

Hughes Reply Affidavit – Attachment A

McLeodUSA

June 29, 2001

Mr. Dale Hardy Roberts
Missouri Public Service Commission
301 West High Street, Suite 350
Jefferson City, MO 65101

Re: Interconnection Agreement Amendment

Dear Judge Roberts:

On May 23, 2001, McLeodUSA Telecommunications Services, Inc. ("McLeodUSA") filed an Amendment to the Interconnection Agreement - Missouri by and between McLeodUSA and Southwestern Bell Telephone Company ("SWBT"), collectively the "Parties", to include the Appendix DSL as Attachment 25. The Amendment included the following statement on page 1 numeral 6:

- (6) The parties agree that this amendment will become effective immediately upon signature.

In response to the Commission's request, the purpose of this letter is to clarify that it is not the intent of the Parties to question the authority of the Commission or to attempt to circumvent the FTA Section 252(e) approval process. The Parties recognize the Commission's authority to approve or reject the Modification and agree that it will not be effective until approved by this Commission.

The Parties respectfully request expeditious approval of the Modification and apologize for any inconvenience that this may have caused the Commission.

Sincerely,



David R. Conn, Attorney
McLeodUSA Telecommunications Services, Inc.

B

Hughes Reply Affidavit – Attachment B



Missouri Public Service Commission

Commissioner
SHEILA LUMPE
Chair
CONNIE MURRAY
KELVIN L. SIMMONS
STEVE GAW

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Director, Utility Services
DONNA M. KOLLIS
Director, Administration
DALE HARDY ROBERTS
Secretary/Chief Regulatory Law Judge
DANA K. JOYCE
General Counsel

July 23, 2001

Mr. David R. Conn
McLeod USA
6400 C. Street SW
P.O. Box 3177
Cedar Rapids, IA 52406-3177

Dear Mr. Conn:

RE: File No. IA20010045

This correspondence is to advise that the interconnection agreement amendments submitted with your letter of transmittal, a copy of which is enclosed herewith, is being made effective.

A copy of the interconnection agreement amendment, reflecting the filing record of this Commission, is enclosed for your use.

Sincerely,

Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge

DHR/slr

Enclosure

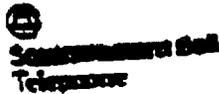
c: O.R. Stanley
SWBT



C



Hughes Reply Affidavit – Attachment C



News Media Report

KC Business Journal

9/25/01

Birch offers residential customers local, long-distance in Southeast

Kansas City-based Birch Telecom has announced that it now offers local and long-distance service to residential customers in the southeastern markets where it serves small to mid-sized businesses. Birch launched residential service in Kansas, Missouri, Oklahoma and Texas earlier in the year.

New residential markets in BellSouth territory:

- Alabama -- Birmingham, Mobile and Montgomery
- Georgia -- Atlanta and Augusta
- North Carolina -- Charlotte/Gastonia and Greensboro/Winston-Salem
- South Carolina -- Charleston, Columbia and Greenville/Spartanburg
- Tennessee -- Chattanooga, Knoxville, Memphis and Nashville

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

RECEIVED

OCT - 4 2001

In the Matter of)
)
Joint Application by SBC Communications)
Inc., Southwestern Bell Telephone Company,)
and Southwestern Bell Communications) CC Docket No. 01-194
Services, Inc. d/b/a Southwestern Bell Long)
Distance for Provision of In-Region,)
InterLATA Services in Arkansas and Missouri)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

REPLY AFFIDAVIT OF DALE LEHMAN

TABLE OF CONTENTS

SUBJECT	PARAGRAPH
QUALIFICATIONS AND PURPOSE OF TESTIMONY	1
THE AT&T MARGIN ANALYSIS IS MISLEADING AND INCORRECT	7
AT&T'S CROSS-STATE COMPARISON OF UNE RATES IS FLAWED	22
AT&T'S CHARACTERIZATION OF LONG-RUN FORWARD-LOOKING COSTS IS INCORRECT	24
CONCLUSION	27

I. QUALIFICATIONS AND PURPOSE OF TESTIMONY

1. My name is Dale E. Lehman. I am Associate Professor of Economics at Fort Lewis College in Durango, Colorado. I have a B.A. in Economics from the State University of New York at Stony Brook and an M.A. and Ph.D in Economics from the University of Rochester. I have an extensive research and consulting background in the telecommunications industry. In addition, I have taught at a number of universities, been

a Member of Technical Staff at Bellcore and Senior Economist at Southwestern Bell Telephone Company. My current curriculum vita is contained in Attachment A.

2. The purpose of my affidavit is to address some economic aspects of the Declarations of Mr. Michael Lieberman, Mr. Michael Baranowski, and Dr. Richard Clarke, all on behalf of AT&T Corp. I correct the purported “margin analysis” presented by Michael R. Lieberman and the related profitability arguments presented by Dr. Richard Clarke. In addition, I discuss Mr. Lieberman’s flawed comparison of UNE costs across different states and Mr. Baranowski’s erroneous interpretation of TELRIC principles.

3. The AT&T margin analysis is both misleading and incorrect. It argues, without proper foundation, that competitive entry in Missouri will generally be precluded due to excessive UNE rates. As I demonstrate, however, a correct analysis reveals that significant entry potential exists at current UNE rates. Further, to the extent that entry is precluded for particular customers in particular locations, the problem results from retail rates, not wholesale (UNE) rates. Finally, the implication that decreases in UNE rates would lead to increased competitive entry is inconsistent with the facts.

