BEFORE THE PUBLIC UTII	LITIES (COMMISSION OF OH	TORECEIVED
In the Matters of the Application of The Ohio Bell Telephone Company for Approval of an Alternative Form of Regulation.))	Case No. 93-487-TP-	JUL 1 9 1994 PUBLIC UTILITIES COMMISSION OF OHIO

Prepared Testimony

of

Scott Potter

Staff Exhibit

- 1 1. Q. Would you please state your name, business address, and capacity in which you are employed?
- A. My name is Scott Potter and I am employed by the Public Utilities

 Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793. I

 am employed as a rate analyst in the Forecasting Division of the Utilities

 Department.

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- 8 2. Q. Please state your background and qualifications.
- 9 I graduated from The Ohio State University in 1989 with a Bachelors 10 degree in Communication Sciences. My undergraduate work focused on 11 telecommunications business, regulation, and new technologies. 12 received my Master's degree from the University of Southern California 13 in 1991. My graduate program was telecommunications law with a sup-14 plemental focus on engineering. I was previously employed by GTE-15 California, where I conducted investigations and presented analysis on 16 the "New Regulatory Framework" reporting requirements for the 17 Company. I have been employed at the Public Utilities Commission of 18 Ohio since 1992. I have previously presented testimony before this 19 commission. I have also previously written sections of Staff Reports of 20 Investigations regarding Alternative Regulation (Case Nos. 93-230-ALT-21 TP and 93-432-ALT-TP).

- Q. Did you participate in the analysis of the Company's plan and in the
 writing of the Staff Report?
- A. Yes. I was one of many Staff that analyzed the Company's plan and assisted in the writing of the Report.

- 1 4. Q. What is the purpose of your testimony?
- A. My purpose in this testimony is to answer questions and objections raised by parties in this proceeding regarding specifically, the Company's fiber optic deployment and education commitments and the Staff's

5 review and recommendations associated with those commitments.

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- 7 5. Q. Would you, briefly, describe the Company's fiber deployment and other educational commitments?
- 9 The Company proposed a commitment to connect all high schools, voca-10 tional schools, colleges, and universities to a fiber based two-way interactive video distance learning network following a qualified service 11 request. In addition, the Company proposed commitments to provide a 12 13 dedicated support team to assist schools with the application and funding of distance learning, to provide qualified schools a discount on the 14 15 video service and other telecommunications services, to partner with 16 business and government to foster distance learning, and to provide 17 fiber connections to the public network for all county jails; county, state, 18 and federal court buildings; hospitals; and libraries.

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- 20 6. Q. What is the Staff's general opinion of the fiber deployment and other educational commitments?
 - A. As proposed, Staff is of the opinion that these commitments are a positive step in giving Ohio's schools and public serving institutions new options in the increasingly difficult endeavor of educating and caring for Ohio's citizens. However, Staff is reticent to offer a definitive endorsement of the commitments and, consequently, the Plan as a whole, until the Staff has reviewed the proposed tariff and discounts.

Q. Is the Staff endorsing a discounted tariff for schools that would be belowcost?

A. No. As a point of correction and clarification of the Staff Report, it should be understood that the Company is proposing to file standard tariffs, including a tariff for fully interactive video service. These tariffs would include all the appropriate LRSIC cost factors. As a commitment, the Company is proposing to offer qualifying educational facilities a discount on the standard tariffs. In the Staff Report, it says that discounts are essential to the development of a successful distance learning network. The Staff Report goes on to say that to the degree the proposed discounts enable schools, especially economically disadvantaged schools, to enjoy the benefits of distance learning and other telecommunications services, the discounts would be in the public interest. This statement should not be interpreted to mean that Staff is endorsing tariffs below LRSIC.

The pricing of all services is regulated by the cell classification and pricing parameters as detailed in the Alternative Regulation Rules. However, as long as the tariffed rate is above LRSIC, and the total contribution of all customers of that service was above LRSIC, I see no reason why certain economically disadvantaged schools could not enjoy a discount which took their contribution to the recovery of costs to an affordable rate even if such a rate was below LRSIC. Under a price cap environment, captive rate payers are protected from paying for competitive or uneconomic services.

