other goods sufficiently".[90] This is the case in the telecommunications industry, and in a number of other industries as will be illustrated below.

In the case of the telecommunications industry, pricing products below their marginal costs occurs in the competitive, unregulated wireless segment of the market. In wireless service, cell phones are often given away for "free" as part of a package offering the consumer a bundle of minutes and other services. In addition, wireless companies also now offer a number of packaged pricing plans for multiple cell phones to a family under which mobile-to-mobile calls within a family might be free -- presumably to induce increased use of the cell phones for other calls and services for which prices are non-zero or because the total

---

[90] Jean Tirole, The Theory of Industrial Organization, MIT Press, 1988, Page 70.

business attracted with this special justifies the 'loss' made on family-to-family calls.

Research has shown that in competitive markets firms' strategic pricing decisions are much more complex than the simplistic notion of prices being driven towards marginal cost.[91] Recognizing that "...people do not make purchases by evaluating the products alone but by evaluating the entire purchase opportunity"[92] firms in competitive markets typically take a more nuanced approach to pricing, considering it as much a function of strategic positioning and marketing as it is of cost recovery.

Price discriminating behavior and market segmentation in other industries confirms that such pricing behavior in the telecommunications industry is hardly an aberration. For example, Vietor summarizes the impact of deregulation in six industries and notes that pricing mechanisms, in fact, became more complex once government controls were reduced.[93] Rather than moving to cost-based pricing, as had been predicted, many of the markets exhibited an increased level

---

[91] See, for example, Thomas T. Nagle and Reed K. Holden, The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making, Prentice-Hall, Inc., 1987 (Nagle 1987).

[92] *Id.*, at Page 168.

[93] Richard Vietor, Contrived Competition: Regulation and Deregulation in America, Cambridge, Harvard University Press, 1994.

of price discrimination, because firms used pricing to segment customers and establish customer loyalty.

Q. Can you provide some examples of pricing behavior for complementary products in other industries?

A. Yes. The case of pricing of razor blades is germane here since it illustrates pricing behavior when complementary products are provided together (as is also the case in telecommunication services). Gillette has chosen to focus on a "shaving systems" approach to take full advantage of "the principle of complementary products under which the relative prices of products can be exploited because they must be used together. The razor, a quite substantial product, is sold at a low price to get it into the consumer's hands. This facilitates the sales of profitable, replacement blades which fit only the systems for which they have been designed."[94]

Another component of the Company's strategy has been:

> "to continually add features to the basic razors, and hence make more profit per blade as consumers buy up in features. This started with the Trac II twin blade system, and continued with the

[94] Thomsen, Kenneth A. "The Global Strategy of the Gillette Corporation", MIT MS Thesis 1987, Page 44.

pivot headfirst on the Atra, and then later on the Good News disposable. Following this introduction was the addition of a lubricating strip on the blade that would release a lubricant when wet. This feature was first put on the Atra Plus, and later added to the Good News Plus.

What Gillette has been effectively doing is hooking the consumer with a low priced razor and blade, and then having him buy upscale a little each time. With a fixed market size, this is almost the only way to increase profits."[95]

A final example is the printer business. The printer may be inexpensive with some inkjet printers currently available for as little as $99. However, the expensive part is buying the ink cartridges, which can cost up to 66% of the $99 printer price. So, printer manufacturers use low upfront prices for the printers to attract customers that then become locked into having to purchase cartridges that only fit the specific printer purchased.[96]

Q. What lessons do you draw from observations regarding the pricing practices of the wireless, razor, and computer printing industries?

[95] Ibid., Page 29.

[96] Walter S. Mossberg, "How Good Could a $99 Printer Be" The Wall Street Journal, August 7, 2002, Page D5.

A. The largest cost component of BLTS is the loop. However, the loop is used to provide more than BLTS. In unregulated competitive markets, we observe complementary goods being priced below cost to induce use of other products. Currently, BLTS is already priced above TSLRIC, and the ILECs have not provided a compelling case as to why non-market based pricing should be imposed by the commission.

5 THE ILECS' HAVE FAILED TO SHOW THAT REBALANCING WILL BE BENEFICIAL TO RESIDENTIAL CUSTOMERS

Q. The Commission is obligated to consider if the proposed rebalancing will be beneficial to,[97] and indeed protects,[98] residential customers. What type of evidence have the ILECs provided in terms of the benefits and costs associated with rebalancing?

A. I have already noted that the bulk of the evidence the ILECs introduced on benefits to consumers is based on the proposition that there is support for residential BLTS. As this is not so, this evidence is not relevant to the case. The ILECs also contend, based in large part on their understanding of rebalancing

[97] S. 364.164 (1) (a) of the Act.

[98] S. 364.01 (3), and (4) (a) and (c) of the Act.

undertaken in other states, that rebalancing will improve efficiency because it will stimulate toll usage and will not adversely effect universal service.[99]

Q. What is your view of the empirical evidence presented by the ILECs on the impact of rebalancing from experiences in other states?

A. The ILECs devote many pages of testimony to this question. Sprint states that rebalancing has occurred in Pennsylvania and Ohio but provides no evidence of how consumers benefited. Rather it provides evidence that is suggestive that a substantial number of people may have disconnected service.[100] Danner talks about the success of the California rebalancing.[101] Dr. Gordon mentions Illinois, discusses Massachusetts and Maine, and very briefly California and Ohio.[102]

---

[99] See, for example, Direct Testimony of Dr. Carl Danner, Page 11, Line 12 to Page 12 Line 4; Direct Testimony of Dr. Brian Staihr, Page 16; Direct Testimony of Dr. William Taylor, Page 4, Lines 5-12. None of the ILEC witnesses quantify these alleged efficiency gains. Quantification is important because while it is true that rebalancing will increase toll usage, this benefit must be weighed against the cost of some people disconnecting service.

