

SIDLEY AUSTIN BROWN & WOOD  
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

CHICAGO  
DALLAS  
LOS ANGELES  
NEW YORK  
SAN FRANCISCO  
SEATTLE

1501 K STREET, N.W.  
WASHINGTON, D.C. 20005  
TELEPHONE 202 736 8000  
FACSIMILE 202 736 8711  
www.sidley.com  
FOUNDED 1866

BEIJING  
HONG KONG  
LONDON  
SHANGHAI  
SINGAPORE  
TOKYO

WRITER'S DIRECT NUMBER  
(202) 736-8214

DOCKET FILE COPY ORIGINAL

WRITER'S E-MAIL ADDRESS  
dlevy@sidley.com

December 21, 2001

RECEIVED

DEC 26 2001

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Magalie R. Salas, Esq.  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

Re: CC Docket Nos. 00-218 & 00-251  
**In the Matter of Petition of AT&T Communications of Virginia, Inc., TCG Virginia, Inc., ACC National Telecom Corp., MediaOne of Virginia and MediaOne Telecommunications of Virginia, Inc. for Arbitration of an Interconnection Agreement With Verizon Virginia, Inc. Pursuant to Section 252(e)(5) of the Telecommunications Act of 1996**

**In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the CC Docket No. 00-218 Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration**

Dear Ms. Salas:

Enclosed please find an original and three (3) copies of the public version of the Joint Initial Post-Hearing Brief Of WorldCom, Inc and AT&T on Pricing Issues. Eight copies of the proprietary version of the brief are being forwarded to the Commission staff in this matter, and to Verizon as well. The proprietary version is being served electronically on the parties.

An accompanying cd-rom is being provided to Aaron Goldschmidt of the Commission Staff and to Ms. Catherine Ronis and Mr. Christopher Huther, counsel for Verizon.

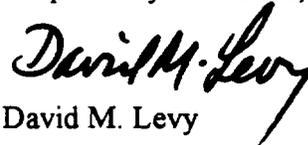
Thank you for your consideration in this matter.

Magalie R. Salas, Esq.

December 21, 2001

Page 2

Respectfully submitted,

  
David M. Levy

cc: Dorothy Attwood (8 copies of proprietary version)  
Jeffrey Dygert  
Catherine Carpino  
Aaron Goldschmidt (2 cd roms)  
Katherine Farroba  
Counsel of Record  
Catherine Ronis (1 cd rom)  
Christopher Huther (1 cd rom)

**PUBLIC (REDACTED) VERSION**

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

**RECEIVED**  
DEC 26 2001  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) )  
of the Communications Act for Preemption of the ) CC Docket No. 00-218  
Jurisdiction of the Virginia State Corporation )  
Commission Regarding Interconnection Disputes with )  
Verizon Virginia Inc., and for Expedited Arbitration )

In the Matter of )  
Petition of AT&T Communications of Virginia Inc., )  
Pursuant to Section 252(e)(5) of the ) CC Docket No. 00-251  
Communications Act for Preemption of the )  
Jurisdiction of the Virginia Corporation )  
Commission Regarding Interconnection Disputes )  
With Verizon Virginia Inc. )

**JOINT INITIAL POST-HEARING BRIEF OF WORLDCOM, INC.  
AND AT&T ON PRICING ISSUES**

Lisa B. Smith  
Allen Freifeld  
Carl Giesy  
WorldCom, Inc.  
1133 19th Street, N.W.  
Washington, D.C. 20036

Mark D. Schneider  
Marc A. Goldman  
Jenner & Block LLC  
601 Thirteenth Street, N.W.  
Washington, D.C. 20005

*Counsel for WorldCom, Inc.*

Mark A. Keffer  
Stephanie Baldanzi  
AT&T  
3033 Chain Bridge Road  
Oakton, Virginia 22185

Matthew W. Nayden  
Stuart M. Kreindler  
Ober Kaler Grimes & Shriver  
120 E. Baltimore St.  
Baltimore, MD 21202

Cynthia A. Coe  
5406 Kirkwood Drive  
Bethesda, MD 20816

David M. Levy  
Alan C. Geolot  
R. Merinda Wilson  
Sidley Austin Brown & Wood  
1501 K Street N.W.  
Washington, D.C. 20006

