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

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In the Matter of

Implementation of the Local
Competition Provisions in the
Telecommunications Act of 1996

CC Docket No. 96-98

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SUPPLEMENTAL COMMENTS OF AMERITECH

Thomas P. Hester
Kelly R. Welsh
John T. Lenahan
Mike Pabian
Larry Peck
Gary Phillips

Antoinette Cook Bush
Linda G. Morrison

Skadden, Arps, Slate,
Meagher & Flom
1440 New York Avenue, N.W.
Washington, D.C. 20005
(202) 371-7230

Ameritech
30 South Wacker Drive
Chicago, IL 60606

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SUMMARY

The Commission should be wary of believing that the IDSS Model -- or any other spreadsheet model -- can provide anything more than crude approximations of the consequences of policy decisions on the local exchange marketplace. Specifically, based on its analysis of the IDSS Model, Ameritech submits that the IDSS Model suffers from flaws that severely limit its analytical value.

First, the IDSS Model is most properly described as an accounting model because it simply adds up the results of the many input assumptions. The IDSS Model does not relate one assumption to another in a test for logical consistency or consistency with economic theory. Accordingly, use of the IDSS Model can reinforce muddled thinking by adding a "scientific" aura to the results, rather than actually helping identify inconsistent hypotheses.

Second, although the IDSS Model may help quantify certain results given an existing world view of the telecommunications industry, it provides absolutely no assistance in determining whether such world view is reasonable or even plausible. The IDSS Model thus lacks the sophistication to

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provide anything other than a quantification of a pre-judged world view. It provides no insights on the validity, internal consistency, or reality of the assumptions that form that world view.

Finally, the IDSS Model ignores critical characteristics of the marketplace. For example, the IDSS Model's use of industry average data and its focus on average inputs and average outputs invalidates its use as a forecasting tool because competitive entry will target precisely those services and markets that deviate most profitably from the average. Similarly, the IDSS Model completely ignores cross-elasticity of demand between wireline and fixed wireless local exchange service.

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To: The Commission

SUPPLEMENTAL COMMENTS OF AMERITECH

Ameritech respectfully submits these comments in response to the Commission's Public Notice announcing a supplemental comment period in the above-captioned proceeding.¹ In the Public Notice, the Commission has solicited comments regarding the Industry Demand and Supply Model ("IDSS Model") which was designed to allow users to simulate the impact that

¹ See Public Notice, "Supplemental Comment Period Designated for Local Competition Proceeding, CC Docket 96-98," DA 96-1007, IAD 96-175 (released June 20, 1996). The deadline for filing comments in response to this Public Notice was extended to July 8, 1996. See Public Notice, "Supplemental Comment Period Extended for Local Competition Proceeding, CC Docket 96-98," DA 96-1030, IAD 96-176 (released June 25, 1996).

changes in growth rates, prices, demand elasticities, and costs would have on the telecommunications industry.

I. INTRODUCTION.

Implementation of the Telecommunications Act of 1996 (the "1996 Act") will greatly affect the ability of new and existing local exchange carriers ("LEC") to act as backbone for the emerging telecommunications network-of-networks. The Commission's decisions in this docket will significantly affect the ability of any of the LECs to play a role in building the national telecommunications infrastructure.

The issues that the Commission is charged with examining in the 1996 Act are important and complicated. The federal ground rules for local competition ultimately adopted by the Commission will greatly affect the rate of development and economic efficiency -- and ultimately, the social benefit to customers -- of the competitive marketplace for local exchange services.

Accordingly, it is reasonable that the Commission seeks appropriate tools to assist it in its analysis and deliberations. If properly performed, computer simulation modeling is one such asset that can assist in identifying flaws in various proposals and hypotheses. Even the most

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basic computer model can provide a systematic way of separating fact from opinion and forcing the user to consider and address otherwise hidden assumptions. Computer analysis can impose a certain sense of order on complicated questions simply by focusing on the more fundamental questions while weeding out other extraneous issues. As, however, the statistician Henri Theil once commented, models are to be used, but not believed.