- Q. Why did the Staff recommend that the Applicant be required to file the
 discounted educational tariffs prior to the Commission's approval of any
 alternative regulation plan for the Applicant?
 - A. The value of a distance learning network is directly related to the number of schools that utilize it. The number of schools that will be able to utilize the network is directly related to the costs the schools would incur. Since we do not, at this time, have a tariff and discount to review, the Staff cannot determine what cost the schools would incur and, hence, what the true value of the commitment is. Staff would have much preferred to see examples of the tariffs filed with the Plan, so that a thorough review of the tariffs could have taken place at the same time as Staff review of the rest of the Plan. Since these tariffs were unavailable from the Applicant, Staff had to base its recommendation on the information at hand.

- 9. Q. Has the Staff come to the conclusion that a fiber-based fully interactive distance learning network is the least-cost, most appropriate, most in demand, and/or only distance learning option available?
 - A. No. The Staff has made no such conclusion. In fact, the Staff is very aware of other distance learning options and has systematically tried to avoid endorsing one technology over another. However, a fiber based high quality two-way interactive system is one option for distance learning. The Staff's endorsement of the commitment to deploy such a network in no way suggests that the network is the only or best way to serve the needs of all schools. The Company's commitment simply ensures that such a network option is available to schools. The Staff's endorsement of this commitment does not in any way restrict providers of same,

similar, or different services from offering these schools additional choices, and in fact the Staff would encourage this.

It is also important to note that fiber optic cable has become a material of choice for replacement and growth of much of the telecommunications networks. Staff believes, that as the Applicant deploys fiber in its network, the public interest can best be served if the Applicant considers the advanced services needs of the state's schools and public-serving institutions first when expanding or upgrading the network.

- 10. Q. Do you believe that the Staff's recommendation creates a competitive disadvantage for other providers?
 - A. No. The communications needs of schools are as varied as the technology itself. There are schools that have no need for new communications services. Some schools want multi-point distribution of national programs. Some are looking for a two-way fully interactive set-up that would allow remote student instruction and teacher in-servicing. And others still are looking for something different than either of these services. Nothing in the Staff recommendation or the Company's commitment to deploy fiber unfairly disadvantages other providers. To the degree that other providers are able to offer the schools a comparable service, nothing in the Staff Report recommendations prevents them from doing so. The fact that the Applicant has agreed to deploy fiber does not mean that all schools will instantly or ever subscribe to the Company's distance learning service.

I believe that the market place for distance learning is still in the developmental stages and that no part of the Staff's recommendation can be seen to unfairly advantage any one provider over another. 2 11. Q. Why did the Staff not recommend that the Applicant include elementary and junior high schools in its commitment to deploy fiber?

- The Staff did recommend that the Company consider the needs of pri-mary schools (K-9), as well as high schools, technical/vocational schools, colleges and universities. (Staff Report, p. 109) The Company's com-mitment is to deploy fiber to all high schools, vocational/technical schools, colleges and universities in its service territory. This commit-ment includes, over 500 facilities. Staff is of the opinion that the com-mitment is ambitious and more far reaching than anything we have seen in this area.
- 12. Q. As proposed, and without an independent study to assess demand, does
 the Company's commitment to deploy fiber run the risk of putting
 infrastructure ahead of demand?
 - A. No. On the contrary, the Company's commitment is to deploy fiber rapidly wherever demand exists or develops. Fiber, from the feeder portions of the loops into the distribution portions and up to the buildings, will be deployed upon request for service. This can only be viewed as demand leading infrastructure rather than infrastructure exceeding demand.

After speaking with educators from all over the state, seeing the successes of some of the on-going distance learning programs in Ohio, participating in several distance learning symposia, and talking with representatives of the Ohio Department of Education, I am convinced that significant demand exists for advanced fiber-delivered telecommunications services. And while it is reasonable to assume that the Company

will closely analyze demand in order to maximize revenues under a price cap framework, it is not necessary to require them to do so. Under a price cap framework, the Company would suffer any loss associated with infrastructure deployment that exceeded demand.