4. Mr. Clarke’s demonstration that a company’s profitability is dependent on its level of costs is correct but irrelevant. Mr. Clarke does not substantiate any inflation of costs by SWBT. Moreover, his analysis of how inflated costs would hurt the profits of firms in the Standard & Poor’s 500 Index (S&P 500) is flawed and misleading. Firm profits are not as fragile as he suggests and, in any case, profits of the S&P 500 are not relevant to this proceeding. Moreover, it is not just overstatement of UNE costs that

would affect profits: understatement of UNE costs will have an equally adverse impact on the profits of facilities-based providers (CLEC and ILEC alike).

5. Mr. Lieberman's comparison of UNE rates across states is based on an inappropriate use of the FCC's HCPM model. He ignores the absolute level of costs that the HCPM produces and focuses solely on the relative cost estimates across states. A closer examination of the relative cost estimates, however, casts doubt on the accuracy of the HCPM for this purpose. For a more detailed discussion, see the Reply Affidavit of Thomas Makarewicz, filed concurrently herewith.

6. Mr. Baranowski misconstrues the meaning of TELRIC. He takes the potentially useful device of estimating costs of a reconstructed network as a mandate to instantaneously reconstruct the network using different technologies. His interpretation is at odds with economic theory and would produce unachievable cost levels. Thus, his associated criticisms of SBC cost models are off the mark.

II. THE AT&T MARGIN ANALYSIS IS MISLEADING AND INCORRECT.

7. The Lieberman margin analysis is flawed because it relies on *average* rather than *marginal* data. Entry decisions are made on the margin, *i.e.*, what additional revenues are available at what additional cost by serving a customer or group of customers? Mr. Lieberman uses average revenues and costs in his margin analysis. He uses penetration rates for Caller ID, Call Waiting, and Call Forwarding of 44%, 39%, and 19%, respectively, in order to derive an *average* revenue for these services. However, CLEC entry need not serve every customer. If a CLEC were to target customers that use this set of three features then they would receive 100% of the retail price for these

services. If we view entry at the margin for a customer subscribing to these three services, Mr. Lieberman’s average revenue for these services of \$7.06 (\$3.76 + \$2.70 + \$0.60: Lieberman Exhibit 1) represents a marginal revenue of \$20.95 for each customer (using the retail price of “the Works,” a package of these features). Thus, he has understated the revenue potential by \$13.89 for each such customer. This simple adjustment alone makes all of the resulting margins positive, as shown in the following table:¹

Monthly Profit Margins for CLEC Targeted Entry

	Zone 1	Zone 2	Zone 3	Zone 4
Lieberman’s original “margin”	\$6.97	\$2.51	\$(3.59)	\$(0.03)
Margin analysis for a customer with “the Works”	\$20.86	\$16.40	\$10.30	\$13.86

Note that this table omits above-average access revenues, full MCA revenues (for subscribers to these services), and any bundled services that may be sold to the customer.

8. This misuse of averages is repeated in Mr. Lieberman’s treatment of access revenues. The number is inappropriately constant across customers. Missouri intrastate access charges average approximately \$0.06/minute; thus, targeting higher intrastate interLATA usage customers provides additional profit margin.²

¹ This understatement of revenues available goes farther. Also omitted are contributions from information services (e.g., voice mail), directory assistance services, any bundled services that may accompany local exchange service, and intraLATA toll services.

² The Missouri Public Service Commission reports a composite rate of \$.0599 per minute. See Missouri Public Service Commission, at <http://168.166.4.147/teleco/access.htm>.

9. Mr. Lieberman has overlooked what Mr. Clarke has readily observed: “In reality, however, all customer segments do not offer identical profit margins.”³ Mr. Clarke uses that observation to demonstrate that the decision whether or not to serve particular customer segments may depend on the level of costs. In his examples, a CLEC may choose not to serve residential and/or rural customers. Mr. Clarke’s examples, while correct, ignore two important facts. First, CLECs always have the options of using facilities-based entry or total service resale rather than relying on UNEs. Second, his examples apply equally to SWBT as to CLECs. That is, the customers that the CLEC would not find profitable to serve with UNEs are precisely the customers that SWBT would not find profitable to serve – the UNE prices represent the forward-looking cost for SWBT to serve these customers.

10. Mr. Lieberman has similarly reflected an *average* revenue potential associated with extended area services (MCA). The optional MCA services range in price from \$11.45/month to \$32.50/month; thus, targeting such customers adds considerably to the potential profit *margin*.

11. These conceptual errors result in a misrepresentation of the profit potential for competitive entry.⁴ It is important to remember that Mr. Lieberman’s analysis contains two errors: first, his average revenue potential is too low; and second, his use of average (rather than marginal) revenue data is inappropriate in a margin analysis. The extent of the errors is potentially large, in contrast to Mr. Lieberman’s confidence that his analysis

³ AT&T’s Clarke Decl., ¶ 21 (attached as Ex. 1 to AT&T’s Baranowski Decl.).

⁴ Some of these errors may account for the significant difference between Mr. Lieberman’s statewide average revenue estimate of \$26.69/month and a recent NRRI report citing average revenues in Missouri of \$33.75/month. See B.J. Gregg, Director, Consumer Advocate Division, Public Service Commission of West Virginia, A Survey of Unbundled Network Element Prices in the United States, Table 2 (July 1, 2001).