The issue raised by the IDSS Model is whether it provides value by focusing on the important issues being addressed in this docketed proceeding, while (of necessity) ignoring others. Because no documentation regarding the purpose or structure of the IDSS Model has been made available, it is not clear on which issues the IDSS Model focuses. Indeed, based on an investigation of the IDSS Model's computer code, Ameritech has concluded that the IDSS Model has limited value in quantifying the impact of possible Commission decisions on the local exchange industry because:

- The IDSS Model is actually an "accounting" model, which means that it provides no feedback regarding the reasonableness of key assumptions, or even whether the key assumptions are consistent with one another and with economic theory. Accounting models can reinforce muddled thinking by adding a "scientific" aura to the results rather than actually

helping identify inconsistent thinking, as a behavioral or economic model would do.

- Despite its size and complexity, the IDSS Model lacks the sophistication to provide anything other than a quantification of a pre-judged view of the telecommunications industry.
- The IDSS Model's use of industry average data and its focus on average inputs and average outputs invalidates its use as a forecasting tool because competitive entry will target precisely those services and markets that deviate most from the average.

Nevertheless, with careful modification, as described in the affidavit of Dr. William E. Taylor of NERA, attached to the Supplemental Comments of the United States Telephone Association (the "Taylor Affidavit"), the IDSS Model is capable of demonstrating that arbitrage by interexchange carriers ("IXCs") between carrier access minutes and local exchange interconnection minutes -- an arbitrage opportunity created by regulation, not market competition -- will produce significant LEC earnings deterioration.

II. THE IDSS MODEL PROVIDES ONLY LIMITED VALUE IN ADDRESSING THE CRITICAL ISSUES BEFORE THE COMMISSION IN CC DOCKET 96-98.

Whether the IDSS Model, or any computer simulation model, has any value depends on the extent to which the model

captures the major features of the real-world phenomenon that the model attempts to simulate.

A. Lack Of Documentation Regarding Purpose And Structure Of The IDSS Model Limits Its Analytical Value.

Thorough investigation of the IDSS Model is quite difficult because the model fails to pass the lowest hurdle of scientific inquiry: the opportunity for peer review. The inability to adequately assess and comment on the IDSS Model stems from the lack of documentation and absence of any description of its purpose or objective.

Except for some notations within the spreadsheet program itself regarding where to input data, the IDSS Model contains no overview flowcharts or descriptions of its components and no information on how these components are linked together to translate inputs into outputs. This lack of documentation, together with the sprawling programming technique of the IDSS Model, makes peer review slow and difficult. Peer review is further complicated by internal errors in the IDSS Model itself and hidden assumptions.

Perhaps even more important, neither the IDSS Model nor the Public Notice contains any hint as to the purpose of the model. Although the IDSS Model can be used to address

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some issues (e.g., the impact on LECs of IXC arbitrage between carrier access rates and rates for interconnection and unbundled network elements), the IDSS Model is unsuitable to address other questions such as the impact of certain rate levels and structures for local interconnection.

The lack of discussion regarding the purpose of the model forces reviewers to use a method analogous to the "maximum likelihood" statistical methodology for evaluating the model: namely, given the assumption that the IDSS Model has any utility, determining what questions it could best address. Such an approach does not concede that the IDSS Model adequately addresses any questions at all, but rather that the IDSS Model may be better at addressing some issues than others, given its inputs, outputs, and general structure.

- B. The IDSS Model Is An Accounting Model, Not An Economic Model, And Therefore Does Not Provide Feedback Regarding The Plausibility Of A Given Set Of Assumptions.

Inspection of the code in the spreadsheet suggests that the IDSS Model accepts assumptions about costs, revenues, input prices, market share, elasticities, growth rates, and other financial data and simulates the impact that such fac-

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tors would have on financial performance and customer prices.