[100] Felz, *Ibid.*, Page 27, Lines 18-23. Declines respectively of "approximately 1%" and lest than 1/2 of 1 percent" occurred in Ohio and Pennsylvania within a six month period of rebalancing. It is likely additional losses occurred subsequently, that is, the long run effect was greater than this. However, Felz provides no indication as to what other factors may have played a role in determining penetration.

[101] Danner, *Ibid.*, pp. 25 ff.

[102] Gordon, *Ibid.*, pp. 39 ff.

In addition, it is worth pointing out that in BellSouth's response to Second Interrogatories on the benefits of reduced access rates in a number of states that have reduced access rates, Dr. Gordon states in Supplemental Response Item Number 34 (Florida Docket No. 030869-TL, September 5, 2003) that:

What is striking about all the ILEC testimony on rebalancing, is a failure to provide the results of any statistical analysis of the effect of rebalancing. Indeed, in some cases there is no discussion at all of what happened (for example, the already mentioned case of Illinois in Dr. Gordon's evidence) and there is no analysis of the impact of rebalancing on consumers (for example, in Felz's evidence, except for the claim that there will be little subscriber loss[103]; and in Dr. Gordon's discussion of California and Ohio[104]). Moreover, there is no mention of other states where substantial rebalancing occurred (for example, Wyoming).[105] This is all the more curious given the following response from Dr. Gordon to a request from Citizens' to provide evidence on rebalanced rate changes in the States he mentions in his testimony:[106]

> "BellSouth has not drawn any conclusions on such [rebalancing] effects on a state specific basis. To do so would require a substantial and detail investigation, and even then the conclusions

---

"BellSouth has not drawn any conclusions on such effects on a state specific basis... the conclusions would be subject to serious doubt. The reason is that competitive activities of firms are driven by many factors; separating out the effects of any one factor is extremely difficult."

[103] Felz, *Ibid.*, Pages 26-29.

[104] Gordon, *Ibid.*, Page 42, Line 23 and Page 43, Lines 1-5.

[105] Wyoming Public Service Commission, 2000 Annual Telecommunications Report, http://psc.state.wy.us/htdocs/telco/telco00/2000TelcoRpt.htm#INTRO.

would be subject to serious doubt. The reason is competitive activities of firms are driven by many factors; separating out the effects of any one is extremely difficult. However, comparisons across states, using appropriate statistical techniques (multiple regression analysis), can 'hold constant' other influences on competitive behavior, and isolate the influence of the variable of interest (rebalancing in this case)"[107]

I agree with Dr. Gordon on the difficulty in translating evidence on rebalancing from one State to another without rigorous statistical analysis. Indeed, in my view, all the ILEC evidence on rebalancing is rendered invalid by this shortcoming.

Q. Can you provide any evidence on the impact of lower intra-LATA toll charges?

Yes. I am aware of two published articles on this topic — one done by an academic, Armando Levy, and the other done by a colleague of Dr. William

[106] Citizens' 2nd Set of Interrogatories, Item Number 37.

[107] BellSouth Telecommunications, Inc.'s Responses to the Office of Public Counsel's Second Set of Interrogatories (Numbers 23-48). Dr. Gordon's answer goes on to say, "on competition. The McDermott-Ros paper, cited in Dr. Gordon's testimony, represents such an approach." I note that: the Citizen's request Number 37 did not mention the impact of rebalancing on competition; and I have shown the McDermott-Ros paper (which is concerned about with the development of local

Taylor and Dr. Ken Gordon of NERA.[108] Both papers seem to suggest that there is not a significant increase in the volume of toll traffic when rates are rebalanced. This implies the efficiency and welfare impacts of moving toll rates towards marginal cost (to the extent that they currently exceed these) will be limited.

Levy's study, based on 27 states, finds that the demand elasticities from rate rebalancing to be in the range of -0.2 to –0.3.[109] His explanation of the lower price elasticities was that "as rates fall so does consumer sensitivity to prices."[110] In particular, Levy concluded, "From a behavioral perspective, as price drops below about fifteen cents, households make as many intra-LATA calls as they wish and further discounts do little to stimulate demand."[111] That is, as per minute rates fall the impact between even a large reduction in call rates has on consumer well-being and hence behavior is limited. For example, assume the average intra-LATA call price is 7¢/minute call. If you spend an average of 10 minutes on any

competition as explained by local service prices, not about rebalancing *per se*) to be seriously flawed

[108] Both papers appear in The Future of the Telecommunications Industry: Forecasting and Demand Analysis, edited by David G. Loomis and Lester D. Taylor, Kluwer Academic Publishers (1999). The first is, Armando Levy, "Semi-Parametric Estimates of INTRALATA Demand Elasticities", Pages 115-124; the second, Timonthy J. Tardiff, "Effects of Large Price Reductions on Toll and Carrier Access Demand in California," Pages 97-114.

[109] For example, a retail toll price elasticity of –0.32 is found for a 10% price drop (from 15¢); and -0.21 for a 40% drop (Levy, *Ibid.*, Page 121).

[110] Levy, *Ibid.*, Page 116.