- 6 13. Q. Why did the Staff not recommend discounted tariffs for existing services 7 as well as distance learning services?
- The Staff made no such recommendation, because such a commitment A. was already part of the Applicant's proposed Alternative Regulation Plan. As noted on page 108 of the Staff Report, and as clarified in Answer No. 6 of this testimony, the Applicant proposed a commitment to provide a tariff discount to state-chartered elementary and secondary schools. This tariff would apply to a variety of existing telecommunica-tions services. The Staff, subsequently, endorsed such a discount to the degree that the discount was meaningful. (Staff Report, p. 110)

- 17 14. Q. What is your opinion of differential discounts on tariffs?
 - A. In principle, a differential or sliding scale discount on a tariff would be one way to bring more equity into the availability of advanced telecommunications services. While the general trend of most schools is one of financial constraints, the financial conditions of differing schools is as diverse as are the schools themselves. A discount with a differential rate would, in theory, permit schools more financially able to subscribe to advanced services to offset the costs of those schools with greater constraints on discretionary funds.

The problem with such a discount would be in the administration. The Applicant would have to work very closely with the Department of

Education in order to develop a fair and reasonable ranking of schools in order of financial status. Then a discount would have to be designed which would clearly identify the particular rate for which a given school qualified.

- 6 15. Q. Should the Company be required to provide toll free home-to-school telephone service?
 - A. While the Staff did not make such a recommendation, we do support the recommendation of the Ohio Department of Education to the degree that areas exist where parents/guardians must make a toll call to contact the schools of their children.

- 13 16. Q. Should the Company be required to provide toll free school-to-home
 14 telephone service?
 - A. While the Staff agrees with the Ohio Department of Education that such toll free service would be highly beneficial to the schools, it is not clear to Staff that such an option is technically or economically feasible. I would greatly encourage the Company to work with the Department of Education and other service providers to find technically and economically sound solutions to this problem.

22 17. Q. In the Supplemental Testimony of Company Witness Brown (Ex. 14S.0, p. 24, Question 37), Mr. Brown states that "[I]n the Staff report, the recommendation is made that Ameritech Ohio incorporate a commitment that will foster the development of distance learning applications through the integration of business, government, and educational communities." Was this commitment conceived by the Staff?

A. No. In fact, the Staff Report simply recommends the inclusion of the commitment as proposed by the Company in their original plan (Testimony of Company Witness Brown, Ex. 14.0, p.37). In that testimony Mr. Brown states, "Ohio Bell will make a number of commitments if its plan is approved. Specifically, we will: . . . 6.) Partner with other businesses and government agencies to seek grants to help finance basic video equipment for distance learning applications." Mr. Brown's testimony specifically enumerated the commitment to provide a dedicated support team and the commitment to partner with business and government as two distinct commitments.

In its objections, Ameritech Ohio states that it "objects to the proposed commitment to create business and government partnerships to the extent it requires Applicant to bind independent parties to voluntary business arrangements. (Staff Report at 109). Applicant is willing to work toward the creation of such partnerships." Staff was concerned at this apparent step back from the commitment the Company made in its original plan. However, in his oral testimony, Company witness Brown stated that the objection was submitted in error. He further confirmed the Company's commitment to partner with business and government was as proposed in the original filing.

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- Q. The Applicant has stated that the recommended reporting for the education commitment is "overly broad and burdensome and not in the public interest." (Objection of the Applicant, p. 34 No. 10). Do you agree?
 - A. No. Rule IV.B.5 of the Alternative Regulation Rules require the Applicant to provide the Staff with such information as deemed necessary by the Staff to monitor the Company's commitments. The Staff

Report recommends that the Applicant report on its education commitment in three areas: the results of its deployment of the fiber network, the results of its current on-going trials, and the results of its partnerships with business and government.

The value of a distance learning network is directly related to the number of facilities that connect to and utilize such network. In order to evaluate the Applicant's efforts to fulfill the commitment, the success of the new network, and the need for adaptations, the Staff must receive information regarding the specific nature of each school contact, and the results of those contacts. The Staff Report does not ask for any information which one would not expect the Company to collect in the normal course of rolling out a new service, therefore, I see no reason that reporting this information to the PUCO should be considered either overly broad or burdensome.

The Staff's recommendation that the Applicant report on current distance learning trials, including the dissemination of information obtained from those trials, seems to be the most reasonable way for the Staff to monitor these trials. This recommendation cannot be seen as overly broad as it specifically limits reporting to distance learning trials. This recommendation cannot be seen as overly burdensome as it simply would require that the Applicant report what it has learned from its own experience. It does not ask the Applicant to collect any information beyond that which it would collect on its own initiative, whatever that might be.