*Counsel for AT&T*

December 21, 2001

## TABLE OF CONTENTS

	<i>Page</i>
TABLE OF CITATION FORMS .....	vi
INTRODUCTION AND EXECUTIVE SUMMARY.....	1
I. RECURRING COSTS OF UNBUNDLED NETWORK ELEMENTS .....	11
A. The Requirements of the TELRIC Regulations.....	11
1. The FCC’s TELRIC Rules.....	11
2. The AT&T/WorldCom Models and Inputs Comply With TELRIC.....	12
3. Verizon’s Models and Inputs Do Not Comply with TELRIC.....	13
4. Verizon’s Criticisms of TELRIC Lack Merit.....	21
B. Model Design.....	26
1. The Synthesis Model.....	26
a. The Development of the FCC Synthesis Model.....	27
b. The Synthesis Model Submitted in This Proceeding.....	30
c. Modifications to Synthesis Model.....	32
(1) Correction of Implementation Errors.....	32
(2) Use of Current Data .....	33
(3) Modifications to Common Support Expenses .....	33
(4) Modifications to Incorporate Input Changes .....	34
(5) Calculation of Four-Wire Loop and DS-1 and DS-3 Loop .....	36
(6) Changes to Interoffice Module .....	36
d. Verizon’s Criticisms of the Synthesis Model Are Without Merit.....	37
2. The Verizon Models .....	43
a. Description of Verizon’s Models.....	44
b. Difficulties in Evaluating Verizon’s Models.....	46
c. Verizon’s Non-TELRIC Compliant Rates.....	48
C. Cost of Capital .....	54
1. Background.....	54
2. Description of the parties’ cost of capital studies in this case.....	56
a. AT&T/WorldCom Witness John Hirshleifer.....	56
b. Verizon Witness James Vander Weide.....	58
3. Mr. Hirshleifer’s Three-stage DCF Equity Model Is More Realistic Than Dr. Vander Weide’s One-stage DCF Equity Model.....	59
a. Above-Average Short-Run Earnings Growth Is Unsustainable In The Long Run.....	62
b. The Choice Between The One-Stage And Three-Stage DCF Models Has A Significant Effect On The Estimated Cost of Equity.....	63

c.	Dr. Vander Weide’s Speculation About Investor Psychology Is Unsupported. ....	65
4.	The Relevant Risk Of Verizon’s UNE Business Is Low. ....	68
a.	The TELRIC Standard Does Not Require The Commission To Adopt The Legal Fiction That The Business Of Supplying Unes Will Be Highly Risky. ....	69
b.	The Risk Actually Faced By Verizon In Supplying Unes In Virginia Is Likely To Remain Low For The Foreseeable Future. ....	80
5.	The Telecom Holding Companies Used By Mr. Hirshleifer Are A Better DCF Comparison Group Than The Diversified Industrial Companies Used By Dr. Vander Weide. ....	85
6.	Dr. Vander Weide’s Miscellaneous Criticisms Of Mr. Hirshleifer’s DCF Analysis Are Also Without Merit. ....	90
7.	Dr. Vander Weide’s Criticisms Of AT&T’s CAPM Approach Are Without Merit. ....	91
8.	Mr. Hirshleifer Has Specified The Appropriate Capital Structure. ....	91
9.	Independent Cost Of Capital Analyses Provide Further Support For Mr. Hirshleifer’s Cost Of Capital Estimate. ....	92
D.	Depreciation Lives .....	94
1.	GAAP Financial Accounting Lives Are Not Economic Lives. ....	97
2.	The Financial Lives Of Other Telecommunications Carriers Are Unsuitable Proxies For Verizon’s Economic Lives. ....	101
3.	The TFI Recommendations Have Been Discredited. ....	102
4.	Verizon Has Failed To Establish That Recent Changes In Technology And Competition Warrant Lives Shorter Than The FCC-Prescribed Lives. ....	103
5.	The FCC-Prescribed Lives Are Consistent With The Theoretical Premises Of TELRIC. ....	105
E.	Cost Factors .....	106
1.	Expense Factors .....	106
a.	Expenses in the Synthesis Model .....	106
(1)	Corporate Overhead Cost Factor .....	107
(2)	Network Operations Expenses .....	107
(3)	Marketing .....	109
(4)	Customer Service Expenses .....	110
(5)	General Support Expenses .....	110
(6)	Maintenance Factor .....	111
(7)	Nationwide Values .....	111
b.	Expenses in Verizon’s Models .....	112
(1)	Verizon Productivity and Inflation Factors and FLC Factor .....	112
(2)	Land and Building Factors .....	117
(3)	Y2K Expenses .....	117
(4)	Advertising Expenses .....	118