The model requires assumptions regarding:

Cost items	50 items x 10 years
Rates	50 items x 10 years
Universal Service Rates	7 items x 10 years
Market Share	23 items x 10 years
Other (elasticities, etc.)	43 items x 10 years

Conceptually, there is nothing wrong with requiring numerous assumptions. Indeed, the value of an accounting model is that it permits the user to catalog and quantify the impact of one set of assumptions versus the impact of another. Examining the number of assumptions and reflecting on the sheer scope of information requirements can provide an indication of the low level of confidence that should be given to the results of the model.

One of the major weaknesses of the IDSS Model is that it does not discuss how the quantifications of these important assumptions have been determined. Further, in some cases the inputs themselves appear to be the results of prior calculations which are not provided. And, in an egregious breach of programming etiquette, other assumptions are hard-wired into calculation cells instead of the "assumptions" section of the IDSS Model and therefore are only discoverable by stumbling across the calculation cell itself.

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Moreover, the values of critical variables, such as the market share among LECs, competitive LECs ("CLECs"), and IXCs, are made entirely by assumption in the IDSS Model. The IDSS Model does not alert the programmer that a change in relative prices might reasonably affect market share and that a new market share assumption is therefore warranted. For example, in determining whether a CLEC will purchase an unbundled loop or self-provide a loop, the analyst must consider how all of the possible real-world ramifications translate into changes in the IDSS Model's parameters. As Dr. Taylor recognizes:

[The IDSS Model] does not adjust other assumptions such as reconciling changes in LEC shares of the retail or wholesale loop markets with changes in LEC retail prices or changes in the prices the CLEC pays for unbundled loops. (Taylor Affidavit, para. 6).

Yet, the IDSS Model's outputs depend on pre-specified values of these parameters. Ameritech therefore submits that a model such as the IDSS Model, even if it is useful for collating numerous economic assumptions and quantifying their collective impact, provides no help in determining the reason-

ableness of the assumptions themselves, either singly or collectively.

C. The IDSS Model Ignores Important Related Markets.

While the IDSS Model permits the collation of some data in the local exchange market, it ignores other data. For example, the IDSS Model provides only limited modeling of the wireless market and does not relate this market in any meaningful way to the wireline market.

Substitution between wireline and wireless interconnection to customers is completely ignored. Substitutability, which is a fundamental concept in both economics and antitrust law, bears directly on the issue of competitiveness. To ignore wireless markets is a significant omission. For example, an analysis by Frank J. Governali of First Boston in an investment research report -- prepared for other purposes, but whose conclusions bear on the use of the IDSS model -- implies that ignoring wireless interconnection could well be a source of forecasting error for the IDSS Model:

The [AT&T] Personal Base Station is slated to be tested by the third quarter of this year [1996], and introduced for the Christmas selling season. . . . Based on what we've heard so far, we think AT&T intends to use the fixed wireless service

to cherry-pick high value residential customers. It would offer direct interconnection into AT&T's network, and completely circumvent the local carrier.²

Whether or not the Personal Base Station or any other wireless product ultimately is accepted by customers as a substitute for the local wireline loop will be determined by regulatory decisions, the relative service quality, the perceptions of target customers, and the relative prices -- all of which are ignored by the IDSS Model.³ As a result, the IDSS Model systematically under counts the potential negative financial impact on the local exchange industry of technological substitutes for traditional wireline communications services.

D. The IDSS Model Is Of Limited Value In Modeling The Evolution Of Competition In The Local Exchange Market.

Inspection of the computer code also reveals that the IDSS Model attempts to predict how different policy prescriptions regarding local exchange interconnection might affect the going-forward market value of a single aggregate

² Frank J. Governali, AT&T, Equity Research-Americas, CS First Boston, Feb. 16, 1996, at 4.

³ The IDSS Model also incorporates only narrowband, ignoring developments in broadband services.

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LEC. The use of a single aggregate LEC, however, is a modeling flaw because the use of an industry average distorts the current evolution of competition in the marketplace. Competitive entry is not occurring evenly throughout all geographical and product offerings in the local market. Competitors rationally look for areas in a market that deviate most from the average in terms of potential revenue, costs, and ease of entry or exit. By examining only national averages, the IDSS Model understates the financial consequences to LECs of losing a customer whose associated costs are lower than that average. As a result, the IDSS Model cannot reasonably provide information as to how a public policy decision might reasonably affect either the public welfare or the ability of the LECs, individually or as an industry, to maintain profitability.