“paints an accurate picture of the barrier that SWBT’s UNE prices in Missouri pose to residential competition in that state.”⁵

12. A more accurate representation of profit margins makes entry considerably more attractive.⁶ Competitive entry can be quite profitable for customers that subscribe to vertical features.⁷ Additional toll usage, ISP minutes, and other associated services would certainly make the entry picture more attractive. Competitive entry may remain unprofitable for customers in rural areas, with few vertical features, who make many minutes of local calls and few minutes of long-distance calls. For that matter, it is unprofitable for anybody, including SWBT, to serve these customers.

13. To the extent that the profit margin for potential entry is negative, Mr. Lieberman incorrectly concludes that these negative margins are “because SWBT’s Missouri UNE rates are far too high to support mass-market UNE-based retail offerings.”⁸ The margin, however, is the difference between the wholesale platform price and the retail price – and it is the latter that is responsible for the negative margins that exist. For example, Zone 3 loop costs are 55% *higher* than Zone 1 loop costs, but Zone 3 retail prices are *lower* than Zone 1 retail prices. Clearly, these retail prices do not mirror

⁵ AT&T’s Lieberman Decl., ¶ 6.

⁶ Mr. Lieberman cites estimates of internal costs in excess of \$10/line/month. See AT&T’s Lieberman Decl., ¶ 19. These costs should be subject to the same philosophy espoused by AT&T in virtually every regulatory proceeding since the Act. They should represent the costs of an *efficient* entrant. Further, this estimate is also an inappropriate *average*. Many marketing costs (*e.g.*, advertising) are not sensitive to the number of local customers, so that the *marginal* contribution of each customer will be greater than indicated.

⁷ For example, Z-Tel offers a \$49.99 service in Missouri clearly aimed at such higher margin customers. See Z-Tel, Z-Tel Home Edition for Missouri, at www.ztelonline.com/pricing/states/state_missouri.jsp. The package includes voicemail, call forwarding, call waiting, speed calling, 3-way calling, caller ID, unlimited local calling, and 100 minutes of intra or interstate long-distance calls, among other features. There is also a \$34.99/month package with fewer options.

⁸ AT&T’s Lieberman Decl., ¶ 2.

the underlying cost patterns. This point was noted by Dr. Clarke: “Indeed, even though urban customers are less costly to serve than rural customers, it is common for rates in urban retail tariffs to *exceed* those in tariffs for rural service.”⁹ All that Mr. Lieberman’s margin analysis shows is that there is little or no profit potential for CLECs seeking to serve rural customers that make mostly local calls and do not order vertical features. The fact that UNE prices are not competitive in this sub-market is a reflection of historic retail prices and the cost-based, deaveraged UNE prices.

14. Mr. Lieberman’s confusion for the cause of any negative margins is compounded by his assertion that SWBT “could rebalance its retail rates.”¹⁰ As discussed in Mr. Hughes Reply Affidavit, SWBT does not have the ability to unilaterally rebalance its retail rates. It is the CLEC that has this ability, not SWBT. In fact, even with negative margins for some customers, a CLEC would profit in Mr. Lieberman’s “mass-market UNE-based retail offerings.”¹¹ The negative margins are compensated for by the positive margins on other customers. That the CLEC would choose *not* to serve all customers is a reflection of the asymmetric *requirement* that SWBT be willing to serve all customers, profitable ones and unprofitable ones alike. Mr. Lieberman confuses the existence of negative margins for some customers with the fact that CLECs are not required to, and generally try not to, serve all customers.

15. This relates to a more fundamental misunderstanding by Mr. Lieberman of the role of UNEs. He appears to believe that UNE prices must provide for ubiquitous competitive entry. The Telecommunications Act of 1996 does not mandate that result.

⁹ AT&T’s Clarke Decl., fn. 14 (emphasis in original).

¹⁰ AT&T’s Lieberman Decl., ¶ 20.

¹¹ *Id.*, ¶ 2.

In fact, the Act provides for three forms of entry – total service resale, facilities-based entry with interconnection, and entry using (all or some) UNEs. The fact that UNEs are not competitive for all customers in all locations reflects the historical practice of supporting rural, residential, and low-volume rates. Entry in the other two forms are still options. Further, the Act did not make regulators responsible for ensuring CLEC profits, as was pointed out by the FCC in their Kansas/Oklahoma decision:

“The Act requires that we review whether the rates are cost-based, not whether a competitor can make a profit by entering the market. Were we to focus on profitability, we would have to consider the level of a state’s retail rates, something which is within the state’s jurisdictional authority, not the Commission’s.”¹²

16. As a final matter, Mr. Lieberman’s comparison of UNE rates across a variety of states implicitly assumes that lower UNE prices would facilitate competitive entry. He offers no evidence to support this contention. He also ignores that there is more than one form of competitive entry. Lower UNE prices make facilities-based entry more unattractive. The total effect of lower UNE prices on competitive entry is not clear.

17. Dr. Clarke’s analysis is another variation on the negative margin theme. Rather than providing any demonstration that the margins for UNE-based entry are negative, he purportedly shows how an overstatement of costs would affect the profitability of an average S&P 500 firm. Given that he believes that CLECs are in a disadvantaged position relative to the average S&P 500 firm, it would follow that any

¹² Memorandum Opinion and Order, Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma, CC Docket No. 00-217, ¶ 92 (rel. Jan. 22, 2001) (“Kansas/Oklahoma Order”). The Commission reiterated this position in Memorandum Opinion and Order, Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions) And Verizon Global Networks Inc., For Authorization To Provide In-Region, InterLATA Services in Massachusetts, CC Docket No. 01-9, ¶ 41 (rel. Apr. 16, 2001).

overstatement of UNE costs would have an even more severe impact on CLEC profits. This argument is true, but irrelevant to this proceeding. It is also misleading, for a number of reasons.