[111] Levy, *Ibid.*, Page 123. Elsewhere he says, "We find a decidedly nonlinear relationship with households becoming insensitive to price below fifteen cents per minute." Page 116.

given intra-LATA call, a 1¢ or 14.3% price fall only saves you 10¢ per call. This may not have much of an impact on your decision to make an additional call or stay on the phone longer. However, the time cost of an additional or longer call to many consumers would be substantial in comparison to the call's total price (70¢ plus), let along the 10¢ savings. The net result is calling responses to such price changes are likely to be limited.

Levy concludes:

> "[R]egulatory policy which anticipates a large increase in consumer surplus due to lower intra-LATA toll tariffs (at the expense of local rates) may be ill founded, since the evidence here suggests residential household demand for toll is much small at low tariffs than previous research may indicate."

On toll elasticities, Tardiff's paper comes to similar conclusions to Levy's: that in California the long-run retail toll price elasticity of demand is -0.2.[112] Tardiff also estimated the California long-run access price elasticity to be –0.24. That is, if access prices fall in California by 10% demand for access services is only

---

[112] Tardiff, *Ibid.*, Page 109.

stimulated by an unresponsive 2.4%.[113] The impact of toll and access price changes registered over the course of a approximately one year.[114]

In summary, the paper by Levy and Tardiff indicate that lowering toll prices has a limited impact on expanding demand. The implication is that consumers would gain little from such price reductions and any efficiency gains due to such changes moving price closer to marginal cost (if price is above marginal cost) would be minimal.

5.1 RATE RECOMMENDATIONS

Q. Would you recommend that the Commission adopt the ILECs rebalancing plans?

A. No. The ILECs' petitions should be rejected because they have failed to show that BLTS is supported or that their plans would be beneficial to residential customers or would induce entry or even that residential consumers are appropriately protected under the ILECs' proposals.

Q. Are there any reasons why you would suggest the commission adopt a rebalancing plan in the future?

[113] Tardiff, *Ibid.*, Page 112.

[114] Tardiff, *Ibid.*, Page 106.

A. Yes, I agree with the ILECs that rates need to be rebalanced, but disagree on the form of the required rebalancing.

Beyond the legislative direction provided on this issue, there are at least two good reasons for changes to intrastate network access charges:

- Consumers find confusing the proposition that intrastate rates for a short-distance call are priced at a higher rate than a long-distance toll call; and

- Asymmetrically high intrastate access rates encourage carriers to pretend that intrastate calls are actually interstate calls.

Rate rebalancing would partly address these anomalies, though the extent of the problem is reduced as consumers increasingly subscribe to bundled packages with one fixed price for a combined amount of both intrastate and interstate minutes. While the asymmetric rates do provide an economic incentive to misrepresent the nature of the calls, this is not a controlling reason to change access rates. If a firm misrepresents the nature of its traffic, it may be sued for racketeering.[115]

[115] Washington Post, "AT&T Sues Worldcom Over Call-Routing Methods", September 3, 2003, Page E1.

Q. What kind of rebalancing might be beneficial to residential consumers while enhancing, or at least not reducing competitive entry?

A. In my view, rebalancing that would be beneficial to residential customers and would not be an obstacle to competitive entry would involve setting rates that are more reflective of what would emerge in a competitive market. In particular, in a competitive market both recurring and non-recurring BLTS charges would be kept relatively low and some increases would be imposed on other services.[116] I would not rule out moderate increases in residential BLTS prices, that is, increases materially lower than in the ILECs' current proposals.

6 CONCLUSION AND RECOMMENDATIONS

Q. Do you have any concluding remarks and can you please summarize your recommendations?

A. The petitions filed by Verizon, Sprint, and BellSouth to reform their intrastate network access rates and BLTS rates should not be approved by the Commission. The petitions do not provide adequate empirical evidence to support the ILECs' claims. In particular:

[116] I recognize that the Commission's ability to raise other rates may be proscribed by the Act.

- The ILECs have not made a showing that residential BLTS is supported and therefore there is no record to support the proposed rebalancing. Thus, a substantial rebalancing by raising residential BLTS rates cannot be justified by any claim that such support exists.

- The ILECs have not made a showing that the proposed reform of these rates would create a more attractive competitive local exchange market for the benefit of residential customers or enhance market entry or that entry will be enhanced because their analysis is based on a model that no entrant would ever use. Moreover, any claims of benefits to consumers based on the removal or reduction of support of residential BLTS are moot, since no such support exists

- The ILECs have not demonstrated that the proposed rebalancing would benefit or protect consumers. Again any claims of benefits brought by elimination or amelioration of support of residential BLTS are irrelevant (since residential rates are not supported), and ILEC evidence beyond this on the impacts of the rebalancing is very limited.

APPENDIX 1

ESTIMATION OF THE IN-PLANT FACTOR

Q. What is the purpose of this exhibit?

A. In my testimony I have explained that it is appropriate to exclude from the TSLRIC of a service costs that are shared with other products. In this appendix I explain how I adjusted the intermediate output data produced by BellSouth's loop model in order to obtain an estimate of the TSLRIC of residential BLTS. Specifically, I explain the steps taken to adjust BellSouth's in-plant factor in order to remove shared costs from the company's TELRIC cost estimate for residential BLTS.

Q. Is your approach equally applicable to Verizon and Sprint?

A. Yes. All three companies have likely overstated the TSLRIC of residential service by basing their cost estimates on the TELRIC cost estimates.

Q. How did you adjust the in-plant factors associated with the installation of cable plant?

A. An in-plant factor is the ratio of the total installed investment of a cable to the material investment of the cable. The difference between the material and installed cost consists of engineering costs, vendor installation costs, exempt material, and other telephone labor costs.

The BellSouth Telecommunications Loop Model (BSTLM) generates an estimate of the cable material investment. The BellSouth Cost Calculator multiples the material investment by the in-plant factor to determine the model installed cable investment.

