

DECLARATION OF MARK T. BRYANT

ATTACHMENT 2

D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4-A

Consolidated Petitions of New England Telephone and Telegraph Company d/b/a NYNEX, Teleport Communications Group, Inc., Brooks Fiber Communications, AT&T Communications of New England, Inc., MCI Communications Company, and Sprint Communications Company, L.P., pursuant to Section 252(b) of the Telecommunications Act of 1996, for arbitration of interconnection agreements between NYNEX and the aforementioned companies.

APPEARANCES: Bruce P. Beausejour, Esq.
185 Franklin Street, Room 1403
Boston, MA 02107

-and-

Robert N. Werlin, Esq.
Keegan, Werlin & Pabian, LLP
21 Custom House Street
Boston, MA 02110

FOR: NEW ENGLAND TELEPHONE &
TELEGRAPH COMPANY D/B/A NYNEX
Petitioner

Keith J. Roland, Esq.
Roland, Fogel, Koblenz & Carr, LLP
1 Columbia Place
Albany, New York 12207

-and-

we were guided, in part, by Dr. Vander Weide's testimony, in which he stated that the later years in a DCF model get a lower weight (Tr. 8, at 91-93, 157). We expected, based on this testimony, that use of the multi-stage model would produce a minor adjustment to NYNEX's proposed 14.8 percent return on equity, a result which would have been consistent with our findings. Unfortunately, we did not actually ask for the model to be run during the course of the proceeding and only now learn that our interpretation of Dr. Vander Weide's testimony was mistaken, for the use of the multi-stage model produces results that are not reasonable, given our more qualitative findings concerning the relative risk of providing unbundled network elements. In light of this previously unknown fact about the effect of using the multi-stage approach, we will not require that it be used to determine the cost of equity for the TELRIC study in this case. Instead, as suggested by NYNEX, we must view the record as a whole and thereby reach a judgment as to the appropriate cost of equity in the NYNEX TELRIC study. The witnesses in this proceeding have offered a range of proposed costs of equity capital from 11.0 percent to 14.8 percent, but we have found flaws in all of the methods offered. Fortunately, the witnesses have also offered extensive qualitative discussion as to factors that should be considered in arriving at this figure. In the Phase 4 Order, we devoted a substantial discussion to the level of risk associated with the provision of unbundled network elements. Phase 4 Order at 38-50. We conclude that our findings in the Phase 4 Order with regard to these matters should hold, and we use those findings in reaching our judgment. Viewing the entire record in this proceeding, we find that a 13.5 percent return on equity is reasonable given this level of risk. Accordingly, NYNEX's motion for reconsideration is granted in part.

B. Cost Factors

We find that NYNEX's motion is an attempt to reargue issues considered and decided in the main case. Our decision was based on record evidence and is fully consistent with the Act and the Local Competition Order. Likewise the Order requires no clarification, in that there is no ambiguity in its meaning. Phase 4 Order at 69-70. NYNEX's motion is therefore denied.

D. Fiber in the Feeder

MCI moves for reconsideration of the Department's order with regard to its findings concerning use of fiber in the feeder portion of the network. According to MCI, evidence in the case does not support a cost justification for this use of fiber. MCI requests that, if the Department had intended to rule that it is not necessary for NYNEX to demonstrate that its TELRIC network is the least-cost method of providing today's narrow-band, existing telephone service, then the Department should so state, crystallizing the issues for purposes of appeal.

NYNEX opposes this motion, stating that the Department's findings were supported on the record and fully explained.

We find that MCI's motion is an attempt to reargue issues considered and decided in the main case. Our decision was based on record evidence and is fully consistent with the Act and the Local Competition Order. The rationale used by the Department in reaching its decision is clearly set forth. Phase 4 Order at 15-17. MCI's motion is therefore denied.

E. Manufacturers' Discounts

MCI asks reconsideration of the Department's findings with regard to the appropriate manufacturers' discounts for use in the TELRIC study. The company argues that the order improperly used the discounts NYNEX currently receives for incremental additions to its current electronic equipment.

NYNEX opposes the motion, stating that the Department's findings were supported on the record.

NYNEX used its current vendor discounts in the TELRIC study, and, as described by NYNEX in its reply to MCI's motion, we found these to be appropriate and supported by the record.¹ We find that MCI's motion is an attempt to reargue issues considered and decided in the main case. MCI's motion is therefore denied.