18. Dr. Clarke provides no evidence that UNE costs are overstated (other AT&T affiants claim to, but that is the subject of other SBC affidavits). He provides no argument for the relevance of the average S&P 500 firm to this proceeding, other than saying their “financial data are easily available.”¹³ He provides data for one point in time (year-end 1999), with no reference to the time period covered by the earnings data and no evidence concerning how typical this one data point is. Given these caveats, he then demonstrates how reductions in net earnings (varying from 0% to 20%) would impact a number of measures of profitability for the average S&P 500 firm. It is undoubtedly true that declines in net revenues will decrease profitability, but this is hardly a revelation. Presumably, his point is that “[e]ven small overstatements in these input prices almost certainly will ensure that CLECs will not enter (or will exit) the local exchange markets, and/or that very large segments of customers will be denied the benefits of competition.”¹⁴ His analysis, however, does not support this more precise conclusion.

19. While Dr. Clarke does provide a number of profitability measures, he neglects to look at stock prices at all. Some firms in the S&P 500 may have had relatively low earnings at year-end 1999 (actually, it must be measured over some time period – which he has not provided), their stock prices may have behaved differently. Stock prices were near their peak at year-end 1999 and investors do not base their decisions solely on earnings measures. So, Dr. Clarke’s measures of profitability are

¹³ AT&T’s Clarke Decl., ¶ 11.

¹⁴ *Id.*, ¶ 27.

narrow. His analysis of these measures is also flawed. He provides several before-tax and after-tax measures of earnings. A decline in net earnings of 20% leads to roughly a 20% reduction in each of his before and after-tax measures. See AT&T's Clarke Decl., Table 1. However, a 20% decline in net revenues would result from a 30% increase in costs (under his assumption that 2/3 of the firm's costs are overstated). These costs are tax deductible, so the after-tax earnings should decline far less than the before-tax earnings – but his table does not show this. Something is amiss. It would appear that he has ignored the tax implications of cost increases.

20. This reflects a deeper problem with his analysis. Firms have options and make adjustments. A 20% decline in net revenue should certainly cause a firm to make adjustments. CLECs also have entry options. If UNE prices are overstated, which they are not, then they will make adjustments. Dr. Clarke's analysis could just as well have focused on a facilities-based CLEC. Any *understatement* of UNE prices would lead to a corresponding decrease in net revenues for the facilities-based provider. The facilities-based CLEC's profitability would decline as a result. Dr. Clarke's table can be used (after correction) to demonstrate the extent of this effect. In other words, his analysis adds nothing. Any over- or under-statement of UNE costs will impact somebody's profitability. For that matter, an understatement of UNE costs will adversely affect SBC profitability. And, Dr. Clarke's table could be used to examine that impact.

21. Dr. Clarke's analysis only serves to show that cost changes will impact profitability. True, but irrelevant. This proceeding requires that prices be based on true forward-looking costs. Determining which firm's profits are impacted, and by how much, is not required by the Telecommunications Act of 1996.

III. AT&T'S CROSS-STATE COMPARISON OF UNE RATES IS FLAWED

22. Mr. Lieberman attempts to judge the reasonableness of the Missouri UNE rates by adapting the FCC's hybrid cost proxy model (HCPM). Z-TEL and Worldcom provide their own versions of such an analysis. Mr. Makarewicz's Reply Affidavit considers the differing and inappropriate uses of the HCPM in detail. Rather than make any adjustments to the model I note the following: if the HCPM were to be relied on, it would result in higher UNE prices in both Missouri and Arkansas (even using the questionable and conflicting adjustments that various parties make to the HCPM). So, the HCPM's value, if it has value for considering UNE prices, lies in its relative ranking of the states. I examined the ranking of states by HCPM loop costs, by 1999 embedded loop costs, and by the average UNE loop cost in each state. I consider only RBOC jurisdictions. The data is attached in Attachment B. The average monthly HCPM loop cost is \$21.99, average embedded cost is \$20.41, and the average UNE loop rate is \$16.52.¹⁵ Among the states, embedded costs range from \$5.62 per month above the HCPM to \$9.10 per month *lower* than the HCPM. In fact, 34 out of the 49 jurisdictions show embedded costs that are *less than* the HCPM results. This should caution against the ability of the HCPM to accurately set prices.

23. Statistical tests reveal that the rankings of states by all three measures are not independent and that there is a significant statistical correlation between the three measures.¹⁶ This confirms that the HCPM can be used to inform rankings of states.

¹⁵ These are raw averages across the 49 RBOC jurisdictions. Each state average is a weighted average of costs or rates in that state.

¹⁶ The rankings were tested using Spearman's Rho, Kendall's Tau, and Hoeffding's D: all three measures reveal that there is a statistically significant association between the rankings. The correlation between embedded cost and HCPM costs is .69; between the UNE rate and embedded cost is .58; and between the UNE rate and HCPM costs is .52; all are statistically significant.

However, the large differences between measures also casts doubt on the ability to use the HCPM, *by itself*, for any precise measurement of costs. The next table shows the ranking of the states in this proceeding and 271-approved states (except for Verizon-CT) using the three measures:

Ranking of State Loop Costs/Rates (1=lowest, 49=highest)

State	UNE rate rank	HCPM rank	Embedded cost rank
Arkansas	11	41	47
Missouri	22	28	23
Texas	15	11	31
New York	18	2	17
Massachusetts	23	5	7
Pennsylvania	14	15	12
Oklahoma	24	32	24
Kansas	12	26	34

Note that Arkansas and Missouri UNE rate ranks are each lower than both cost ranks. On the other hand, New York and Massachusetts UNE rate ranks are each higher than both cost ranks. Moving beyond these ranks to the quantitative cost differences is unwarranted. It is impossible to use the HCPM results alone to make any sense out of the pattern of 271 approvals.¹⁷ The rankings do reveal, however, that Arkansas and Missouri UNE loop rates are reasonable relative to other 271-approved states.