I reduced the in-plant factor by first, multiplying the difference between the total installed investment and the material investments costs by an excess loop length factor. The excess loop length factor equals the difference between the residential loop length and the business loop length divided by the residential loop length. For those types of cables where the excess loop length factor was less than zero, I set the factor at zero. Given the excess loop length factor is always between one and zero, the difference between the installed and material cost of the cable is reduced. I then calculate a new in-plant factor using the reduced installation costs, and substitute the new lower in-plant factors into the BellSouth Cost Calculator.

Q. Can you provide an example that illustrates why it is reasonable to use the excess loop length factor to reduce the in-plant factor?

A. Yes. In this example I will show that the sum of the material and the incremental installation costs equals the product of the material cost and the adjusted in-plant factor, where the in-plant factor has been adjusted by the excess loop length factor. Because the sum of the material investment and the incremental installation investment is the proper amount of investment to include in a TSLRIC study, it is reasonable to use the excess loop length factor to adjust the in-plant factor.

In this example I assume that a telephone company builds a one and half mile buried cable run. In the first mile the cable serves both business and residential customers. In the final half mile the cable serves only residential customers. The material investment for residential customers is $12 per loop. Assume, for illustration, that the unadjusted in-plant factor is three, generating total installed investment equal to $36 ($12 investment x 3 in-plant factor). However, the installation investment for the first mile are shared costs and should not be included in the incremental costs of residential service. Pro rating the material investments across the cable run generates a $4 ($12 * .5 miles / 1.5 miles) material investment in the last half mile and $8 investment ($12 * 1 mile / 1.5 miles) in the first mile. Multiplying the $4 material by the in-plant factor of 3 generates a $12 total investment cost for the last half mile. Summing the $12 total investment cost for the last half with the $8 material investment in the first mile ($12 - $4) produces a residential incremental investment of $20.

Using the excess loop factor will also produce a $20 incremental investment. To arrive at the value, first, determine the excess loop factor as one-third, the ratio of a half mile (distance where there is only residential service) to one and half mile loop length (the total residential loop length). Second, the product of the total installation cost of $24 (the difference between the total installed investment and the material investment) and the excess loop factor is eight. The sum of the adjusted installation costs, $8, and the material investment of $12 is $20. Dividing the adjusted total installed investment, $20 by the material investment, $12 generates an adjusted in-plant factor of 1.67. This is the illustrated adjusted in-plant factor that will be substituted into the BellSouth Cost Calculator. When this adjusted in-plant factor is applied to a material cost of $12, it will generate the residential increment investment of $20.

Q. Can you provide a more general methodology for deriving the adjusted in-plant factor?

A. More generally, the adjusted in-plant factor can be derived as follows:

A = distance shared by business and residential customers

B = distance associated with no sharing (only the residential customers are using this portion of the loop)

C = total distance = A + B

M = material cost of cable per foot

E = ILEC in-plant factor

CME = C * M * E = total investment = total distance * material cost per foot * in-plant factor

CM = C * M = material investment = total distance * material cost per foot

(CME – CM) = installation cost = total investment – material investment

For the portion of the network that only serves residential customers, the installation cost is (CME – CM) * (B/C), where B/C is the portion of the cable run that is only used to serve residential customers.

The remaining portion of the cable run, (A/C), constitutes a shared cost and its installation cost is therefore not part of the TSLRIC of residential service.

The material investment of serving the residential customers is CM.

Therefore the TSLRIC of serving the residential customer is:

TSLRIC = directly assignable material cost + unshared structure costs

= CM + (CME – CM) * (B/C)

Lastly we divide TSLRIC by the material investment in order to obtain the adjusted in-plant factor:

$$\text{Adjusted in-plant factor} = \frac{CM + (CME - CM) * (B/C)}{CM}$$

Returning to our numerical example:

A = 1 mile

B = .5 mile

C = A + B = 1.5

M = 1

E = 3

$$\text{Adjusted in-plant factor} = \frac{CM + (CME - CM) * (B/C)}{CM}$$

$$= \frac{1.5*1 + (1.5*1*3 - 1.5*1) * (.5/1.5)}{1.5*(1)}$$

$$= 1.67$$

Q. Are there instances when the use of the adjusted in-plant factor would lead to an underestimation of installation costs?

A. Yes. The extreme example would occur if every residential loop is built separately from every business loop. In that case, the installation investments associated with the one and half mile residential loop are incremental to the residential service and the one mile installation investments associated with the business loop are incremental to the business loop. While it is possible for the residential and business loops to be completely separated, it is more likely that the two services will share the same cable runs. A more detailed review of the BSTLM might reveal the probability of separate occurrences. If that information could be obtained then it would be possible to adjust the in-plant factor for those special cases.

Q. Are there instances when the use of the adjusted in-plant factor would lead to an overestimation of installation costs?

A. Yes. The network contains a large number of services, not just business and residential BLTS. It also includes internet access, special access and private line along with inter-office transport and high capacity services. If the last half mile of residential BLTS shared facilities with any of these other services and not with business BLTS, then the adjustment process described above would understate the amount of shared installation investment and overestimate the total installed investment associated with residential services. Again a more detailed review of BSTLM might reveal the probability of residential service sharing with other services. However, because such a detailed review of BSTLM is not possible within the time-frame of this proceeding and because of the need to use a reasonable estimate of TSLRIC, I recommend that the Commission use the adjusted in-plant factors that I have calculated.