III. ORDER

After notice, hearing and consideration, it is

FURTHER ORDERED: That the Motion for Reconsideration and Recalculation of New England Telephone and Telegraph Company, d/b/a NYNEX, filed with the Department on December 18, 1996 be and hereby is GRANTED in part and DENIED in part; and it is

FURTHER ORDERED: That the Motion for Reconsideration and/or Clarification of New England Telephone and Telegraph Company, d/b/a NYNEX, filed with the Department on December 31, 1996, be and hereby is DENIED; and it is

FURTHER ORDERED: That the Motion for Reconsideration and Clarification of MCI Telecommunications Corporation, filed with the Department on December 31, 1996, be and hereby is DENIED; and it is

FURTHER ORDERED: That the "Motion to Strike NYNEX's Compliance Filing and For an Order Requiring NYNEX to Submit a Compliance Filing that Complies with the Department's Phase

In reviewing the Phase 4 Order, we note that we inadvertently left out a conclusory sentence to that effect, but the implication of our discussion was nonetheless clear to the parties, as is evident from MCI's motion and NYNEX's reply. Phase 4 Order at 37.

DECLARATION OF MARK T. BRYANT

ATTACHMENT 3

retirement of obsolete technologies and the integration of new technologies. I had responsibility for working with interexchange carriers and cellular providers to develop network solutions that met their business requirements. I also had customer network engineering responsibility, developing specific network designs and network solutions for major Bell Atlantic customers. This affidavit is based on my personal knowledge and extensive telecommunications network engineering experience.

3. I have reviewed the Affidavit of William K. Mosca attached to the Petition of AT&T Corp. to Deny, or in the Alternative, to Defer Pending Further Investigation and Briefing, which was filed in opposition to the proposed Bell Atlantic and NYNEX merger ("Mosca Aff.").

4. Mr. Mosca asserts that Bell Atlantic's New Jersey based switch facilities are "perfectly appropriate" for serving New York City. (Mosca Aff. at ¶17). Based upon my experience and my knowledge of the Bell Atlantic network, Mr. Mosca's network planning assumptions are flawed, his suggestions for facilities deployment are irrational and his conclusions are wrong.

5. The presence of Bell Atlantic facilities in New Jersey is irrelevant to any rationally efficient and reasonably priced proposal to provide competitive local exchange services in the NYNEX region. Bell Atlantic cannot use its New Jersey facilities to serve New York, or even Manhattan, at any reasonable cost. Bell Atlantic is not better situated than AT&T, MCI, or any other carrier with facilities in place, to compete effectively in providing local exchange service in New York.

6. There are several reasons why Bell Atlantic cannot utilize its facilities in New Jersey, which serve Bell Atlantic - New Jersey customers, to provide local exchange service in the NYNEX region. First, the switches deployed in Northern New Jersey are at or near current

capacity just meeting Bell Atlantic's New Jersey customers' needs, due in large part to increasing demand for second lines, internet access, data transmission, ISDN and feature services. Second, adding switch capacity through software or hardware upgrades is demonstrably more costly than deploying new switch facilities in New York City. Third, Mr. Mosca's recommended facilities modifications are either irrational or unreasonably expensive when compared to placing facilities in New York City or elsewhere in the NYNEX region. Fourth, any network design which relies upon facilities located in New Jersey to serve local exchange customers in New York would require unreasonable inefficient transport arrangements and would generate significant network programming and customer service problems.

7. Mr. Mosca asserts that Bell Atlantic's Northern New Jersey network has "huge amounts" of excess switching capacity sufficient to serve "several million" New York customers. Mosca Aff. at ¶15. That assertion is wrong. Bell Atlantic's network engineering is based on optimal switch utilization of approximately 93% of the installed switch line capacity. The objective is to ensure that switches are upgraded or replaced on a timetable that reasonably accommodates population growth and new service deployment. Due to demands for multiple voice lines, internet access lines and data transmission lines, the switches in the Northern New Jersey central offices which are in closest proximity to Manhattan are now at 95% of current capacity.

8. Mr. Mosca claims that certain Lucent switches can handle up to 75,000 to 111,000 lines. Mosca Aff. at ¶15. Such technically feasible switch capacity requires that switch hardware and software are installed to carry such high levels of traffic. Further, demand for data transmission, multiple lines, features and internet access all consume switch capacity, and reduce the number of new voice lines which can be terminated on a switch. Since these types of

services are likely to be required by New York City customers, particularly business customers, switch capacity would be consumed at an even greater rate than presently.