¹⁷ For example, note that the HCPM yields a higher loop cost estimate for TX than for NY, yet NY's UNE loop rate is higher than that for TX. Both states have received 271 approval – based on a careful examination of their TELRIC costs, not on the basis of the HCPM.

IV. AT&T'S CHARACTERIZATION OF LONG-RUN FORWARD-LOOKING COSTS IS INCORRECT

24. Mr. Baranowski cites TELRIC as requiring a “flash cut” of network investments.¹⁸ He confuses the economic requirements of a long-run cost study with an erroneous belief that long-run efficient costs require an instantaneous reproduction of the network. The latter can be a useful device for estimating forward-looking costs, but it must be used with care since it is an abstraction from actual network deployments and costs. Mr. Baranowski confuses two key economic concepts: the long-run and dynamic costing.

25. The long-run means that all inputs may be varied (in quantity) and that all prior contractual arrangements (*e.g.*, labor contracts) may be varied. It does not mean that technology can be changed; in fact, long-run costs preclude changes in technology, as illustrated in the following two excerpts:

“[I]t should be emphasized that cost curves are generally drawn under the assumption of constant factor prices and a constant technology.”¹⁹

“When we speak of the long run, we may imagine that such research requires data for a given plant or firm over a considerable interval of time, so that changes in capacity can be observed. But even if such data are available, *it is also important that technology is kept constant over this time period.*”²⁰

Many economics texts are not this specific, and only speak of the long-run as the period of time in which all inputs may be varied. The point is that long-run costs were never

¹⁸ See AT&T's Baranowski Decl., ¶ 58. His incorrect characterization of TELRIC also undermines his claims that loop conditioning charges violate TELRIC (¶¶ 51-57) for the same reasons I explain above.

¹⁹ C. E. Ferguson & S. Charles Maurice, Economic Analysis, at 153 (1970) (emphasis in original).

²⁰ P.G. Keat and P.K.Y. Young, Managerial Economics, at 247 (2000) (emphasis added).

intended to represent infeasible and/or inefficient scenarios whereby facilities are replaced instantaneously as new technology becomes available. If that were the case, then long-run costs would never be compensatory in the presence of technological progress:

“For the operator to break even overall, a markup on access corresponding to the risk of technological progress must be charged as long as users do not have an alternative to the operator’s equipment. This markup on access needed to compensate the owner for the one-sided option enjoyed by the user is similar to the premium received by an insurer when the insuree does not have an accident. So far, so good. But suppose now that the regulator attempts to reduce even slightly the markup on access. Then no investment takes place until uncertainty is resolved, as the markup is no longer sufficient to offset the users’ option value. The users’ one-sided option combined with the regulator’s pressure on access charges leads potential equipment owners to exercise their option to wait to invest in facilities.” (these references to ‘access’ refer generically to access to essential facilities).²¹

For example, if TELRIC meant that prices should reflect the lowest cost technology at each point of time, then leasing personal computers at TELRIC would require that the lease prices constantly decline, thereby never recovering the initial cost of the computer. Either the initial price needs to be raised above this TELRIC level, or TELRIC must be understood to represent the level towards which prices will move.

26. Mr. Baranowski also confuses costs incurred in a dynamic setting (such as network deployment) and those of a static setting that ignores the need to place facilities in advance of demand as well as the continuous technological change that requires the network to be a mixture of vintages of facilities. Static costs can at best approximate truly dynamic costs but will generally be unattainably lower than dynamic costs (since

²¹ J.J. Laffont and J. Tirole, Competition in Telecommunications, at 157 (2000).

many of the real costs associated with dynamic network deployment are omitted in a static analysis). Consider the following classic references:

“The major difference between the static and dynamic cases is in the determination of LRMC [long-run marginal cost]. In the dynamic case this requires explicit recognition of initial conditions and the time path of adjustment of costs of maintaining and accumulating capital stock.”²²

“Nevertheless, there are certain limitations about the concepts of the short-run and the long-run which cause us not to favour them (Alchian, 1959, Turvey, 1969). First, in practice, no factor is completely fixed; it is variable at a price, and whether that price is worth paying will surely depend on the benefits of doing so. Thus one might conceive of a whole range of short-run functions corresponding to any given situation, depending on the assumptions one makes about fixity of different factors. Second, the long-run cost function does not embody the set of alternatives available to the firm at any time, but is merely a set of alternatives which would be available if things were different (specifically, if the firm had no existing commitments). Finally, this approach does not provide a mechanism for analysing [*sic*] the process by which a firm actually changes its fixed factors, depending on the cost of change, the time it will take, the benefits of doing so etc. In other words, the notion of short-run and long-run is perhaps not the most useful device for analysing [*sic*] the problems of change over time.”²³

In a dynamic setting, static costs must be used with care. Mr. Baranowski mistakenly believes that the long-run assumption in economics *requires* that dynamic costs be ignored. It does not. At best, static costs can be useful construct for approximating forward-looking dynamic costs. However, they can represent unachievable costs if carelessly applied. Mr. Baranowski’s blanket use of a “flash-cut” of network investment represents such a misapplication.

