STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

ILLINOIS INDEPENDENT TELEPHONE ASSOCIATION	)	
	)	00-0233
Petition for initiation of an investigation of the necessity of and the establishment of a Universal Service Support Fund in accordance with Section 13-301(d) of the Public Utilities Act	)	
ILLINOIS COMMERCE COMMISSION ON ITS OWN MOTION	)	
	)	00-0335
Investigation into the necessity of and, if appropriate, the establishment of a universal support fund pursuant to Section 13-301(d) of the Public Utilities Act.	)	

REBUTTAL TESTIMONY OF

RICHARD N. CLARKE

ON BEHALF OF

AT&T COMMUNICATIONS OF ILLINOIS, INC.

AT&T Exhibit 6.0

May 31, 2001

Q. Please state your name and business address.

A. My name is Richard N. Clarke. My business address is 295 North Maple Avenue, Basking Ridge, NJ 07920.

Q. Are you the same Richard N. Clarke that prefiled direct testimony on May 11, 2001 in these proceedings?

A. Yes, I am.

OVERVIEW

Q. What is the purpose of the your rebuttal testimony?

A. The purpose of my testimony is to respond to the direct testimony of Staff (Jeffrey H. Hoagg, Robert F. Koch and Alan S. Pregozen) and Leaf River Telephone Company (Michael P. Petrouske) regarding the appropriateness of certain adjustments to the HAI 5.0a model for use in developing the forward-looking economic costs for the small LECs comprising the IITA for providing universal service. In doing so, I also will be referring to data and testimony provided by Mr. Robert C. Schoonmaker representing the IITA.

Ms. Cate Hegstrom of AT&T is also providing rebuttal testimony that responds to methodologies proposed for calculating required amounts on universal service support – given modeled cost figures.

Q. Dr. Clarke, upon reviewing the direct testimony filed by other parties in these proceedings, have you concluded that there are any cost modeling issues on which the parties are in agreement?

A. Yes. There is one specific point on which parties appear to agree. All parties observe that, thus far, no one has made a comprehensive evaluation of the propriety of the particular methodology proposed by IITA for determining the forward-looking costs that its members incur in providing universal service. The basic components of this methodology are to: (a) make adjustments to a subset of the user-adjustable inputs to the HAI 5.0a model; (b) to run the adjusted HAI 5.0a model separately for each of the roughly fifty members of the IITA seeking universal service funding; and (c) to permit individual IITA LECs who dislike their results from steps (a) and (b) either to select different user-adjustable inputs for themselves and to re-run the model for themselves – or to submit a completely different cost study.

In his direct testimony, Mr. Schoonmaker had reservations about this procedure, Messrs. Hoagg (lines 162-265) and Koch (lines 132-272) echo these concerns; and the testimony of Mr. Petrouske confirms that these concerns are amply warranted. In particular, Mr. Petrouske's testimony demonstrates clearly that the partial set of adjustments proposed by Mr. Schoonmaker to the HAI 5.0a model do not make it represent more accurately the forward-looking costs of the IITA LECs. This conclusion appears to be shared by Mr. Merwin R. Sands of MCI WorldCom.

Q. Please explain why a set of alterations to user-adjustable inputs may drive computed costs farther away from their appropriate forward-looking values?

A. There are two reasons. The first is that the proposed alternate input value may simply be incorrect. It may represent a measure (e.g., relative dollar amounts of plant investment) that differs from what the model expects it to measure (e.g., relative linear feet of plant distance). Or it may represent an embedded value that developed pursuant to the particular history of demand growth that the LEC experienced – but is not the forward-looking value that the LEC would wish to choose today to serve its forward-looking needs.

The second reason why a proposed alternate input value for a user-adjustable input may be inappropriate is because it is inconsistent with other input values, engineering or financial assumptions in the model. For example, Mr. Petrouske states that the "actual corporate overhead factor for Leaf River Telephone is 31.05%." If this figure is indeed correct, then it likely represents the cost of corporate overheads in a telephone company with an organizational structure that requires corporate overhead entities to perform many tasks that the model costs as part of direct support functions. Thus, it would not be economically consistent to enter such a figure for corporate overheads unless it was compensated for by substantial reductions in direct support expenses. Unfortunately, Mr. Petrouske admits to no such tradeoff – and indeed has also elevated many of the direct support expense inputs above their default levels.