	(5)	Merger Savings .....	119
	(6)	Nonrecurring and Other Support Factor Adjustments .....	120
F.		Loop Costs .....	120
	1.	Line counts.....	121
		a. Line counts in the Synthesis Model.....	121
		b. Line Counts in Verizon’s Model.....	123
	2.	DS-0 equivalents of DS-3 and DS-1 .....	124
	3.	Synthesis Model Road Factor .....	126
	4.	Maximum loop length.....	127
	5.	Size of Distribution Areas.....	130
	6.	Cable sizing and selection.....	130
	7.	Cable Unit Costs .....	132
	8.	DLC Costs.....	133
		a. The Assumed Mix Of DLC Technology .....	133
		b. DLC Input Values .....	143
		c. Concentration of GR-303.....	144
		d. EF&I Factors.....	144
	9.	Utilization And Fill Factors .....	145
		a. Copper Distribution Cable in the Synthesis Model .....	151
		b. Copper Distribution in Verizon’s Model .....	152
		c. Copper Feeder Utilization in the Synthesis Model .....	157
		d. Copper Feeder Utilization in Verizon’s Model .....	159
		e. Fiber Feeder Utilization in the Synthesis Model .....	160
		f. Fiber Feeder Utilization in Verizon’s Model.....	161
		g. RT Plug-In Utilization in the Synthesis Model.....	162
		h. RT Plug-In Utilization in Verizon’s Model .....	162
		i. RT Common Electronics Utilization in the Synthesis Model.....	163
		j. RT Common Electronics Utilization in Verizon’s Model .....	163
		k. Conduit Utilization in the Verizon Model .....	166
	10.	Loop Electronics for DS-1 and DS-3 services.....	167
	11.	4-wire loops .....	167
	12.	Cost of support structure.....	168
		a. Percentage of aerial/buried/underground .....	168
		(1) Feeder Cable Structure Mix .....	170
		(2) Distribution cable structure mix.....	172
		b. Structure Sharing .....	173
		(1) Sharing with other users.....	174
		(2) Sharing of feeder and distribution structure.....	178
		c. Issues regarding conduit, poles and drop.....	181
		(1) Conduit investment .....	181
		(2) Pole Investment.....	183
		(3) Drop length .....	184
	13.	Loop Repair and Maintenance Expenses.....	185
G.		Interoffice Costs.....	188

1.	AT&T/WorldCom’s Restatement of Verizon’s Transport Rates is Reasonable .....	189
a.	Transport Costs Should Be Based on 3.79 Nodes per SONET Rings .....	189
b.	Digital Cross Connect Systems Should Be Available Separately for Purchase and Not Be a Required Transport Cost. ....	190
c.	The Commission Should Adopt a Reasonable EF&I Factor .....	191
2.	The AT&T/WorldCom Common Transport Rates Are Reasonable.....	192
H.	OSS/Access to OSS .....	195
1.	Recovery of competition-onset costs .....	196
2.	Recovery of ongoing OSS expenses .....	198
I.	Daily Usage File (“DUF”) .....	199
II.	NON-RECURRING COSTS .....	201
A.	The Commission Should Adopt the AT&T/WorldCom Non-Recurring Cost Model and Reject Verizon’s Proposal as Failing to Comply with the Requirements of the Act and the Commission’s Rulings. ....	201
B.	The AT&T/WorldCom Non-Recurring Cost Model (NRCM) Reflects Forward-Looking, Currently Available Technologies And Processes. ....	205
C.	Criticism Of Verizon’s Model .....	209
1.	Verizon’s Non-Recurring Cost Proposal Imposes Unnecessary Manual Cross-Connects And Does Not Fully Reflect A Forward-Looking Network Architecture. ....	210
2.	Verizon Has Misclassified The Recurring Costs Of Outside Plant Dispatch As Non-Recurring.....	213
3.	Verizon’s Cost Study Overstates Fallout And Service Order Costs.....	217
4.	Verizon’s Non-Recurring Charge Proposal Reflects Inefficient Manual Coordination Costs That Inflate The Cost Of Provisioning New Entrant Orders .....	219
5.	The Survey Method Verizon Used To Develop Its Proposed Non-Recurring Costs Is Seriously Flawed And Statistically Meaningless. ....	223
6.	Consistent With A Forward-Looking Methodology, Non-Recurring Costs Of Disconnection Should Be Assessed Only When A Disconnect Order Is Placed.....	226
D.	The Commission Should Reject Verizon’s Proposals for Line Sharing/Line Splitting as Excessive and Not Forward-Looking. ....	228
E.	Verizon Improperly Proposes Charges for Line Conditioning Which are Not Consistent with Forward-Looking Network Assumptions; These Costs Should Be Recovered Through Recurring Charges if Recovered at All. ....	230

III.	VERIZON’S WHOLESale DISCOUNT COST STUDY IS FUNDAMENTALLY FLAWED AND DOES NOT JUSTIFY A DECREASE IN THE WHOLESale DISCOUNT .....	232
A.	Verizon’s Interpretation of <i>Iowa Utilities Board</i> Is Overreaching And Yields An Incorrect Discount Rate. ....	233
B.	Verizon’s Errors In Methodology Cause It To Treat Obviously Retail Costs Like Product Advertising As Unavoided. ....	235
C.	The FCC Should Not Adopt A Separate Discount Rate For Stand-Along Services. ....	237
D.	The FCC Should Not Disturb The Existing Virginia Wholesale Discount Rate Until It Adopts New Rules. ....	238
	CONCLUSION.....	240