²² M.A. Crew and P.R. Kleindorfer, Public Utility Economics, at 115 (1979).

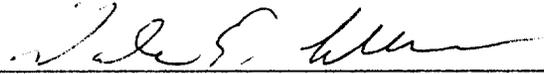
²³ S.C. Littlechild, Elements of Telecommunications Economics, at 72 (1979). It should be noted that Dr. Littlechild was the author in 1983 of the original price cap regulation plan adopted in Great Britain and became the director general of electricity supply (DGES), the British regulator of the electricity industry.

CONCLUSION

27. Mr. Baranowski claims that SBC's UNE prices in Arkansas and Missouri violate TELRIC principles, but this results from his erroneous view of long-run dynamic economic cost principles. Mr. Lieberman then erroneously characterizes CLEC entry as unprofitable at these UNE rates. Not only is the matter of CLEC profitability not relevant to the requirements of the Act, but SBC's UNE rates in Arkansas and Missouri provide significant opportunities for profitable entry. Dr. Clarke shows that relatively small overstatements of costs can have dramatic consequences for a firm's profitability. His demonstration is flawed and irrelevant. Inaccurate cost measurement can impact somebody's profitability, but this is true for underestimates of cost as well as overestimates. This brings us back to SBC's UNE rates and SBC's TELRIC costs. Mr. Lieberman and Dr. Clarke's affidavits have added nothing to the examination of these, and Mr. Baranowski's affidavit relies on erroneous economic reasoning.

This concludes my affidavit.

I state under penalty of perjury that the foregoing is true and correct.
Executed on October 2, 2001.



Dale E. Lehman

STATE OF COLORADO)
COUNTY OF LA PLATA)

Subscribed and sworn to before me on this 2nd day of October 2001.


Notary Public

BARBARA J PIERCE
NOTARY PUBLIC
STATE OF COLORADO

Lehman AR Reply Affidavit – Attachment A

Curriculum Vitae

DALE EDWARD LEHMAN

September, 2001

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EDUCATION

State University of New York at Stony Brook, B.A.
cum laude (Economics), 1972, New York State Regents
Scholarship 1968-1972, Summer Intern, Suffolk County
Human Rights Commission, 1971.

University of Rochester, M.A. 1975, Ph.D. 1981
University Fellowship, 1972-1975
Research Assistantship, Fall, 1974
Teaching Assistantship, Spring, 1975
Ph.D. Dissertation: "Technology and Optimal Exhaustible Resource Depletion,"
supervised by Hersh Shefrin.

BOOKS

The Telecommunications Act of 1996: The "Costs" of Managed Competition with
Dennis L. Weisman, kluwer academic publishers (publication: September, 2000).

PUBLICATIONS:

"The Political Economy of Price Cap Regulation," with D.L. Weisman, *Review of Industrial Organization*, 16, 343-356, 2000..

"A Yardstick Approach to Optimal Access Pricing," with D.L. Weisman, chapter 12 in *Telecommunications Transformation: Technology, Strategy and Policy*, edited by E. Bohlin and S.L. Levin, IOS Press, 1998, pp.175-89.

"Essentiality, Efficiency, and the Efficient Component Pricing Rule," with Alexander Larson, *Journal of Regulatory Economics*, 12, 71-80, 1997.

"Telephone Pools and Economic Incentives," with Dennis Weisman, *Journal of Regulatory Economics*, 10, 2 123-147, 1996.

"Access Charges For Private Networks Interconnecting With Public Systems," with Dennis Weisman, in *Private Networks and Public Objectives*, edited by Eli Noam and A. Nishuilleabhain, Elsevier, 1996.

"The Industry that Cried Wolf - Bypass: Past, Present, and Future," with D.L. Weisman, *Public Utilities Fortnightly*, July 1, 1993.

"Equity and Efficiency Through Local Measured Service Revisited," with I. Memon, *Southern Business Review*, 1994, 20, 1, 35-42.

"Avoiding Trickle-Down Infrastructures," with H. Dordick, in *The Citizen's Right to Know: Media, Democracy and the Information Highway*, the Freedom Forum, 1993.

"Option Value, Telecommunications Demand and Policy" with D. Kridel and D.L. Weisman, in *Information Economics and Policy*, Elsevier, June 1993. Paper nominated for the 1994 Communication Policy Research Award, the Donald McGannon Communication Research Center, Fordham University.

"A Theory of Point to Point Long Distance Demand," with Alex Larson and Dennis Weisman, in *Telecommunications Demand Modeling*, volume 156 of Contributions to Economic Analysis, North Holland, 1990.

"Instrument Effects and Stochastic Dominance," with M. Bradley, *Insurance: Mathematics and Economics*, 7,185-191, 1988.

"Shopping at Tomorrow's Telecommunications Gateways," with A. de Fontenay, E. Ogonek, and M. Shugard, *Exchange*, 4, 6, 24-28, 1988.

"A Behavioral Model of Timber Supply," with Wendy Max, *Journal of Environmental Economics and Management*, 15, 71-86, 1988.

"Belated Information and the Market for New Services," with L. Wilde, *Annales des Telecommunications*, 42, 11-12, 693-698, 1987.

"Efficient Pricing of Local Telephone Service," with M. Koschat and E. Sieff, and "Unilateral Pricing of Telecommunications Traffic," with A. Larson and T. Appelbe, both in *Forum 87*, proceedings of the Telecom 87 conference sponsored by the International Telecommunications Society.