SPECIFIC INPUT OBJECTIONS

Q. Do you have any objections to the specific input adjustments proposed to the HAI 5.0a model?

A. Yes. In addition to the objections that I made to the input adjustments proposed by Mr. Schoonmaker in his direct testimony, I have several disagreements with the input adjustments proposed or concurred to by Messrs. Koch, Pregozan and Petrouske.

PLANT STRUCTURE SELECTIONS

Q. Do you agree with the decision by Mr. Koch to concur with Mr. Schoonmaker's decision to raise to 95% the amount of total plant structure that is buried in the four most relevant density zones?

A. No, I do not. As I stated in my direct testimony, aerial plant offers two very powerful economic advantages over buried plant: it has a lower total investment cost; and this lower total cost is more easily shared across several utility uses. The default shares of buried versus aerial versus underground plant in the HAI model were selected cognizant of these economic advantages. Thus, it is not economic to raise the share of more expensive buried plant, unless there are compensating changes to other inputs to the model so that specifying more buried plant is an economic, rather than an uneconomic, choice. Such compensating changes that could validate a higher fraction of buried plant would be: (a) reducing the per-foot cost of buried plant placement relative to aerial plant placement; or (b) increasing the fraction of buried plant that is shared with other utility uses. Because neither of these compensating adjustments are proposed by Mr. Schoonmaker or Mr. Koch, I must conclude that it is an uneconomic error to increase the fraction of total plant in the HAI 5.0a model that is buried.

Q. Is there another possible explanation why the witnesses propose that the fraction of total plant that is buried be increased?

A. Yes, there is. The evidence provided by Mr. Schoonmaker in support of raising the fraction of buried plant to 95% in the most relevant density zones suggests that he misapprehended the metric for this input value. The evidence adduced by Mr. Schoonmaker (Response to RFK-1, filed by the IITA on May 1, 2001) suggests that 91.5% of the total *dollar value of investment* in cable plant is in buried cable plant. While I have my doubts (discussed later) as to the usefulness and accuracy of these embedded data, even if they are accepted as correct, they do not provide support for Mr. Schoonmaker's proposed adjustments.

First, it is unclear why Mr. Schoonmaker views 95% to be the correct input when his embedded data suggest the number to be somewhat less. But more importantly, the input variable that Mr. Schoonmaker proposes to adjust measures the relative number of *linear feet* of cable plant of each structure type. But because a foot of buried plant is more expensive to place than a foot of aerial plant, setting this input to 95% will ensure that the HAI model generates a relative dollar amount of investment in buried plant that will *exceed* substantially 95%. At this variable's proper default input value of between 70% and 75% percent buried plant in the relevant density zones, the HAI 5.0a model will engineer buried plant that amounts to over 80% of all plant *investment*. Thus, I believe the results from the HAI 5.0a model run at its default input values provide a more accurate estimate of appropriate forward-looking plant costs than does the mistaken input of 95%.

Q. Why do you doubt the usefulness of Mr. Schoonmaker's embedded data on relative plant investments?

A. There are two reasons. The first, which I emphasized in my direct testimony, is that embedded data reflect a particular history of technologies and demand growth. There is no compelling reason to expect that the identical conditions exist today, or are expected to exist in the future. Unless there is a full economic story why these embedded data would represent today's optimal choices, they should have little weight. But second, the actual numbers in Mr. Schoonmaker's data may be inaccurate. First, I am surprised to see the number of LECs in his data that report having no aerial cable at all. Because of the historical significance of aerial cable and its cost advantages, this strikes me as odd. Second, I am surprised to see that underground cable forms up to 20% of the cable investments of some of these small rural companies. Underground cable tends to be expensive, and is usually only placed in dense metropolitan areas where cable access is difficult. Because most of these rural companies report no underground cable, the 20% figures for several of them are even more discordant. It is possible that diverse interpretations of plant definitions or accounting practices may explain some of these anomalies.