Q. Are there other shared costs that should have been adjusted that you did not adjust?

A. Yes. I did not directly adjust the pole and conduit investment. These investments were reduced due to the reduction of the material cable investment following the adjustment to in-plant factors.

Q. Can you explain why the pole and conduit investments decreased due to the adjustment to the in-plant factor?

A. The BellSouth model calculates pole and conduit investment as the product of the aerial and underground cable material investments times the pole and conduit investment to adjusted book cable material investment. Any reduction in forward-looking cable material investment will reduce the forward-looking pole and conduit investment. The use of the adjusted in-plant factors reduced the material cable investment and thus, reduced the pole and conduit investment.

Q. Is it possible to estimate the pole and conduit investment without using the factor method?

A. Yes. It is possible to directly estimate these structures in the BSTLM. Using that option, the structure costs would have been calculated based on the per-foot construction costs and the routes miles of construction. In that case, the incremental structure investment would have been the incremental distance related to the service multiplied by the per-foot construction costs.

Q. Did the use of the pole and conduit factors cause an over or understatement of pole and conduit investment?

A. The factors for poles and conduit likely caused an over-estimation of the structure investment. Returning to my example above, note that $4 in material investments are part of the incremental cable run and that $8 in material investments are part of the shared cable run. Using the adjusted in-plant factor increases the total material investment to $20. The pole (conduit) factor is applied to the total material investment of $20. However, the pole investment should only have been applied to the total material cost of the incremental cable run, $12 (the $4 material costs times the unadjusted in-plant factor of 3). If I had been able to pass two material investments through the BellSouth Cost Calculator, one for the incremental run and another for the shared run, I would have been able to calculate the correct pole and conduit investment. Because only one cable material investment is passed forward, the BellSouth Cost Calculator multiplies the combined investment of $20 by the pole (conduit) factor and therefore, over-estimates the amount of pole and conduit investment. This over-investment causes my final TSLRIC value to be higher than it should be.

APPENDIX 2

ESTIMATION OF THE RETAIL COST ALLOCATOR

Q. Why does BellSouth adjust its TSLRIC estimate for allocated retail costs?

A. The standard estimation technique used to determine the Total Element Long Run Incremental Cost (TELRIC) of Unbundled Network Elements (UNEs) does not include retail cost because UNEs are wholesale services provided to competing carriers. The TSLRIC estimates provided by BellSouth in this proceeding are derived from the TELRIC cost model and also do not include retail costs. Retail service costs such as the cost of BLTS, however, include not only the network costs associated with the UNEs but also the retail costs associated with marketing and other customer operations. Because this proceeding is investigating the reasonableness of BellSouth's retail rates, BellSouth includes its alleged retail costs associated with the BLTS offering when determining the cost of BLTS.

Q. How does BellSouth determine its retail cost allocator?

A. BellSouth determined its retail cost allocator by dividing its retail cost by its total network capital costs and network expenses. The retail cost and the network capital costs are its forecast total company costs during the 2002-2004 test period. The exact calculations are shown in BellSouth's Appendix J to its model documentation.[117] The allocator equals **begin proprietary** xxxx **end proprietary** percent, and is applied by BellSouth by multiplying its TSLRIC estimate for each rate group and customer by **begin proprietary** xxxxxx **end proprietary** to determine the retail cost of service.

Q. Do you have objections to the way BellSouth determines and applies its retail cost allocator?

A. Yes. BellSouth, determines and applies its retail cost allocator erroneously on three counts.

- BellSouth includes shared costs in its retail costs, and removing the shared costs will reduce the retail cost allocator;

- BellSouth uses the same percent allocator for residential and business classes because it only provides information aggregated at the total company level. BellSouth has not provided any information supporting its assumption that retail costs do not vary across customer classes. This assumption needs to be varied and changed if it is found to be incorrect.

---

[117] Caldwell, Exhibit DDC-1, proprietary disk 11, Documentation\xappendix\AppendixJ

Based on information from other proceedings, on a per-line basis, residential retail costs are lower than business retail costs.[118]

- BellSouth allocates retail cost among rate groups as a function of the rate group's TSLRIC. A rate group with a higher TSLRIC will have higher retail costs. This assignment means that rural rate groups with longer loops and higher loop investment and costs have higher marketing costs than urban rate groups. This assignment does not agree with cost causative principles. Instead, retail cost should be allocated on a per line basis.

Q. What is your estimate of the retail cost adder in this proceeding?

A. My estimate of retail cost adder in this proceeding is **begin proprietary** xxxxx **end proprietary** per line for residential customers and **begin proprietary** xxxxx **end proprietary** for business customers. This estimate recognizes the differences in costs associated with the different customer classes, and also recognizes that retail costs should be assigned on a per-line basis rather than allocated according TSLRIC.

Q. How do you arrive at your estimates?

A. The estimate was derived as follows:

---

[118] In the Matter of the Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Tenth Report and Order, Rel. November 2, 1999, FCC 99-304, ("*10th Order*");New England Telephone's 1992 Massachusetts Cost of Service Study.

- Total retail costs are reduced by excluding shared retail costs;

- I then determine a ratio of business to residential marketing costs based on information provide in the Federal Communications Commission's (FCC) 10th Order its Universal Service Docket[119]; and

- I then applied the business to residential ratio to the line counts used in BellSouth's TSLRIC study, and allocated BellSouth's retail costs among the classes on the basis of the weighted lines in that class.