Finally, the Staff recommended that the Applicant report on the specific activities it has engaged in with regard to its commitment to create business and government partnerships. The Staff has the duty to monitor

the progress on and achievement of commitments made by the Applicant. The Staff has asked the Company to present evidence that it is fulfilling its commitment. That can neither be seen as overly broad or burdensome.

- 19. Q. In its objections, (no. 14, p.7) MCI stated that provision of discounted advanced educational services be undertaken as a part of a comprehensive policy approach to an advanced form of universal service. Do you agree?
 - A. It is my understanding from reading the objections and the testimony of MCI witness Laub (MCI Ex. 2.0 p. 25) that MCI believes that these service should be a part of a definition of advanced universal service because they are to be subsidized services. The question is moot because the Staff has made no recommendation that advanced educational services be priced below cost. Such a recommendation would be contrary to the alternative regulation rules. It is the Staff's intention that the Applicant will recover all costs associated with the digital video network with revenues from the service subscribers (both schools and other users), and if necessary from other competitive service revenues, shareholder funds, or reduced costs of service.

- 22 20. Q. Why did the Staff not recommend that an infrastructure fund such as
 23 the "Heart of Ohio Fund" be created to fund communications infrastruc24 ture projects for such interests as education, health care, older persons,
 25 low income persons, disabled persons, and others?
 - A. I am not sure what value such a fund would have in a service territory that will be 100% digital, with ubiquitous SS7 and 100% ISDN availabil-

ity. I do not know of any reasonable and cost effective infrastructure a third party fund could deploy that the Applicant has not already proposed to deploy as part of its infrastructure commitment? Furthermore, I see no reason why the Staff should be able to require only this Applicant to donate money to such an infrastructure fund. To do so would seem highly inequitable and anti-competitive. An infrastructure fund would seem only to create more questions than solutions in addition to depleting finite resources through increased administrative expenses.

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- 11 21. Q. Can you give a rough estimate of the cost to set-up a fiber based two-way interactive classroom?
 - A. The cost of any two classrooms is likely to be different and the difference can be quite large. Several factors determine the cost of setting up a classroom. Each individual project will vary according to the service desires of the school, the funds available, the cost of equipment, the classroom itself, what equipment is included as part of the network, and the network capabilities. From lowest to highest, with all the variables, a classroom set could range between \$15,000 and \$100,000.

In the interest of narrowing the range, I can make some rough estimates with a few assumptions. First, I will assume that since Ameritech Ohio is proposing a digital network and will provide a CoDec to each class-room, most schools would choose a digital set-up. Second, I will assume the Education Support Team will be able to assist schools in acquiring CPE at better than retail rates. Depending on the quality and capabilities of the classroom the school has chosen to set up, the following equipment would be included: monitors, cameras, microphones, visual pre-

senters, audio mixers, amplifiers, channel selectors, camera switchers, speakers, tables, chairs, VCRs, laser disc players, stereo audio players, video source switchers, facsimile machines, room sound conditioning, computer, and electronics cabinet.

The cost will rise as schools choose more and/or better equipment. For instance, a classroom can be set-up using two 25 inch monitors, but six would offer better interaction, and bigger screens would offer better viewing. I would estimate the range would be between \$20,000 and \$45,000. This would include a moderate set-up with \$5,000 in room sound conditioning, six 25" monitors, two cameras, five microphones, an Elmo, an audio mixer, amplifiers, a channel selector, a VCR, a facsimile machine, a camera switcher (without remote switching), a compact disc player, and a cassette player.

- 22. Q. Should the Staff have recommended that the Applicant provide the necessary CPE or establish a fund or funds to assist schools and/or local computer centers in purchasing and/or leasing CPE?
 - A. No. The Staff is well aware of the often prohibitive costs of CPE and the need for adequate wiring in the schools. However, Staff did not recommend a requirement that the Company provide the CPE because CPE has been deregulated by the FCC. It was the Staff's belief that requiring the Company to provide CPE may violate the FCC's deregulation. Furthermore, it was the Staff's understanding that Ameritech Ohio is prohibited from selling CPE below fully distributed cost.

A reasonable answer to the question of who should pay for CPE and inside wire would be a collaboration. The Applicant should work with the Ohio Department of Education, the schools, the communities, local

businesses, manufacturers, other service providers, and the regulatory agencies to see to the needs of all schools. There is no one correct way to fund advanced telecommunications services for all schools, just as there is no one correct advanced telecommunication service that will best serve all schools. Funding for these services must come from all sources including; Company investors, local business contributions, government and other not-for-profit agency grants and loans, manufacturer discounts and donations, and school budgets.