9. Capacity can only be increased on a given switch by adding switch modules, and memory and processor upgrades, available only from the switch vendor. Orders for switch upgrades from Bell Atlantic's primary switch vendor, Lucent Technologies, formerly a subsidiary of AT&T, were inexplicably delayed for many months. Delivery of upgrades has now begun, but growth, in both population and demand for data, internet and other services, has not abated. In addition, recent demand forecasts have consistently been lower than the experienced demand, primarily because of the increasing use of services other than voice lines. Therefore, there is no current or anticipated excess capacity on Bell Atlantic's Northern New Jersey switches which could be redeployed to provide local exchange service in New York City.

10. Moreover, it would be far less costly for a carrier to install a new switch in Manhattan to serve New York City customers than it would be to upgrade the current capacity of Bell Atlantic's Northern New Jersey switches. The pricing structures imposed by switch vendors, including Lucent Technologies, favors the purchase of new switches, rather than switch upgrades. Vendors offer substantial discounts on new switches, but do not offer comparable discounts on switch upgrades. Since, for the most part, switch design and engineering are proprietary to the vendor, essential switch upgrades are available only from the original vendor. Since a local exchange carrier purchasing a new switch becomes dependent upon that vendor for future upgrades and modifications, there are market incentives for the vendors to price new switches attractively. No similar market incentives exist for switch upgrades. The pricing of Lucent Technologies switch upgrades, in particular, reflects this dependency upon the supplier.

11. For example, if Bell Atlantic, or for that matter, AT&T, Mr. Mosca's employer, were to install a new Lucent 5ESS switch in New York City, with analog line interfaces, designed to provide 60,000 lines, the total costs of the hardware and software could be as low as \$55 to \$60 per line. In contrast, adding capacity to an existing in-region Lucent 5ESS switch, equipped with a analog line interfaces would cost \$125 per line for the hardware. If the switch were equipped with the TR303 interface needed to connect transmission equipment [under Mr. Mosca's scenario] it would cost approximately \$97 to \$117 per line, depending upon the characteristics of the upgrade. In addition to the line costs, the in-region switch would also require the purchase of digital loop carrier equipment [such as a Lucent SLC 2000 or DSC Litespan] which would increase the per line cost by, at minimum, an additional \$78 to as much as \$152 per line. These switch upgrade costs do not include the costs for the interoffice facilities required to provide the service under Mr. Mosca's scenario. For these reasons, it would be far more cost efficient to install a new switch, in proximity to and dedicated to the targeted customers, rather than to upgrade existing distant switches to serve those customers.

12. The manufacturer's specifications provided by Lucent support my conclusions and contradict those of Mr. Mosca. Mr. Mosca suggests that Bell Atlantic could use SLC 2000 equipment to serve New York City effectively from existing switches in Northern New Jersey. Mosca Aff. at ¶17. However, literature describing the capabilities of the SLC 2000 equipment states that a carrier would need to install multiple regeneration devices to "boost" the signal to actually reach the technically feasible distance of 125 miles. Such devices, costing \$36,000 each, would be required at 51 km intervals, or approximately one every 31 miles, increasing the costs for this configuration even more. It would be less costly to install a new switch in closer proximity to the targeted customers.

13. Not only would provisioning service in New York from New Jersey switches be an irrational and costly network design, it would create technical and operational problems. Facilities, requiring electronics and fiber, would be needed to transport a call from New York to a Bell Atlantic switch in New Jersey. Then, each call placed by a New York customer served from a Bell Atlantic New Jersey switch would require facilities, including electronics and fiber, back to New York. There the call would be routed to the ultimate called destination. Even calls which are destined for the calling customer's next door neighbor would be trunked to New Jersey and back. Finally, Mr. Mosca's proposed network configuration suggests that Bell Atlantic use fiber facilities across the Hudson River for transport of calls which could easily be handled by a New York-based switch. Since these fiber facilities are so difficult and expensive to place, costly to maintain and repair if damaged, they are a valuable resource which is used sparingly.

14. Programming Bell Atlantic's northern New Jersey switches to provide E911 service and number portability to New York customers would be extremely difficult and expensive. New Jersey switches would need substantial reconfiguration to automatically route E911 calls to emergency services in New York City. In addition, Bell Atlantic would have difficulty providing New York customers with services such as Answer Call or ISDN under this scenario. Programming of usage sensitive services, which may be priced differently in the different jurisdictions, would also use up switch capacity.