Q. What shared costs should be excluded from BellSouth's retail costs?

A. The costs identified as billing and collection costs in Appendix J of BellSouth's model documentation are shared costs and should be excluded from BellSouth's retail costs. Billing and collection costs are shared by all the services attributed to any customer. Many customers purchase vertical services and long distance services along with their BLTS. Even a retail customer that does not purchase any vertical or long distance services must pay the 911 and universal service charges. This general practice to issue the multiple service bill rather than a bill for each service transforms the billing and collection cost from a cost

[119] In the Matter of the Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Tenth Report and Order, Rel. November 2, 1999, FCC 99-304, ("*10th Order*");

that can be part of the TSLRIC of a service into a shared cost which should be excluded from TSLRIC.

Q. What is the impact of excluding the billing and collection cost from BellSouth's calculation of the retail allocator?

A. Excluding the billing and collection cost reduces BellSouth's retail allocator to **begin proprietary** xxxx **end proprietary** percent from the **begin proprietary** xxxxx **end proprietary** percent supported by BellSouth..

Q. How did you use the FCC's 10th Order to determine business to residential line ratio?

A. I estimated that the business to residential customer per line ratio is 2.31. This calculation is based on information from Table 5 of Appendix D to the 10th Order and access line count information obtained from the ARMIS 43-01.[120] Table 5 determines that 34.84 percent of advertising costs are associated with residential and business lines. Using the information in the table, it is possible to separate the 34.84 percent into 16.35 percent assigned to residential customers and 18.49 percent for business customers. Multiplying total ARMIS marketing expenses by the residential and business customer percent assignment and dividing that product respectively by ARMIS access residential and business line

[120] www.fcc.gov/eafs/table_year_tab_action.cfm, ARMIS Report 43-01, Demand Analysis Table

counts determines the per-line residential and business marketing expense. The residential per-line expense is $0.47 and the business expense is $1.08. By dividing the business expense by the residential expense, I determine that the per-line ratio is 2.31.

Q. How did you use the 2.31 business to residential per-line ratio?

A. I used the per-line ratio of 2.31 to determine the study weighted lines. The study weighted lines are the sum of the residential lines and the business lines times the per-line ratio. The line count are the line counts contained in the BellSouth BSTLM[121]. These line counts are **begin proprietary** xxxxxxxxxx **end proprietary 4** residential lines and **begin proprietary** xxxxxxxxxx **end proprietary** business lines. Weighting the business lines increases the number of weighted business lines to The **begin proprietary** xxxxxxxxx **end proprietary,** and total study weighted lines become The **begin proprietary** xxxxxxxxx **end proprietary.**

Q. How did you use the weighted lines counts to determine the residential retail per line cost?

A. The residential per-line cost equals the study retail cost divided by the study weighted lines. Study retail cost equals the product of the **begin proprietary** xxxxx **end proprietary** retail percentage and the total study cost of

[121] Caldwell, DDC-1, proprietary disks 1 and 2.

service, where the total study cost of service is the sum of residential lines times the state average residential TSLRIC and business lines times the state average business TSLRIC. The result of this calculation is **begin proprietary** xxxxxx **end proprietary.** Multiplying the residential per-line retail cost the 2.31 business to residential customer per-line ratio determines the **begin proprietary** xxxxxx **end proprietary** business retail per-line cost, using the TSLRIC values that I derived for residential and business customers. Using BellSouth's TSLRIC estimates, the residential retail adder would be **begin proprietary** xxxxxx **end proprietary** and the business retail adder would be **begin proprietary** xxxxxx **end proprietary.** BellSouth, on the other hand, estimates the state-wide average residential retail adder to be **begin proprietary** xxxxxx **end proprietary** and the business retail adder to be **begin proprietary** xxxxxx **end proprietary.**

APPENDIX 3

LIST OF PROPRIETARY FILES TO BE PROVIDED TO STAFF AND BELLSOUTH UPON REQUEST

AppJ_prop.xls
B out_prop.xls
Bnocom_prop.xls
LCOMP_prop.xls
OPC TSLRIC.doc
OSPfac_prop.xls
R out_prop.xls
Retail_prop.xls
Rnocom_prop.xls
Work book common costs_prop.xls

The file AppJ_prop.xls is a copy of the file in appendix J of Bellsouth's appendices with my addition to determine my 6.31 percent ratio of retail cost to network TSLRIC.

The file Retail_prop.xls takes the percent ratio, line counts and network TSLRIC and determines the per-line retail adder for residential and business. This calculation is performed twice. First, with the BellSouth network TSLRIC and then with the OPC network TSLRIC.

The file Work book common costs_prop.xls is used for eliminating common costs from estimates of TELRIC to derive estimates of TSLRIC.

The other files are explained in OPC TSLRIC.doc

APPENDIX 4

CURRICULUM VITAE

DAVID J. GABEL

ADDRESS:

Queens College
Department of Economics
Flushing, NY 11367
Voice: 718 997 5452
Fax: 718 997 5466
DAVIDGABEL@AOL.COM

31 Stearns Street
Newton, MA 02159
Voice: 617 243 0093
Fax: 617 243 3903

DEGREES:

B.A. Boston University, magna cum laude, 1976, Awarded distinction in history.
M.S. University of Wisconsin-Madison, 1982, economics.
Ph.D. University of Wisconsin-Madison, 1987, economics.

DISSERTATION TITLE: The Evolution of a Market: The Emergence of Regulation in the Telephone Industry of Wisconsin, 1893-1917.

FIELDS OF INTEREST: Industrial Organization, Regulation, Economic History

WORK EXPERIENCE:

Queens College. 1987-
Professor of Economics since 1997. Teach industrial organization, statistics, econometrics, economics of the Internet, microeconomics, business economics, and economic history.

Massachusetts Institute of Technology. 2001-
Internet and Telecommunications Convergence Consortium, Visiting Scholar.