- 10 23. Q. Should the PUCO consider competitive bidding for infrastructure11 deployment?
- A. No. The case is limited to the alternative regulation application for the
 Applicant. Therefore, it would not be appropriate to consider competitive bidding within the parameters of this case.

Regardless of the prima facie response to this question, I find the notion of mandated competitive bidding to be unwarranted under price cap regulation. Under a price cap framework, the incentive for the Company to maximize benefit and minimize cost is inherent. Additionally, a properly designed price cap mechanism protects the captive rate payer from uneconomic investments made by the Company.

- 22 24. Q. Should special attention be given to deploying ISDN and digital com-23 pression technologies providing wideband copper wire capabilities, as a 24 near term alternative to fiber deployment?
- A. ISDN deployment is occurring at a very rapid pace. In the five years identified in the Plan, the Company will progress from over 75% to 100% availability. It is impossible to give more attention to ISDN deployment.

Whether digital compression over copper or broadband over fiber is the proper deployment plan should be dictated by a number of factors including demand forecasts, emerging technologies, costs, and adaptability. Currently, fiber has been the replacement and new deployment medium of choice for most interoffice lines and an increasing number of feeder and distribution loops. The Staff has avoided advocating one choice over another believing that customer demand for services and sound business practices should dictate these decisions. I believe, for the foreseeable future, a myriad of networks with differing delivery media and differing service applications and increasing interconnectivity between networks will continue to be the trend.

Α.

25. Q. Did the Staff fail to "protect schools located in 'poor' districts?"

No. To the limited degree possible, Staff did consider the special needs of economically disadvantaged school systems. The Applicant proposed discounts on tariffs and the Staff noted that these discounts were in the public interest only to the degree that they offer schools a "real opportunity to reap the benefits of distance learning and other telecommunications services." (Staff Report, p. 110) Without actual tariffs to study, it is impossible, at this time, for Staff to determine the actual value of the proposed discount. It is also important to note that the Applicant's commitment is to deploy fiber to all high schools, including economically disadvantaged schools, which make a qualifying request. The Company has proposed a commitment that would require the Company to deploy fiber to the building of any high school, technical/vocational school, college or university, within a maximum of 180 days after a qualifying service request.

The concern is not that the Applicant will or will not deploy fiber if requested. The concern is whether an economically disadvantaged school (or any school) can afford to make the request. The true measure of the Applicant's commitment will be in how many and which schools are able to connect to the distance learning network as a result of the Company's efforts to offer tariff discounts and find funding for the necessary CPE via the dedicated education support team.

- 9 26. Q. Do you believe the Staff should have recommended that the Applicant commit to a specified number of technical staff for a specified number of years as the dedicated support team?
 - A. No. That would have been entirely unnecessary. The Applicant committed to providing a team of full-time dedicated technical staff. The Applicant's proposal was for an alternative regulation plan with no sunset. Consequently, the Staff clearly understood this commitment to include the provision of that team to last as long as the Plan was in effect. The Staff will use to the commitments monitoring process to evaluate the adequacy of commitment fulfillment.

- 20 27. Q. Should the Applicant be required to educate schools and public serving institutions about the availability of fiber based services, as well as the services available through other technologies and the possible applications of both?
 - A. Yes, the Applicant should be required to educate the schools and public serving institutions about the availability of the services the Applicant can offer and the possible applications of those services. The public interest cannot be served, if the public is unaware of the possibilities.

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2	28.	Q.	Should the Staff have recommended that the Applicant's commitment
3			to deploy fiber to certain categories of public serving institutions include
4			municipal, county and state governmental institutions, and institutions
5			dedicated to the economic development of low income communities?
6		A.	The Applicant's commitment included the deployment of fiber to all
7			county jails; county, state, and federal court buildings; hospitals; and
8			libraries. The Staff believes this commitment, as proposed, is quite ambi-
9			tious and far reaching. Already, the commitment includes nearly 500
10			facilities.
11			
12	29.	Q.	Does this conclude your testimony?

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Yes, Thank you.

A.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing **Prepared Testimony** submitted on behalf of the Public Utilities Commission of Ohio was served by regular, U.S. mail, postage prepaid or hand delivered to the parties of record on this 19th day of July, 1994.

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