III. CONCEPTUAL AND PROGRAMMING ERRORS FURTHER LIMIT THE VALUE OF THE IDSS MODEL.

As described in detail in the Taylor Affidavit, both the conception and execution, (i.e., actual computer code) of the IDSS Model are flawed. Errors in conception include, for example, the assumption that LECs terminate a fixed portion of

interLATA traffic originating from Residual Customers, regardless of the number of CLECs in the market.⁴

In addition, the IDSS Model does not account for differences in geographical areas and mixes of customers. It completely ignores LECs in low cost, high density areas. Moreover, while the IDSS Model separates users into high, medium, and low usage bands, it does not separate customers whose costs are either higher or lower than the national average. Accordingly, the IDSS Model understates the financial consequences to an LEC of losing a customer to a CLEC.

Ameritech fully supports Dr. Taylor's attempts to correct certain of these shortcomings so that the IDSS Model may be used to address the important issue of carrier access arbitrage. Ameritech further agrees with Dr. Taylor's conclusions regarding the approximate impact on the LEC industry if IXC's and CLECs allowed to avail themselves of the arbitrage opportunity between carrier access charges and local exchange interconnection charges.

⁴ In the IDSS model, a Residual Customer purchases local service from a LEC and obtains interLATA toll service from an IXC, with intraLATA service split between the two carriers in an assumed proportion.

IV. CONCLUSION.

Telecommunications companies and regulators are not alone in their desire to foretell the future of the industry; investors have this desire as well. But even the keenest investment minds -- with access not only to quantitative models but also to their own intuitive evaluations of the market, company management, and potential competitive opportunities -- have very different views on what might happen in the industry. Some believe that incumbent LECs, most notably the Bell Operating Companies, will find the competitive environment difficult.⁵ Others are more bullish.⁶ Yet others think that the most opportunities in the industry are elsewhere altogether.⁷ The divergent opinions of investment

⁵ "[W]e maintain that the competitive environment will be much more difficult than currently anticipated -- with or without consolidation among the RBOCs." Stephanie Comfort, Regional Bell Operating Companies: The First Shoe to Drop?, Morgan Stanley, U.S. Investment Research, Telecommunications Services, Jan. 24, 1996, at 2.

⁶ "We continue to recommend the RBOCs and GTE. . . ." Daniel Reingold, Telecom Services -- RBOCs & GTE, Merrill Lynch, United States, May 14, 1996, at 1.

⁷ "[M]ost value going forward will be created by new players (e.g., CLECs)" Jack B. Grubman, U.S. Telecom Services -- Review of Industry Outlook and
(continued...)

analysts should provide thoughtful pause to anyone who believes that a single model can provide anything but suggestive answers to the complicated questions facing the Commission.

Any belief that this particular model or any other spreadsheet model can provide more than even the crudest approximation of the consequences that public policy decisions will have on the local exchange industry is profoundly disturbing. In keeping with the statistician Henri Theil's advice, and given the numerous infirmities of the IDSS Model highlighted herein and discussed in greater detail in the Taylor Affidavit, the Commission should be cautious in its

⁷(...continued)

Investment Thesis, Salomon Brothers, U.S. Equity Research, Telecommunications Services, Apr. 17, 1996, at 1.

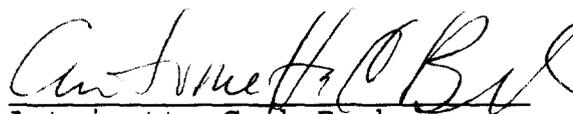
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reliance on the IDSS Model to justify or analyze the consequences of its public policy decisions made in this proceeding.

Respectfully submitted,

AMERITECH

By:



Antoinette Cook Bush
Linda G. Morrison

Thomas P. Hester
Kelly R. Welsh
John T. Lenahan
Mike Pabian
Larry Peck
Gary Phillips

Ameritech
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