Support is leant to this last possibility by Mr. Petrouske's testimony. Mr. Petrouske states that he has adjusted Leaf River's cable plant assumptions to 85% buried because "this change reflects the cable plant composition as it actually exists in Leaf River Telephone Company's network." But the data adduced by

Mr. Schoonmaker in response to RFK-1 state that Leaf River's cable plant is 100% buried. Clearly, both of these statements cannot be correct. Because of this LEC-attested disagreement with Mr. Schoonmaker's data, I am hesitant to rely on its accuracy.

COST OF CAPITAL

Q. Do you agree with the testimony of Messrs. Koch and Pregozen that accepts IITA's proposed cost of capital?

A. No, I do not. As I indicated in my direct testimony, the rate of return of 9.52% that the Commission has prescribed for use by Ameritech-Illinois in its LRSIC studies appears to comport more closely with currently calculated weighted average cost of capital studies that show such costs to be about 9.5%. Ms. Hegstrom will address this issue at greater length in her rebuttal testimony.

Q. The cost of capital studies that you allude to calculate such costs for the RBOCs; are results from these studies also applicable to smaller LECs?

A. Yes, they are, for two reasons. The first is that at the federal level, the small LECs, themselves, generally have supported the establishment of a unitary rate of return – calculated based on RBOC data. (See Federal Communications Commission *Report and Order* in CC Docket No. 92-133, "Amendment of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes," released April 6, 1995, paragraphs 15-19). In particular, organizations representing small LECs such as USTA, OPASTCO and NECA have all supported a unitary rate of return (see paragraph

17 and notes 40 and 41 in the above-cited *Report and Order*). Such support would suggest that small LECs believe their cost of capital to be no higher than that faced by the larger LECs.

A second reason why these large LEC capital costs are appropriately applicable to smaller LECs derives from economic efficiency theory. If a small LEC has costs of providing service that are identical to those faced by a large LEC, except that its cost of capital is higher, this would suggest that it is inefficient for the small LEC to be providing the service, and its franchise should be transferred or sold to the large LEC. If small LECs do have a higher cost of capital than large LECs, and it is to be efficient for small LECs to be serving their customers, then small LECs must enjoy some other compensating cost advantage over large LECs. Because the input changes proposed by IITA do not appear to identify any other compensating advantages enjoyed by the small LECs, it is logically very difficult to accept that the small LECs have higher costs of capital than the large LECs. The one exception to this rule would be if it were intrinsically riskier to supply service to rural customers than to more urban customers. Given the stability and strength of demand for telephone services, the only significant external source of such risk would be inroads from competitive LECs. But since the rural LECs do not currently have to unbundle their networks or provide number portability, it appears that small LECs do not face greater competitive risks than large LECs. Thus, I am at a loss to understand why (absent compensating cost advantages) small LEC capital costs should be accepted to exceed those of the larger LECs.

STRUCTURE SHARING

Q. Do you agree with the input adjustments concurred with by Mr. Koch that would reduce or eliminate the assumed amounts of structure sharing in the HAI model?

A. No. Structure is an expensive and scarce resource. Absent a direct demonstration that it is economically less expensive to employ dedicated structure in preference to shared structure, input value adjustments that reduce or eliminate structure sharing are inconsistent with the calculation of forward-looking economic cost. As I stated in my direct testimony, while a legacy of rate-of-return-on-ratebase regulation may have encouraged LECs to eschew the use of shared structure in the past, the competitive market incentives that predicate definitions of economic costs suggest that whenever feasible, structure will be shared in the future.

Q. What other evidence can you provide that structure sharing is more widespread than is assumed in the input values concurred with by Mr. Koch?