"Comparative Equilibrium versus Comparative Statics," with M. Bradley, *Canadian Journal of Economics*, 19, 3, 526-538, 1986.

"Instrument Dependent Randomness," with Michael Bradley, *Journal of Economics*, 46,1, Spring 1986, 17-29.

"Conservation and OPEC Pricing," *The Journal of Energy and Development*, Volume III, Number 2, Fall, 1981.

"A Reexamination of the Crude Oil Windfall Profit Tax," *The Natural Resources Journal*, 21, 683-690, 1981.

"Doomsday Reconsidered," *Resources and Energy*, Vol. III, No. 4, December, 1981, 337-357.

WORKING PAPERS, PRESENTATIONS, ETC.:

Intercarrier Compensation Panel Presentation, NTCA Accounting and Finance conference, Denver, September 2001.

"Regulatory Behavior and Competitive Entry," with James Eisner, Rutgers University Conference on Public Utility Regulation, June 2001.

"The Cost of Competition," presentation at the Alaska Telephone Association meeting, June 2001.

"Competition: Friend or Foe?" in *Rural Telecommunications*, March/April 2001, at www.ruraltelecom.org/marapr01.

The Cost of Broadband Deployment, panel presentation at the 2001 NARUC winter meetings, for the Joint Committee on Advanced Telecommunications Services.

The Cost of Competition, white paper for the National Telephone Cooperative Association, December 2000 (available at www.ntca.org)

Who Will Serve Rural America? white paper for the National Telephone Cooperative Association, July 2000.

"The 1996 Telecom Act: Deregulation or Managed Competition," joint conference of The American Enterprise Institute and the USC Center for Communication Law & Policy, Los Angeles and Washington DC, April 2000.

"The Telecommunications Act of 1996: the 'Cost' of Managed Competition," American Enterprise Institute, September, 1999.

"Cost Modeling Issues," presentation at Controlling and Allocating Costs in Telecommunications conference, Institute for International Research, January 1999.

"Back to the Future," presented at the Rutgers University Conference on Public Utility Regulation, May 1998.

"The Telecommunications Act of 1996: Jurisdiction, Coordination, and Rent Redistribution," presented at the Rutgers University Conference on Public Utility Regulation, May 1997.

"A Yardstick Approach to Optimal Access Pricing," to be presented at the Global Networking, '97 joint conference of ITS and ICC, June, 1997.

"From Fully Distributed Costs to Fully Manipulable Costs," presentation on "The States -- Moving Beyond Interim Pricing" panel at "Interconnection...and the Competitive Checklist" conference of *Telecommunications Reports*, April 1997.

"Price Rigidities in Communications Networks," presented at the Rutgers University Conference on Public Utility Regulation, May 1996.

"Internet Information Services" at the 2nd Annual Aspen Internet Festival, October 1995.

"Electronic Commerce" presentation at Society and the Future of Computing, USACM, June 1995.

"The Future of Document Delivery" workshop for the Association of College Research Libraries, Pittsburgh, March 1995. Also, keynote address for the Colorado Interlibrary Loan Association, June, 1995.

"Telephone Pools and Economic Incentives," Rutgers University Conference on Public Utility Regulations, Newport, May, 1995.

"Rural Telecommunications Issues," presented at the National Association of State Utility Consumer Advocates, June 1994, Santa Fe.

"Avoiding Trickle-Down Infrastructures" presented at the 1993 International

Communication Association Conference.

"Local Exchange Competition and the Information Infrastructure," workshop for the Public Utilities Research Center, University of Florida, 1992.

"Access Charges for Private Networks Interconnecting with Public Networks," presented at Columbia Institute for Tele-information, 1991, and the Tele-communications Policy Research Conference, 1992.

"The Gateway meets Deregulation: In Search of a Policy," Telecommunications Costing and Pricing Workshop, Public Utilities Research Center, University of Florida, 1991.

"Option Value and Telecommunications Demand," with D. Weisman and D. Kridel, presented at the Bellcore - Bell Canada Demand Modeling Conference, 1990.

Participation on the Telecommunications Technology and Usage Projection Panel, sponsored by US West and the University of Colorado Center for Economic Analysis, 1989.

"Mass Market Information Services: The Getaway Meets Deregulation," presentation at the First Annual International Telecommunications Symposium, "International Telecommunications Futures," University of Nebraska, 1989.

"A View From Inside the Outside: A Look at How Telecommunications Will Change the Future of Libraries," *Colorado Libraries*, 15, 1, 19-22, 1989.

"Mass Market Information Services," presented at the Kennedy School of Government Telecommunications Policy Series, and at the 1988 International Telecommunications Society Conference.

"The External Costs of Bypass," with D.L. Weisman, presented at the TS Cost Recovery Conference, Bellcore, Seattle, July, 1986.

"Asymmetric Pricing and Arbitrage," with A.C. Larson, presented at the 6th International Conference on Forecasting and Analysis for Business Planning in the Information Age, Tokyo, December, 1986.

"A General Theory of Point-to-Point Long Distance Demand," with A.C. Larson and D.L. Weisman, presented at the 1984 Bell Communications Research Conference and at the Telecommunications Demand Modeling Conference in New Orleans, October, 1985.

"Instrument Dependent Randomness," with M.G. Bradley, Discussion Paper No. 169, University of Colorado, Boulder, 1983. Paper presented at the 1983 Econometrics

Society Winter Meetings.

Reader Response, *Natural Resources Journal*, 22, 275-276, 1982.

"Doomsday Reconsidered," presented to the Econometrics Society European Meetings, Geneva, Switzerland, 1978.