## TABLE OF CITATION FORMS

<b>FCC Orders</b>	
Short Citation	Full Citation
BA/NYNEX Merger Order	<i>In re NYNEX Corp. and Bell Atlantic Corp. for Consent to Transfer Control of NYNEX Corp. and its Subsidiaries</i> , Memorandum Opinion and Order, 12 F.C.C.R. 19985 (1997).
Line Sharing Order	<i>In re Deployment of Wireline Services Offering Advanced Telecommunications Capability</i> , CC Docket No. 98-147 and <i>In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996</i> , CC Docket No. 96-98, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in Docket No. 96-98, 14 F.C.C.R. 20912 (1999).
Local Competition Order	<i>In re Implementation of the Local Competition Provision in the Telecommunications Act of 1996</i> , First Report and Order, 11 F.C.C.R. 15499 (1996).
Reciprocal Compensation Order	<i>In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Inter-Carrier Compensation for ISP-Bound Traffic</i> , Declaratory Ruling in CC Docket No. 96-98 and Notice of Proposed Rulemaking in CC Docket No. 99-68, 14 F.C.C.R. 3689 (1999), <i>vacated</i> , <i>Bell Atlantic Tel. Co. v. FCC</i> , 206 F.3d 1 (D.C. Cir. 2000).
Supplemental Order	<i>In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996</i> , Supplemental Order, 15 F.C.C.R. 1760 (1999).
UNE Remand Order	<i>In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996</i> , Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 F.C.C.R. 3696 (1999).
Universal Service First Order	<i>In re Federal-State Joint Commission on Universal Service</i> , First Report and Order, 12 F.C.C.R. 8776 (1997).
Universal Service Fifth Order	<i>In re Federal-State Joint Commission on Universal Service</i> , Fifth Report and Order, 13 F.C.C.R. 21323 (1998).
Universal Service Tenth Order	<i>In re Federal-State Joint Commission on Universal Service</i> , Tenth Report and Order, 14 F.C.C.R. 20156 (1999).
Universal Service 12/18/01 Order	<i>In re Federal-State Joint Commission on Universal Service</i> , CC Docket No. 96-45 (Dec. 18, 2001)

**JOINT INITIAL POST-HEARING BRIEF OF WORLDCOM, INC.  
AND AT&T ON PRICING ISSUES**

**INTRODUCTION AND EXECUTIVE SUMMARY**

AT&T<sup>1</sup> and WorldCom, Inc., respectfully submit this initial joint brief in support of the non-switch-related pricing proposals in their respective Petitions for Arbitration filed with the Commission on April 23, 2001.<sup>2</sup>

The parties have presented the Commission with a stark choice. AT&T and WorldCom have provided models and inputs for unbundled network elements (“UNEs”) and non-recurring charges (“NRCs”) that faithfully adhere to the Commission’s total element long run incremental cost (“TELRIC”) regulations, and that in particular adopt many of the modelling and input choices that the Commission itself made when it used forward-looking long-run pricing principles to develop cost inputs in its Universal Service rulemakings.<sup>3</sup> Verizon has a lot to say about the AT&T/WorldCom recurring and non-recurring cost models, but it does not deny that they are TELRIC models.

Verizon, in contrast, has provided a grab bag of models and inputs that in theory are designed to measure costs it anticipates incurring not over the long run, but over the next several years, a short run period in which its costs are severely constrained by the configuration of its existing network. In fact, its cost studies frequently are not forward-looking even in that

---

<sup>1</sup> The AT&T entities sponsoring this brief are AT&T Communications of Virginia, Inc., TCG Virginia, Inc., ACC National Telecom Corp., MediaOne of Virginia and MediaOne Telecommunications of Virginia, Inc. (together “AT&T”).

<sup>2</sup> Pursuant to the Staff’s Order of December 3, 2001, pricing issues related to switching will be briefed initially on January 10, 2002.

<sup>3</sup> See, e.g., *Universal Service Fifth Order*, *Universal Service Tenth Order*.

limited, non-TELRIC sense: its recurring and non-recurring cost studies, in particular, do little more than reflect Verizon's embedded costs. Because Verizon's methodology is a short-run methodology, its cost studies necessarily do not reflect efficient network design, but instead model Verizon's existing network design. Not even its own witnesses would testify that Verizon's collection of models conformed to the Commission's TELRIC rules; indeed they acknowledged that Verizon's models violate Verizon's own understanding of TELRIC. Verizon's defends its models not as an attempt to comply with TELRIC, but as an attempt at "giving the Commission a second chance" to correct the error it made by adopting TELRIC in the first place. Tr. 3238 (Hausman).