A. The other evidence that I can offer is contained in Appendix B of the HAI Model Release 5.0a *Inputs Portfolio*. This appendix (attached herewith as Exhibit 6.1) was entered into the record of Part I of these proceedings by IITA (*See* IITA Ex. 1.0, Attachment 3) This document describes available empirical evidence on the extent of structure sharing, and discusses reasons why structure sharing may be more prevalent in the future than in the past.

OTHER ISSUES

Q. Are there any other issues you would like to address?

A. Yes, there is one. Several of the witnesses have expressed concerns that the demand and traffic data underlying the HAI model's cost calculations may be stale. I concur in this concern. These data are from the 1996 time frame. To the extent (as has been typical in the telephone industry) that the numbers of lines served has grown, and the number of minutes of use per line has grown, HAI model runs using its default demand and traffic data will tend to overstate significantly the costs of service. Indeed the universal service funding mechanism proposed by IITA that would develop overstated unit per line and per minute costs from the HAI model based on these older data, but then would multiply these per unit costs by more current (and presumably higher) lines and minutes data, would further inflate calculated universal service funding "needs."

Q. How can this problem be corrected?

A. It can be corrected if IITA were to provide most recent data on the (1) number of lines (by business and residence categories) served by each of the IITA LECs' wirecenters; (2) number of DEMs carried by company, by local, state and interstate categories; (3) number of local call attempts by company; and (4) number of toll messages carried by company, by intraLATA, interLATA intrastate and interLATA interstate categories. Furthermore, these data should be provided with adequate information about their rates of growth so that their values for the year 2001 and onward may be projected. With these data, it is

straightforward to update the HAI model's demand inputs to reflect a more current and accurate view of forward-looking costs. To the extent that this data becomes available prior to the hearings scheduled in June, I will provide updated cost results using input value modifications that I have recommended.

CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

APPENDIX B

Structure Shares Assigned to Incumbent Local Telephone Companies

B.1. Overview

Due to their legacy as rate-of-return regulated monopolies, LECs and other utilities have heretofore had little incentive to share their outside plant structure with other users. To share would have simply reduced the "ratebase" upon which their regulated returns were computed. But today and going forward, LECs and other utilities face far stronger economic and institutional incentives to share outside plant structure whenever it is technically feasible. There are two main reasons. First, because utilities are now more likely to either face competition or to be regulated on the basis of their prices (e.g., price caps) rather than their costs (e.g., ratebase), a LEC's own economic incentive is to share use of its investment in outside plant structure. Such arrangements permit the LEC to save substantially on its outside plant costs by spreading these costs across other utilities or users. Second, many localities now strongly encourage joint pole usage or trenching operations for conduit and buried facilities as a means of minimizing the unsightliness and/or right-of-way congestion occasioned by multiple poles, or disruptions associated with multiple trenching activities.

Because of these economic and legal incentives, not only has structure sharing recently become more common, but its incidence is likely to accelerate in the future – especially given the Federal Telecommunications Act's requirements for nondiscriminatory access to structure at economic prices.

The degree to which a LEC can benefit from structure sharing arrangements varies with the type of facility under consideration. Sharing opportunities are most limited for multiple use of the actual conduits (e.g., PVC pipe) through which cables are pulled that comprise a portion of underground structure. Because of safety concerns, excess ILEC capacity within a conduit that carries telephone cables can generally be shared only with other low-voltage users, such as cable companies, other telecommunications companies, or with municipalities or private network operators. Although the introduction of fiber optic technology has resulted in slimmer cables that have freed up extra space within existing conduits, and thus enlarged actual sharing opportunities, the HAI Model does not assume that conduit is shared because as a forward-looking model of efficient supply, it assumes that a LEC will not overbuild its conduit so as to carry excess capacity available for sharing.

Trenching costs of conduit, however, account for most of the costs associated with underground facilities – and LECs can readily share these costs with other telecommunications companies, cable companies, electric, gas or water utilities, particularly when new construction is involved. Increased CATV penetration rates and accelerated facilities based entry by CLECs into local telecommunications markets will expand further future opportunities for underground structure sharing. In addition, in high density urban areas, use of existing underground conduit is a much more economic alternative than excavating established streets and other paved areas.