15. Since no reasonable volume of New York based customers could be accommodated on just one of Bell Atlantic's Northern New Jersey switches, traffic from New York would be spread among several New Jersey switches. This would mean that each of the switches in proximity to New York would need to be upgraded and modified to properly handle this complicated New York traffic.

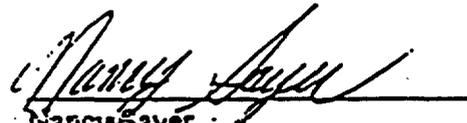
16. Mr. Mosca claims that Bell Atlantic already has transport and transmission facilities that connect its switches to a variety of points in the NYNEX region. Mosca Aff. at 719. Mr. Mosca bases this erroneous assertion upon a belief that Bell Atlantic's corridor facilities terminate in the NYNEX region. This is not true. Bell Atlantic does not own facilities in New York, whether used for corridor traffic or other traffic. Facilities to handle corridor traffic are owned by Bell Atlantic on the New Jersey side and by NYNEX on the New York side. Bell Atlantic would have no means of completing a local exchange call from New York City by using its corridor facilities. Bell Atlantic would be in the same position as any other carrier seeking to terminate traffic in New York: it would either build its own facilities or lease the facilities of another.¹

17. Even a cursory assessment of the costs and complications of the switch modifications and programming requirements necessary to provide New York service from existing New Jersey facilities leads me to conclude that placement of a switch in New York, in closer proximity to the customer base, is the only rational and efficient network planning choice.

¹ Mr. Mosca's final assertion, that Bell Atlantic could send its installation and service personnel into New York to serve customers in New York, is not credible. Bell Atlantic locates its installation and repair personnel in close proximity to the customers which they serve. It would be irrational to send trucks and crews across the congested Hudson River crossings and into Manhattan traffic in order to install or repair a line. Bell Atlantic, like other carriers, would likely rely upon the personnel of the incumbent LEC.

18. For these reasons, Mr. Mosca's affidavit is not supported by the facts. It presents a flawed network analysis, based on erroneous assumptions, which lacks basic network engineering support. Mr. Mosca's conclusion that Bell Atlantic is better suited than other carriers to provide competitive local exchange service in New York City, due to network facilities in Northern New Jersey, is, quite simply, wrong.

I hereby declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.


Nancy Sayer

Dated: October 22, 1996



DECLARATION OF MARK T. BRYANT

ATTACHMENT 4

HAI Model Release 5.0a

Inputs Portfolio

HAI Consulting, Inc.

737 29th Street, Suite 200
Boulder, Colorado 80303

January 27, 1998

Default Value:

Switch Maximum Processor Occupancy
0.90

Support: Bell Communications Research, *LATA Switching Systems Generic Requirements*, Section 17: Traffic Capacity and Environment, TR-TSY-000517, Issue 3, March 1989, figure 17.5-1, p. 17-24.

4.1.6. MDF/Protector Investment per Line

Definition: The Main Distribution Frame investment, including protector, required to terminate one line. According to Lucent's Web site, a main distribution frame is "a framework used to cross-connect outside plant cable pairs to central office switching equipment, but also carrier facility equipment such as Office Repeater Bays and SLC[R] Carrier Central Office Terminals. The MDF is usually used to provide protection and test access to the outside plant cable pairs."

Default Value:

MDF/Protector Investment per Line
\$12.00

Support: This price was obtained by Telecom Visions, Inc., a consulting firm that assisted in the preparation of this Input Portfolio, from a major manufacturer of MDF frames and protectors. A review of this price with information available in various proceedings indicates that this is a competitive investment cost.

4.1.7. Analog Line Circuit Offset for DLC Lines, per Line

Definition: The reduction in per line switch investment resulting from the fact that line cards are not required in both the switch and remote terminal for DLC-served lines.

Default Value:

Analog Line Circuit Offset for DLC Lines
\$5.00 per line

Support: This is a HAI estimate, which is used in lieu of forward looking alternatives from public sources or ILECs. It is based on consultations with AT&T and MCI subject matter experts.

4.1.8. Switch Installation Multiplier

Definition: The telephone company investment in switch engineering and installation activities, expressed as a multiplier of the switch investment.