As we show below, Verizon's criticisms of TELRIC are no more persuasive now than when they were first aired in 1996. More fundamentally, the Commission's job in this proceeding is not to re-consider its 1996 judgement to adopt TELRIC, but to apply TELRIC faithfully to the record developed here, as the Virginia Commission would have been obliged to do had it chosen to arbitrate this dispute. When the Commission does so, it will adopt the AT&T/WorldCom model and inputs.

Much is at stake here. These modelling and input differences yield vastly different network element prices, and the Commission's decision will in turn profoundly affect the competitive landscapes in Virginia. Here, in brief, is what the parties propose for loops, the largest cost element for UNE-P entry:

**Table 1**

Loop Costs (per month)	Synthesis Model Forward-Looking Costs <sup>4</sup>	Verizon's Model with Forward- Looking Inputs <sup>5</sup>	Verizon's Embedded Model Rates <sup>6</sup>
Density zone 1	\$5.38	\$4.98	\$17.86
Density zone 2	\$7.34	\$7.37	\$26.31
Density zone 3	\$14.81	\$11.77	\$43.45
Average	\$6.58	\$6.18	\$22.33

As these numbers show, the parties' modeling and input differences matter. Based on the evidence, the forward-looking cost, on a statewide average, for the unbundled local loop should be under \$7.00 per line per month. But Verizon proposes loop rates *over three times* higher than that. Its proposed average loop rate is nearly double the current average rate, and all by itself is more than the cost of retail phone service in the state. Competitors could not offer customers a dead phone line for the cost that Verizon provides them complete retail service.

And Verizon should not be allowed to make up in NRCs what it will claim to have "lost" in loops and other UNEs. Verizon's NRC model is replete with embedded costs, embedded technology and double counting of costs. It should be rejected. The NRC associated with migrating an existing customer from Verizon to a CLEC using UNE-P is emblematic of the differences in the models. A UNE-P migration involves no more than a computer record change and virtually never any manual work by Verizon in processing and provisioning the order. The AT&T/WorldCom model appropriately determines that the forward-looking cost of such a change is \$0.27 per order. The Verizon model calculates an embedded cost of \$0.83 for a service order charge; \$4.04 for a provisioning charge and, it appears, \$9.44 for a manual surcharge. These are plainly not cost-based changes.

---

<sup>4</sup> AT&T/WorldCom Response to 12/10/01 Staff Record Request, Install A.

<sup>5</sup> Restated Verizon rates, attached hereto.

<sup>6</sup> Verizon File VAFCCRECSUMMr1101.xls (11/1/01).

While the Commission here is acting in Virginia's stead, and as a formal matter is doing nothing more than setting Virginia rates pursuant to FCC pricing regulations, the ramifications of this decision will not stop at Virginia's borders. This Commission obviously is in a unique position to provide guidance on the appropriate construction of TELRIC. Other states are closely watching this proceeding.

Guidance is critically needed. In state after state, the ILECs have done what Verizon has done here – vigorously disputed virtually every tenet of TELRIC, promoting models and inputs that are TELRIC in name only, and proposing sky-high rates designed to shoot down competition before it starts. Indeed, nearly identical cost cases are currently being litigated in Maryland and Pennsylvania, and throughout the country, ILECs are promoting cost studies featuring similar non-TELRIC models and inputs. As a result, State commissions have had to confront testimony that conflicts on virtually every point, set out in a voluminous record that quickly overwhelms limited state resources. Faced with an impossible task, states have frequently thrown up their hands, split the difference between the parties and called the result TELRIC. Looking for comfort where there is none to be found, they then turn to other states that have done the same thing, and find their compromise results to be “validated.”

These compromise verdicts now have taken on an unfortunate life of their own. Rates have generally declined over time, not in reflection of declining costs, but out of a recognition that the first “compromise” rates were far too high to permit competitive entry. And in the fullness of time, these “compromise” rates might edge down to a level that permits a modicum of competition to develop, if there were any carriers left to develop it, for that is the result that most states do in fact want to accomplish.

But compromise TELRIC is not TELRIC at all, and the halting evolution towards competitive rates is exactly the opposite of the “jump start” that Congress required in the 1996

Act. An process of top-down result-oriented rate setting, groping over time toward a level where competition might survive, is also the very opposite of what the Commission mandated in the *Local Competition Order*.