Sharing of trenches used for buried cable is already the norm, especially in new housing subdivisions. In the typical case, power companies, cable companies and LECs simply place their facilities in a common trench, and share equally in the costs of trenching, backfilling and surface repair. Gas, water and sewer companies may also occupy the trench in some localities. Economic and regulatory factors are likely to increase further incentives for LECs to schedule and perform joint trenching operations in an efficient manner.

Aerial facilities offer the most extensive opportunities for sharing. The practice of sharing poles through joint ownership or monthly lease arrangements is already widespread. Indeed, the typical pole carries the facilities of at least three potential users – power companies, telephone companies and cable companies. Power companies and LECs typically share the ownership of poles through either cross-lease or

condominium arrangements, or through other arrangements such as one where the telephone company and power company each own every other pole. Cable companies have commonly leased a portion of the pole space available for low voltage applications from either the telephone company or the power company. Methods of setting purchase prices and of calculating pole attachment rates generally are prescribed by federal and state regulatory authorities.

The number of parties wishing to participate in pole sharing arrangements should only increase with the advent of competition in local telecommunications markets. Economic and institutional factors strongly support reliance on pole sharing arrangements. It makes economic sense for power companies, cable companies and telephone companies to share pole space because they are all serving the same customer. Moreover, most local authorities restrict sharply the number of poles that can be placed on any particular right-of-way, thus rendering pole space a scarce resource. The Federal Telecommunications Act reinforces and regulates the market for pole space by prescribing nondiscriminatory access to poles (as well as to conduit and other rights-of-way) for any service provider that seeks access. The aerial distribution share factors displayed below capture a forward-looking view of the importance of these arrangements in an increasingly competitive local market.

B.2. Structure Sharing Parameters

The HAI Model captures the effects of structure sharing arrangements through the use of user-adjustable structure sharing parameters. These define the fraction of total required investment that will be borne by the LEC for distribution and feeder poles, and for trenching used as structure to support buried and underground telephone cables. Since best forward looking practice indicates that structure will be shared among LECs, IXCs, CAPs, cable companies, and other utilities, default structure sharing parameters are assumed to be less than one. Incumbent telephone companies, then, should be expected to bear only a portion of the forward-looking costs of placing structure, with the remainder to be assumed by other users of this structure.

The default LEC structure share percentages displayed below reflect most likely, technically feasible structure sharing arrangements. For both distribution and feeder facilities, structure share percentages vary by facility type to reflect differences in the degree to which structure associated with aerial, buried or underground facilities can reasonably be shared. Structure share parameters for aerial and underground facilities also vary by density zone to reflect the presence of more extensive sharing opportunities in urban and suburban areas. In addition, LEC shares of buried feeder structure are larger than buried distribution structure shares because a LEC's ability to share buried feeder structure with power companies is less over the relatively longer routes that differentiate feeder runs from distribution runs. This is because power companies generally do not share trenches with telephone facilities over distances exceeding 2500 ft.[1]

[1] A LEC's sharing of trenches with power companies, using random separation between cables for distances greater than 2,500 feet requires that either the telecommunications cable have no metallic components (i.e., fiber cable), or that both companies follow "Multi-Grounded Neutral" practices (use the same connection to earth ground at least every 2,500 feet).

Default Values in HM 5.0a

Structure Percent Assigned to Telephone Company						
	Distribution			Feeder		
Density Zone	Aerial	Buried	Under-ground	Aerial	Buried	Under-ground
0-5	.50	.33	1.00	.50	.40	.50
5-100	.33	.33	.50	.33	.40	.50
100-200	.25	.33	.50	.25	.40	.40
200-650	.25	.33	.50	.25	.40	.33
650-850	.25	.33	.40	.25	.40	.33
850-2,550	.25	.33	.33	.25	.40	.33
2,550-5,000	.25	.33	.33	.25	.40	.33
5,000-10,000	.25	.33	.33	.25	.40	.33
10,000+	.25	.33	.33	.25	.40	.33

B.3. Support

Actual values for the default structure sharing parameters were determined through forward-looking analysis as well as assessment of the existing evidence of structure sharing arrangements. Information concerning present structure sharing practices is available through a variety of sources, as indicated in the references to this section. The HM 5.0a estimates of best forward-looking structure shares have been developed by combining this information with expert judgments regarding the technical feasibility of various sharing arrangements, and the relative strength of economic incentives to share facilities in an increasingly competitive local market. The reasoning behind the HAI Model's default structure sharing parameters is described below.