Default Value:

Switch Installation Multiplier
1.10

Support: The 10% factor used in the HAI model was derived based on the following information: Bell Atlantic ONA filing (FCC Docket 92-91) on February 13, 1992, showed a range of engineering factors for the different Bell Atlantic states between .08 and .108. The SBC ONA filing (FCC Docket 92-91) on May 18, 1992, showed a range of engineering and plant labor factors added together between .0879 and .1288. The 10% incremental-based factor is a fairly conservative estimate, given the ranges filed by two RBOCs using traditional ARMIS-based embedded cost factor development.

4.1.9. End Office Switching Investment Constant Term

Definition: The value of the constant ("B") appearing in the function that calculates the per line switching investment as a function of switch line size for an amalgam of host-remote and stand alone switches, expressed separately for BOCs and large independents (ICOs), on the one hand, and for small ICOs, on the other hand. The function is cost per line = $A \ln X + B$, where X is the number of lines.

Default Values:

End Office Switching Investment Constant Term	
BOC & Large ICO	Small ICO
\$242.73	\$416.11

Support: The switching cost surveys were developed using typical per-line prices paid by BOCs, GTE and other independents as reported in the Northern Business Information (NBI) publication, "U.S., Central Office Equipment Market: 1995 Database," compared to switch size and data from the ARMIS 43-07 report.²⁶

4.1.10. End Office Switching Investment Slope Term

Definition: The constant multiplying the log function appearing in the EO switching investment function ("A" in the function shown in parameter 4.1.9.) that calculates the per line switching investment as a function of switch line size for an amalgam of host-remote and stand alone switches. This term is the same for BOCs, large independents, and small independents.

Default Value:

EO Switching Investment Slope Term
-14.922

Support: The switching cost surveys were developed using typical per-line prices paid by BOCs, GTE and other independents as reported in the Northern Business Information (NBI) publication, "U.S., Central

²⁶ Northern Business Information study: *U.S. Central Office Equipment Market – 1995*, McGraw-Hill, New York, 1996.

DECLARATION OF MARK T. BRYANT

ATTACHMENT 5

RECEIVED

JUN 12 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Federal-State Joint Board on)	CC Docket No. 96-45
Universal Service)	
)	
Forward-Looking Mechanism)	CC Docket No. 97-160
For High Cost Support For Non-Rural LECs)	(DA 98-848)

REPLY COMMENTS

BellSouth Corporation, on behalf of itself and its affiliates, (BellSouth) hereby submits its Reply Comments in the above referenced proceeding.

The *Public Notice* provided parties with an opportunity to update the record regarding inputs that would be utilized in conjunction with a forward-looking cost model to calculate the costs of universal service.¹ In addition, the *Public Notice* solicited comments concerning the revenue benchmark that should be used by the Commission to size the federal universal service fund.

BellSouth as a co-sponsor of the Benchmark Cost Proxy Model (BCPM) has advocated that the Commission adopt the BCPM as the forward-looking cost model for the purposes of calculating universal service costs. The record in this proceeding overwhelmingly establishes that the BCPM is superior to the HAI model. There is no need to restate that record. The essential purpose here is to focus on the inputs to be used with a forward-looking cost model.

¹ "Common Carrier Bureau Requests Further Comment on Selected Issues Regarding the Forward-Looking Economic Cost Mechanism for Universal Service Support." *Public Notice*, DA 98-848, released May 4, 1998 ("Public Notice").

ATTACHMENT 1

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Federal-State Joint Board on)	CC Docket No. 96-45
Universal Service)	
)	
Forward-Looking Mechanism)	
for High Cost Support for)	CC Docket No. 97-160
Non-Rural LECs)	(DA 98-848)

POSITION AND RECOMMENDATION OF GEORGETOWN CONSULTING GROUP, INC.
REGARDING APPROPRIATE INPUTS FOR BELLSOUTH STATES
FOR USE IN HAI R5.0a

I. INTRODUCTION

On May 4, 1998 the Commission released a public notice seeking to augment the record on certain issues relating to the creation of a Federal forward-looking economic cost mechanism, including the appropriate input values for that mechanism and the level of the revenue benchmark. This paper focuses primarily on the appropriate input values that should be used in a cost proxy model, in particular for the HAI Model and responds to the Comments of AT&T and MCI, specifically.¹ In so doing, we take cognizance that the Commission noted those parties' arguments for and against specific input values are significantly more persuasive when accompanied by supporting empirical data including the assumptions on which those data are based. Accordingly such information accompanies this paper.

¹ This paper was prepared by Jamshed K. Madan, Michael D. Dirmeier and David C. Newton. A statement of the authors' qualifications is appended to this paper.