TELRIC, after all, is at its most basic level predicated on the judgement that the actual cost of telephone facilities can best be calculated from the ground up, by relying on the universally accepted economic assumption that prices in real competitive markets are based on forward-looking costs that reflect what it would currently cost to provide the desired functionality. Such ground-up cost-based pricing was chosen by Congress as an alternative to the top-down rate-of-return method of setting rates that the 1996 Act expressly rejected. When rate-makers invoke the spirit of “compromise,” point to ILEC revenue requirements, and make adjustments to the bottom line after glancing over their shoulders at other states that have acted in a similar manner, they are thus engaged in precisely the enterprise that TELRIC was designed to avoid.

This Commission is in a perfect position to put an end to such parody TELRIC. FCC staff can analyze conflicting evidence, resolve disputes based on its informed understanding of TELRIC principles, and construct rates from the ground up as TELRIC requires. And when that process yields a result, the Commission should embrace it as a true reflection of cost, no matter how it compares to the proposals of the various parties, or to rates adopted through compromise or through some general notion of playground justice.

WorldCom and AT&T have no right to expect that the rates adopted through this process will exactly mirror those they have proposed, or that the Commission will agree with them on each and every one of the myriad of input choices that produce a rate. But we do have the right to have the Commission review the conflicting evidence, make judgments based on its understanding of TELRIC, and adopt rates based on that evidence and those judgments without

regard to compromise calculations, unprincipled comparisons to existing rates, or a similarly unprincipled desire to allow Verizon to recover what it claims to be its embedded costs.

Such cost-based rates will come not a moment too soon. All of the working OSS, meaningful performance standards, and richly detailed interconnection agreements in the world mean nothing if the goods that are offered for sale are too expensive to buy. Pricing is the most substantial remaining barrier to competitive local telephone markets. No one disputes that there are essential facilities in the telephone network, and that without access to those facilities at cost-based rates no local residential competition will develop. TELRIC rates will permit competition to develop in Virginia, and will give other states the ability to cut through the fog created by ILEC embedded cost studies and insupportable inputs, and to develop their own true cost-based rates.

Indeed, more than local competition is at stake. In the few states where there has been competitive local entry by interexchange carriers, and in those states where there has been ILEC entry into the in-region long-distance market, it has become clear that many customers want all of their telecommunications services from a single carrier. As more and more Bell Companies win in-region long-distance authority, unless competitors are able to offer a competing bundle of services, those customers will have only one choice for that bundled service. What was not a credible prospect just a few years ago is now a commonplace thought: unless cost-based rates are established promptly throughout the country, the Commission faces the very real risk of overseeing the remonopolization of the residential telecommunications market. That was hardly what Congress had in mind when it passed the '96 Act. The Commission can take a great step towards keeping that from happening by applying its TELRIC rules faithfully here in Virginia.

## **The Recurring and Non-Recurring Cost Studies**

In what follows we show that AT&T and WorldCom presented the Commission with two detailed and accurate cost studies that indisputably are consistent with TELRIC methodology. AT&T and WorldCom have also thoroughly reviewed Verizon's cost studies, offering specific criticism of many of Verizon's inputs, and providing record evidence that reflects corrected inputs to Verizon's study. In contrast, Verizon improperly continues to use models and inputs based on its embedded or historical network and costs and, consequently, produces costs that are not forward-looking. Moreover, Verizon has not offered specific criticisms of most of the AT&T/WorldCom inputs to the Synthesis Model,<sup>7</sup> and has made no effort to restate the inputs used in the Synthesis Model. As a result, when the Commission concludes, as it must, that the only TELRIC-compliant recurring cost study presented to it is the Synthesis Model, it will find that the record supporting the AT&T/WorldCom inputs to that study is not countered by any detailed information that would support different inputs.<sup>8</sup>

The Synthesis Model is the product of years of study, analysis and improvement in response to rigorous third-party scrutiny by the FCC, state commissions, and incumbent LECs. The Model relies on cost inputs adopted after careful consideration by the FCC itself. It relies on engineering principles that are consistent with a forward-looking network. This means, for

---

<sup>7</sup> Throughout this brief, the term "Synthesis Model" refers to the version of the Model submitted by AT&T/WorldCom witness Brian Pitkin. The version of the model developed by the Commission is referred to as the FCC Synthesis Model or Commission Model.

<sup>8</sup> In this regard, it is critical to note that, as to many inputs, the values proposed by the parties for the Verizon model cannot be simply inserted into the Synthesis Model because they serve different functions in the two models. For example, the fill factors in the Verizon model already includes breakage in the fill, which represents the total unused capacity in their network, while in the Synthesis Model fill does not include breakage, which is calculated separately. So if the Commission chooses to adopt the Synthesis Model, Verizon has put no evidence on the record that would support a fill factor other than the one proposed by AT&T and WorldCom.

example, that the manner of designing and building loops to a service area is not identical to the embedded design of Verizon's outside plant today. This, of course, is to be expected. An embedded design often may be inefficient and would not be used today because of demographic changes and/or technological changes. The Synthesis Model also relies on precise demographic data to determine the location of actual customers throughout Verizon Virginia's service area. These demographic data are critical to ascertain the proper forward-looking economic cost of the loop. In contrast, Verizon relies on a "sampling" exercise that reflects its embedded network (in some cases, as of nearly a decade ago) and historical inefficiencies.