Graduate School, City University of New York. 1988-
Teach Industrial Organization.

Columbia University. 1988-1998

Affiliated Research Fellow, Center for Telecommunications and Information Studies, Graduate School of Business.

Ohio State University. 1991-
Institute Associate, National Regulatory Research Institute.

Northeastern University. 1993-95
Visiting Research Associate.

Michigan Divestiture Research Fund. 1986-87.
Wrote report that identified the cost of telephone services in the information age. Quantified the stand-alone and incremental cost-of-service of different telephone services.

Office of Chief Economist, Wisconsin Public Service Commission, 1979-1980, 1983-1985.
Directed cost study that quantified the stand-alone and incremental cost-of-service of different telephone services. Supervised cost study of local measured service. Written and oral testimony presented on costing and pricing issues.

New York State Consumer Protection Board, 1985-1986.
Presented expert testimony to the New York Public Service Commission. Quantified the incremental and embedded cost of message and access services, and the elasticity of demand for various telephone services.

American Telephone and Telegraph Company, 1982-1983.
Responsible for developing interfaces between engineering simulation models and a financial forecasting system. Analyzed the impact of changes in demand on capital expenditures.

Dean Witter Reynolds, 1982.
Advised management on the procurement of telephone networks and hardware. Developed economic model for analyzing different capital expenditure alternatives.

Richard Gabel, Communication Consultant, Summer 1976 and 1980, 1981-82.
Researched the technical impact long distance service had on the design of the local telephone network. Analyzed Bell Operating Company's forecasting procedures. Assisted in the analysis of private line costing and pricing issues raised in antitrust litigation.

Massachusetts Department of Public Utilities, 1977-1979.
Developed costing and pricing procedures for gas, electric, and telephone services. Hearing examiner.

Yadkin Valley Telephone Corporation, 1976-1977.
Outside plant and PBX installations.

TEACHING EXPERIENCE:

1994-. Teach at Michigan State University NARUC training seminar.

1987-. Teach industrial organization, regulation, microeconomics, business economics, statistics, econometrics and economic history. Queens College.

1988 Teach course at Ohio State University on how to calculate the cost of telephone services.

1980-81, 1984. University of Wisconsin. Teaching Assistant for introductory economics and economic history.

PUBLICATIONS POST-QUEENS COLLEGE EMPLOYMENT:

"An Approach to Analysis of Impairment of Unbundled Switching (with Eric Ralph and Scott Kennedy," 2003, http://www.nrri.ohio-state.edu/members/markets/Impairment/index.php

"Why is There So Little Competition in the Provision of Local Telecommunications Services? An Examination of Alternative Approaches to End-User Access," MSU-DCL Law Review, 2002, 651-670.

"Regulation of Retail Telecommunications Rates," in An Institutionalist Approach to Public Utility Regulation, pp. 205-24, eds. Edythe Miller and Warren Samuels, Michigan State University Press, 2002.

"A Competitive Market Approach to Interconnection Payments in the US," in Networking Knowledge for Information Societies: Institutions and Intervention, eds. Robin Mansell, Rohan Samarajiva and Amy Mahan, pp. 132-140, Delft University Press, 2002.

"Accessibility of Broadband Telecommunications Services by Various Segments of the American Population", (with Florence Kwan), in Communications Policy in Transition: The Internet and Beyond, eds. Benjamin Compaine and Shane Greenstein, pp. 295-320, MIT Press, 2001.

"Current Issues in the Pricing of Telecommunications Services", American Association of Retired Persons, 2001, http://research.aarp.org/consume/d17416_pricing.html

"Who's Taking Whom: Some Comments and Evidence on the Constitutionality of TELRIC," (with David Rosenbaum), Federal Communications Law Journal, March 2000, pp. 239-271.

"Proxy Models and the Funding of Universal Service", (with Scott Kennedy) in Competition, Regulation, and Convergence: Current Trends in Telecommunications Policy Research. Lawrence Erlbaum Associates. 1999, pp. 213-233.

"Household Financing of the First 100 Feet", David Gabel and Milton Mueller, appearing in The First 100 Feet: Options for Internet and Broadband Access, Deborah Hurley and James Keller, eds., MIT Press, 1999, pp. 11-23.

"Pricing Telecommunications Services in Competitive Markets", appearing in Making Universal Service Policy: Enhancing the Process Through Multidisciplinary Evaluation, eds. Barbara A. Cherry, Allen S. Hammond IV, and Steven S. Wildman, eds. Lawrence Erlbaum Associates, 1999, pp. 135-157.

"Universal Service", in The Froehlich/Kent Encyclopedia of Telecommunications, vol. 17, eds. Fritz Froehlich and Allen Kent, Marcel Dekker, Inc., 1999, pp. 181-198.

Book Review of Gerald Brock's Telecommunications Policy for the Information Age, Review of Industrial Organization 13: 491-94 (1998).

"Estimating the Cost of Switching and Cables Based on Publicly Available Data", with Scott Kennedy. Monograph published by the National Regulatory Research Institute 1998.

"Historical Perspectives on Competition and Interconnection between Local Exchange Companies," (with David Weiman) Opening

Networks to Competition: The Regulation and Pricing of Access. Coeditor David Gabel and David Weiman. Kluwer Academic Press. 1998.

"Introduction," (co-author David Weiman) to Opening Networks to Competition: The Regulation and Pricing of Access. Coeditor David Gabel and David Weiman. Kluwer Academic Press. 1998.

"Is Residential Service Subsidized? Moving Past the Rhetoric Through an Empirical Analysis of the Cost and Revenue Associated with the Kiwi Share," Universal Service with Network Competition, University of Auckland Press, Centre for Research in Network Economics and Communications, 1996.