Aerial Facilities:

As noted in the overview to this section, aerial facilities (poles) are already a frequently shared form of structure, a fact that can readily be established through direct observation. For all but the two lowest density zones, the HAI Model uses default aerial structure sharing percentages that assign 25 percent of aerial structure costs to the incumbent telephone company. This assignment reflects a conservative assessment of current pole ownership patterns, the actual division of structure responsibility between high voltage (electric utility) applications and low voltage applications, and the likelihood that incumbent telephone companies will share the available low voltage space on their poles with additional attachers.[2]

ILECs and Power Companies generally have preferred to operate under "joint use," "shared use," or "joint ownership" agreements whereby responsibility for poles is divided between the ILEC and the power company, both of whom may benefit from the presence of third party attachers. New York Telephone reports, for example, that almost 63 percent of its pole inventory is jointly owned,[3] while, in the same proceeding, Niagara Mohawk Power Company reported that 58 percent of its pole inventory was jointly

[2] This sharing may be either of unused direct attachment space on the pole, or via co-lashing of other users' low voltage cables to the LEC's aerial cables. See, Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

[3] New York Telephone's Response to Interrogatory of January 22, 1997, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

owned[4]. Financial statements of the Southern California Joint Pole Committee indicate that telephone companies hold approximately 50 percent of pole units[5]. Although proportions may vary by region or state, informed opinion of industry experts generally assign about 45 percent of poles to telephone companies. Note that both telephone companies and power companies may lease space on poles solely owned by the other.

While the responsibility for a pole may be joint, it is typically not equal. Because a power company commonly needs to use a larger amount of the space on the pole to ensure safe separation between its conductors that carry currents of different voltages (e.g., 440 volt conductors versus 220 volt conductors) and between its wires and the wires of low voltage users, the power company is typically responsible for a larger portion of pole cost than a telephone company.

Because of the prevalence of joint ownership, sharing, and leasing arrangements, it is unusual for a telephone company to use poles that are not also used by a power company. ILEC structure costs are further reduced by the presence of other attachers in the low voltage space. Perhaps the best example is cable TV. Rather than install their own facilities, CATV companies generally have leased low voltage space on poles owned by the utilities. Thus, the ILECs have been able to recover a portion of the costs of their own aerial facilities through pole attachment rental fees paid by the CATV companies. The proportion of ILEC aerial structure costs recoverable through pole attachment fees is now likely to increase still further as new service providers enter the telecommunications market.

As noted above, the other, most obvious reason for assigning a share of aerial structure costs as low as 25 percent to the ILEC is the way that the space is used on a pole. HM 5.0a assumes that ILECs install the most commonly placed pole used for joint use, a 40 foot, Class 4 pole.[6] Of the usable space on such a pole, roughly half is used by the power company which has greater needs for intercable separation. That leaves the remaining half to be shared by low voltage users, including CATV companies and competing telecommunications providers.

Thus, a) because ILECs generally already bear well less than half of aerial structure costs; b) because ILECs now face increased opportunities and incentives to recover aerial facilities costs from competing local service providers; c) because new facilities-based entrants will be obliged to use ILEC-owned structure to install their own networks; and, d) because the Telecommunications Act requires ILECs to provide nondiscriminatory access to structure as a means of promoting local competition, on a forward-looking basis, it is extremely reasonable to expect that ILECs will need, on average, to bear as little as 25 percent of the total cost of aerial structure.