Adoption of TELRIC inputs is if anything even more important than adoption of a TELRIC model. In what follows we show as well that AT&T and WorldCom presented overwhelming evidence that even the flawed Verizon models, when corrected to reflect key forward-looking technology and cost inputs, produced costs consistent with the TELRIC-compliant Synthesis Model.

A summary of the critical input differences between AT&T/WorldCom TELRIC studies and Verizon's embedded study is presented in Table 2 below:

**Table 2**

	<b>Synthesis Forward-Looking Model</b>	<b>Verizon Virginia's Embedded Model</b>
Cost of Capital	9.54%	12.95%
Cost of Equity	10.42%	14.75%
Cost of Debt	7.86%	7.55%
Debt/Equity ratio	34.5/65.5	25/75
Depreciation Lives	FCC/SCC process	GAAP/accounting lives
Aerial Metallic Cable (M&R Exp./inv. factor)	6.69%	14.09%
Common costs	8.00%	7.98%
<i>Loop Costs</i>	-	-
Loop Lengths	Based on VA wire centers, customer location, engineering criteria and efficient network design	Relies on 1993 – 1995 survey
Cable Size	Based on lines served, forward-looking fill factors and commercially available cable sizes	<b>Feeder</b> – Relies on 1993 – 1995 study of embedded network and 2001 line counts <b>Distribution</b> – Based on number of working lines within each distribution area and subsequently increased by utilization factor
Support Structure Mix	(avg) 62.4% buried; 36.1% aerial; 1.5% underground	Relies on 1993-95 survey <b>Feeder</b> – 25% buried; 22% aerial; 53% underground <b>Distribution</b> – 44% buried; 38% aerial; 18% underground
Cable Unit Costs	FCC Data	Costs based on “actual” installed cable costs from 1997 - 1999
Copper/Feeder Breakpoint	Most economic choice of copper and fiber selected on case by case basis	Based on Verizon “sensitivity” runs of its embedded cost model
Max. Dist. Length	n.a. (maximum copper loop length is 18,000 feet, <1% exceed 12,000 feet)	12,000 feet for copper loops
Dist. Fill Factor	Target fills of 50%-75% = 52.5% statewide average effective fill	40.30% effective fill
Copper Feeder	Target fills of 70%-82.5%	56.90%
Fiber Feeder Fill Factor	Target fill of 100% before breakage	41.80%
DLC Fill Factor	70% - 82.5%	<b>Plug-In</b> – 80% <b>Common</b> – 56.9%
DLC Technology	100% GR-303	12.15% IDLC GR-303 57.85% IDLC TR-008 30.00% UDLC

	<b>Synthesis Forward-Looking Model</b>	<b>Verizon Virginia's Embedded Model</b>
Support Structure Sharing	Yes. Phone co. share with utility and cable cos.	Yes. Phone co. share poles only
Pole placement	Based on FCC data varied by density zone	168 feet
Pole costs	Based on FCC data varied by density zone	\$1,006 per pole
Drop length (avg)	77.4 feet	N/A

The AT&T/WorldCom NRC Model likewise establishes the forward-looking NRCs for Virginia. The NRC Model is based on a straight-forward principle: an efficient, forward-looking firm would use primarily electronic, mechanized processes. And, unlike Verizon, AT&T and WorldCom base NRCs on the same forward-looking network that is the construct underlying its recurring cost calculations. Verizon's NRCs, on the other hand, reflect historic costs and embedded practices, such as manual processing of orders, which cannot properly be included in a TELRIC analysis. And Verizon's NRC model is based on an entirely different and incompatible set of assumptions than its recurring cost model, making its use in conjunction with Verizon's recurring cost model doubly unreliable.

This brief is organized as follows: Part II sets forth and defends AT&T and WorldCom's proposed recurring rates; Part III addresses non-recurring costs and rates; and Part IV (on behalf of AT&T only) discusses the wholesale discount. Within each section, AT&T and WorldCom first discuss general methodological issues, and then discuss the extent to which each of the competing models is faithful to the basic requirements of TELRIC. Following that is a discussion of critical inputs, factors and expenses upon which the parties rely to generate their rates.

## I. RECURRING COSTS OF UNBUNDLED NETWORK ELEMENTS

### A. The Requirements of the TELRIC Regulations.

AT&T and WorldCom's models and inputs fully comply with the FCC's TELRIC rules, while Verizon's plainly do not. Moreover, Verizon's criticisms of TELRIC are both irrelevant to this proceeding and entirely without merit.