"The Effect of Cellular Service on the Cost Structure of a Land-Based Telephone Network," (with Mark Kennet), appearing in Telecommunications Policy (1997).

"Fully Distributed Cost Pricing, Ramsey Pricing, and Shapley Value Pricing: A Simulated Welfare Analysis for the Telephone Exchange," (with Mark Kennet). Review of Industrial Organization, vol. 12 (August 1997), pp. 485-499.

"The Effect of Cellular Service on the Cost Structure of a Land-Based Telephone Network," National Regulatory Research Institute Quarterly Bulletin (with Mark Kennet), vol. 17 (Winter 1996-97), pp. 561-577.

"Private Telecommunications Networks: An Historical Perspective." in Public Networks Public Objectives, Ed. Eli Noam and Aine Níshúilleabháin, Elsevier Science, 1996, pp. 35-49.

"Improving Proxy Cost Models for Use in Funding Universal Service," National Regulatory Research Institute, The Ohio State University, 1996, 57 pages, 96-34.

"On the Validity of Capacity Costs," (with James D. Cowie). Published in the Proceedings of the Tenth NARUC Biennial Regulatory Information Conference, Vol. I, pp. 29-48, National Regulatory Research Institute at the Ohio State University. 1996.

"AT&T's Transition to Automatic Switching: Market versus Institutional Influences," (with Joan Nix), Journal of Economic Issues, vol. 30, September 1996.

"Competition-Enhancing Costing and Pricing Standards for Telecommunications Interconnection," National Regulatory Research Institute, The Ohio State University, 1996. NRRI 96-22.

Book Review of Richard Vietor's Contrived Competition: Regulation and Deregulation in America, The Annals of the American Academy, March 1996, pp. 234-35.

"Prices, costs, externalities and entrepreneurial capital: lessons from Wisconsin," (with David Rosenbaum), Antitrust Bulletin (Fall 1995), pp. 581-608.

"Pricing Voice Telephony Services: Who is Subsidizing Whom?" Telecommunications Policy 19 (August 1995), pp. 453-64.

"Federalism: An Historical Perspective." in Crossing Lines: American Regulatory Federalism and the Telecommunications Infrastructure (1995) (ed. Paul Teske), pp. 19-31.

"Privatization, Deregulation, and Competition: Learning From the Cases of Telecommunications in New Zealand and the United Kingdom," (with William Pollard). Monograph Published by the National Regulatory Research Institute, Ohio State University, 1995. 114 pages.

"Current Issues in the Pricing of Voice Telephone Services," Monograph Published by the American Association of Retired Persons, 1995.

"Economies of Scope in the Local Telephone Market." (with Mark Kennet). Journal of Regulatory Economics. Nov. 1994, vol. 6, no. 4, pp. 381-398.

"Competition in a Network Industry: The Telephone Industry, 1894-1910," Journal of Economic History, vol. 54, September 1994, pp. 543-572.

"Designing Reasonable Cost and Pricing Standards for Multiproduct Utilities," (with Mark Kennet and Robert Loube) in Proceedings of the Ninth NARUC Biennial Regulatory Information Conference, vol. 1, pp. 341-56, National Regulatory Research Institute, Ohio State University, 1994.

"AT&T's Strategic Response to Competition: Why Not Preempt Entry?" (with Joan Nix). Journal of Economic History, June 1993, pp. 377-387.

"Regulatory Assessment of Investments in Telephone and Electric Utilities" (with Joan Nix). Law and Policy, vol.15 (April 1993), pp. 123-37.

Book Review of Claude Fischer's America's Calling, Spectrum Magazine, June 1993.

"Pricing of Telecommunication Services." with Mark Kennet. Review of Industrial Organization. 1993. pp. 1-14; and "Reply to Taylor," 7 pages.

"The Effects of Divestiture, Privatization, and Competition on Productivity in U.S. and U.K. Telecommunications: a Brief Note," Review of Industrial Organization. 1993, pp. 63-66.

"Estimating the Cost Structure of the Local Telephone Exchange Network." (with Mark Kennet), Monograph Published by the National Regulatory Research Institute, Ohio State University, 1991. 150 pages.

"Regulation of the Telephone Industry," Journal of Economic Issues, (1991): 597-605.

"An Application of Stand-Alone Costs to the Telecommunications Industry," Telecommunications Policy, February 1991, pp.75-84.

"Using Process Data to Estimate Changes in the Cost Structure of an Industry--A Case Study of the Telephone Industry," with Mark Kennet, in Marginal Cost Techniques for Telephone Services: Symposium Proceedings (Columbus: National Regulatory Research Institute at Ohio State University, 1991), pp. 311-347.

"Divestiture, Spin-Offs, and Technological Change in the Telecommunications Industry--A Property Rights Analysis." 3 Harvard Journal of Law and Technology (1990), pp. 75-102.

"Deregulation: Should the Local Telephone Market be Next?" New England Law Review, Volume 24 (1989), pp. 39-61.

"Rejoinder," Telecommunications Policy, vol. 12, September 1988, pp. 288-89.

PRE-QUEENS COLLEGE PUBLICATIONS:

"Cost Characteristics of Michigan Bell: A Study of the Stand-Alone and Incremental Costs for Michigan Bell's Major Categories of Service," (with Richard Gabel), 1987. Research done for, and distributed by Michigan Divestiture Research Board.

"A Study of the Incremental and Stand-Alone Cost of Telephone Service," Wisconsin Public Service Commission, 1985.