Buried Facilities:

Buried structure sharing practices are more difficult to observe directly than pole sharing practices. Some insight into the degree to which buried structure is, and will be shared can be gained from prevailing municipal rules and architectural conventions governing placement of buried facilities. As mentioned in the overview, municipalities generally regulate subsurface construction. Their objectives are clear: less damage to other subsurface utilities, less cost to ratepayers, less disruption of traffic and property owners, and fewer instances of deteriorated roadways from frequent excavation and potholes.

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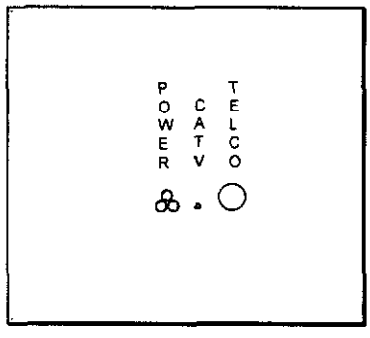
[4] Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997. These experts also predicted that sharing of poles among six attachers would not be uncommon.

[5] " Statement of Joint Pole Units and Annual Pole Unit Changes by Regular Members", Monthly Financial Statements of the Southern California Joint Pole Committee, October, 1996.

[6] Opinion of engineering team. Also, "The Commission {FCC} found that 'the most commonly used poles are 35 and 40 feet high, ...'" {FCC CS Docket No. 97-98 NPRM dtd 3/14/97 pg. 6, and 47 C.F.R. § 1.1402(c). A pole's "class" refers to the diameter of the pole, with lower numbers representing larger diameter poles.

Furthermore, since 1980, new subdivisions have usually been served with buried cable for several reasons. First, prior to 1980, cables filled with water blocking compounds had not been perfected. Thus, prior to that time, buried cable was relatively expensive and unreliable. Second, reliable splice closures of the type required for buried facilities were not the norm. And third, the public now clearly desires more out-of-sight plant for both aesthetic and safety related reasons. Contacts with telephone outside plant engineers, architects and property developers in several states confirm that in new subdivisions, builders typically not only prefer buried plant that is capable of accommodating multiple uses, but they usually dig the trenches at their own expense, and place power, telephone, and CATV cables in the trenches, if the utilities are willing to supply the materials. Thus, many buried structures are available to the LEC at no charge. The effect of such "no charge" use of developer-dug trenches reduces greatly the effective portion of total buried structure cost borne by the LEC. Note, too, that because power companies do not need to use a disproportionately large fraction of a trench – in contrast to their disproportionate use of pole space, and because certain buried telephone cables are plowed into the soil rather than placed in trenches, the HM 5.0a assumed LEC share of buried structure generally is greater than of aerial structure.

Facilities are easily placed next to each other in a trench as shown below:



Underground Facilities:

Underground plant is generally used in more dense areas, where the high cost of pavement restoration makes it attractive to place conduit in the ground to permit subsequent cable reinforcement or replacement, without the need for further excavation. Underground conduit usually is the most expensive investment per foot of structure -- with most of these costs attributable to trenching. For this reason alone, it is the most attractive for sharing.

In recent years, major cities such as New York, Boston, and Chicago have seen a large influx of conduit occupants other than the local telco. Indeed most of the new installations being performed today are cable placement for new telecommunications providers. As an example, well over 30 telecommunications providers now occupy ducts owned by Empire City Subway in New York City.[7] This trend is likely to continue as new competitors enter the local market.

[7] Empire City Subway is the subsidiary of NYNEX that operates its underground conduits in New York City.

References

Industry experience and expertise of HAI

The knowledge of AT&T and MCI outside plant engineers.

Outside Plant Consultants

Montgomery County, MD Subdivision Regulations

Policy Relating to Grants of Location for New Conduit Network for the Provision of Commercial Telecommunications Services

Monthly Financial Statements of the Southern California Joint Pole Committee.

Conversations with representatives of local utility companies.

New York Telephone's Response to Interrogatory of January 22, 1997, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

"Statement of Joint Pole Units and Annual Pole Unit Changes by Regular Members", Monthly Financial Statements of the Southern California Joint Pole Committee, October 1996.