"Exhaustible Resource Depletion Under Uncertainty," Working Paper #77-1, Saint Mary's University, 1977 - also presented at the Western Economics Association Meetings, June 1977 and in the William Bennett Munro Memorial Seminar and Lecture Series, California Institute of Technology, 1977.

EXPERIENCE

- 1985 - present Associate Professor Economics, Fort Lewis College, Durango, Colorado (on leave 1986-88, 1989-91, 1996-1997).
- 1996- 1997 Senior Economist, Southwestern Bell Telephone Company
- 1989 - 1991 Visiting Associate Professor of Economics, Villanova University.
- 1986 - 1988 Member of Technical Staff, Bell Communications Research. - Responsible foreconomic analysis of strategic planning and public policy issues associated with local telephone pricing and information services market development.
- 1983 - 1985 Assistant Professor of Economics, Fort Lewis College.
- 1982 Visiting Assistant Professor, The Economics Institute, University of Colorado, Boulder.
- 1981 - 1983 Assistant Professor of Economics, University of Colorado.
- 1980 - 1981 Visiting Professor of Economics, Willamette University, Salem, Oregon.
- 1979 - 1980 Lecturer in Economics, California Polytechnic State University, San Luis Obispo, California.
- 1977 - 1979 Assistant Professor of Economics, University of Santa Clara
- 1976 - 1977 Lecturer in Economics, Saint Mary's University, Halifax, Nova Scotia, Canada.
- 1975 - 1976 Lecturer, Nazareth College of Rochester (part time).
- Fall - 1975 Taught Introductory Economics at the Attica Correctional Facility Inmate Education Program, Genesee Community College.
- 1974 - 1975 Assistant Lecturer, University of Rochester, (part time)

OTHER EXPERIENCE

- 1994 - 1996 Faculty representative to the State Board of Agriculture (governing body for Fort Lewis College and Colorado State University System).
- 1989 - 1992 Principal, TELA Group (with Brian Savin, Peter Temin, Joseph Weber)

Technical Reviewer for environmental cost and benefit valuation studies, Bonneville Power Administration, 1985 - 1986.

Principal Investigator for Energy and Resource Consultants, Inc. on "A Review and Analysis of Alternative Methods for Valuing Damage to Natural Resources," prepared for the American Petroleum Institute, 1985. Acid Rain Deposition Contract, Energy and Resource Consultants, Inc., 1983-1984, contributing consultant.

"Regulatory Impact Analysis: "Cope Project," for Abt Associates Incorporated, 1981, contributing consultant.

TESTIMONY

Illinois Commerce Commission Nos. 96-0146 through 96-0155 joint petition for suspension of rural carriers of Section 251(b) and (c) of the Federal Telecommunications Act of 1996, on behalf of 10 rural telephone companies.

Kansas Corporation Commission, Docket Number 97-AT&T-290-ARB in SWBT-AT&T arbitration, on behalf of Southwestern Bell Telephone Company, January 1997.

Arkansas Public Service Commission, Docket Number 96-395-U in SWBT-AT&T arbitration, on behalf of Southwestern Bell Telephone Company, January 1997.

Kansas Corporation Commission, Docket Number 97-SCCC-149-GIT regarding cost model methodology on behalf of Southwestern Bell Telephone Company, March 1997.

Public Utility Commission of Texas, Docket Nos. 16189, 16196, 16226, 16285, 16290, reply comments to AT&T/MCI Comments in the Mega Arbitration regarding Southwestern Bell Telephone Company cost models, May 1997.

Oklahoma Corporation Commission, Cause No. PUD 97000213, Direct Testimony on behalf of Southwestern Bell Telephone Company regarding cost and price methodologies, September 1997.

Public Utility Commission of Texas, Docket Nos. 16189, 16196, 16226, 16285, 16290, Direct Testimony on behalf of Southwestern Bell Telephone Company in the Mega Arbitration, October 1997. Further Direct Testimony in the Collocation Costs and Price phase of these dockets, December 1997.

Oklahoma Corporation Commission, Cause Nos. PUD 97000213 and 97000442, Rebuttal testimony on behalf of Southwestern Bell Telephone Company regarding cost and price methodologies for UNEs, March 1998.

Colorado Public Utilities Commission, Docket No. 97A-540T, rebuttal testimony on behalf of US WEST Communications regarding alternative regulation, May 1998.

Kansas Corporation Commission, Docket No. 97-SWBT0411-GIT, rebuttal testimony on behalf of Southwestern Bell Telephone Company regarding interLATA entry, June 1998.

Public Utility Commission of Texas, Docket No. 19461, direct testimony on behalf of Southwestern Bell Telephone Company regarding stand-alone cost and pricing of National Listing Service, December 1998.

Arkansas Public Service Commission, Docket No. 99-015-U, rebuttal testimony on behalf of Southwestern Bell Telephone Company regarding unbundled network element costs, March, 1999.

Kansas Corporation Commission, Docket No. 99-GIMT-326-GIT, rebuttal testimony on behalf of Southwestern Bell Telephone Company regarding revision of the Kansas Universal Service Fund, May 1999.

Colorado Oil and Gas Commission, Docket Nos. 0004-AW-05 and -06, testimony on behalf of the San Juan Citizens Alliance concerning economic methodology for determining the impacts of coalbed methane gas drilling, June 2000.

Public Utilities Commission of Nevada, Docket Nos. 99-12033 & 00-4001, testimony on behalf of Nevada Bell regarding nonrecurring charges for unbundled network elements (UNEs), September 2000.