#### 1. The FCC's TELRIC Rules.

The Commission's TELRIC rules are codified at Section 51.505, and state that the "total element long-run incremental cost of an element is the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable, or reasonably identifiable as incremental to, such element, calculated as a given the incumbent LEC's provision of other elements." The rules also make a critical efficiency assumption, mandating that the TELRIC "should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the ILECs' wire centers." 47 C.F.R. § 51.505(b)(1). And, lest there be any doubt about how efficiency is to be measured, the rules go on to specify that embedded costs, "the costs that the incumbent LEC incurred in the past and that are recorded in the incumbent LEC's books of accounts," "shall not be considered in a calculation of the forward-looking economic cost of an element." *Id.* § 51.505(d)(1).

In the *Local Competition Order*, the Commission explained that its adoption of the rule's efficiency assumption, and its rejection of embedded cost as a basis for costing, meant that it was *rejecting* the standard proposed by Verizon and its fellow incumbents, who through their trade organization had proposed that a TELRIC model should "measure the forward-looking economic costs of existing networks, not the costs of fictitious networks." *Local Competition Order* ¶684 (quoting USTA Reply Brief at 19). As the Commission explained, this

was essentially an embedded cost proposal, and so was inconsistent with its rules. *Id.* The FCC adopted its ground-up forward-looking costing methodology after considering the ILECs' proposed alternatives because it believed that TELRIC best captured the economic costs of the ILEC network elements, and that alternatives based in any way on valuing the ILEC's actual facilities would likely yield less accurate and overstated cost results that would frustrate competitive entry.<sup>9</sup>

## **2. The AT&T/WorldCom Models and Inputs Comply With TELRIC.**

Not even Verizon disputes that AT&T and WorldCom's cost studies comply with these TELRIC requirements. AT&T and WorldCom relied upon the FCC's own cost models developed for the purpose of setting universal service subsidies, adjusted so that they could properly cost unbundled network elements. These are bottom-up economic-engineering costing models designed to comply with the Commission's understanding of forward-looking long-run incremental cost modeling. The models estimate the costs that an efficient firm would incur to provide unbundled network elements and interconnection services, assuming the flexibility to use the most efficient technology and network configurations now commercially available on the market, constrained only by the assumption that a competing supplier must continue to use Verizon's existing wire center locations. The models thus estimate, as TELRIC requires, the costs that an efficient supplier would incur, over the long run, to supply the entire output of network elements currently produced by Verizon. The inputs to the AT&T/WorldCom model

---

<sup>9</sup> Courts have similarly rejected Verizon's view of TELRIC. "Past practice alone, without some more tangible measurement relating it to an efficient, forward-looking system cannot be the basis for setting forward-looking rates as required by the Act." *AT&T Communications of New Jersey, Inc. v. Bell Atlantic-New Jersey, Inc.*, Civ. No. 97-5762 (KSH), Opinion dated June 2, 2000, slip op. at 34. The "current state of Bell's network is irrelevant for purposes of a long-run cost analysis." *Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F. Supp. 2d. 218, 238 (D. Del. 2000).

too are frequently derived from FCC inputs developed for the Synthesis Model, and are in all cases designed to be forward looking.

### **3. Verizon's Models and Inputs Do Not Comply with TELRIC.**

Verizon's studies and inputs, in contrast, are TELRIC in name only. In most respects, Verizon's recurring and non-recurring studies do exactly what the Commission rejected when it adopted TELRIC over Verizon's objections: they take as a given Verizon's existing network in all of its particulars, and then model the changes and additions Verizon asserts it will make to that network over the next three years.<sup>10</sup> Verizon's models thus do exactly what the FCC expressly forbade when it rejected the ILECs' pricing proposals. In other respects, the models are not even forward-looking in this minimal sense. For example, loop lengths and copper feeder size are based on those that Verizon had in place in the mid-1990's, and the expenses modeled are based on Verizon's network expenses in 1999.

Because the models are grounded in Verizon's existing network, they do not merely leave existing wire centers in place; they start with every particular of Verizon's network in place. And, because they are not long-term studies but instead look forward only three years, a period in which Verizon will be powerfully constrained in what equipment it purchases by equipment it has already deployed, the network design they end with also adopts many of the particulars of Verizon's existing network. The models and inputs thus are not intended to model a hypothetical efficient network based on Verizon's existing wire centers, but Verizon's "actual expected costs," or the costs of how Verizon's network is "actually deployed." As such,

---

<sup>10</sup> At that point, the recurring and non-recurring studies make differing assumptions. The recurring study takes the additions it models, and then uses those additions as a proxy for a network large enough to serve total demand. The non-recurring study models what Verizon asserts its actual network will look like in three years. *See Part III, infra.*