



The Coming Changes in Telephone Service

The most important decisions affecting telephone rates are now being made in Washington, but the N.C. Utilities Commission still controls many aspects of telephone service. The new regulatory structures, combined with sweeping technological changes in the industry, threaten the concept of "universal" service. Many of the costs of the new technology will fall upon those customers who will continue to use only local service.

by Edward B. Hipp

The long-forecast changes in the way telephone service will be provided in North Carolina will soon be in place. Telephone customers in North Carolina will notice the changes in gradually increasing telephone bills, in the number of companies they will deal with in securing telephone service, and in a broad new group of choices to be made in the type of service they desire to have. The forces for these changes come primarily from the federal level, particularly the recent settlement of the federal antitrust case against American Telephone and Telegraph Company (AT&T) and the Federal Communications Commission's access charge orders taking effect during 1984.

On August 24, 1982, U.S. District Judge Harold Greene issued the now well-publicized "divestiture" order, which as of January 1, 1984, split AT&T into eight new corporations—a "new AT&T" and seven new holding companies for the local-service providers. In essence, Judge Greene's order allows AT&T to engage in enterprises which a 1956 antitrust consent decree had prohibited AT&T from pursuing. In exchange, AT&T must give up the local service aspect of its business. The case, *U.S. v. AT&T*, is still subject to further orders and decisions by Judge Greene.

This settlement has shaken the world of telephone regulation at its foundations. Moreover, the telephone industry has recently taken a quantum leap into the vast and complex world of telecommunications, computers, and data-

processing. The telephone instrument is now associated with everything from calling your next door neighbor to breaking into computer banks. The consent order by Judge Greene has prompted new rules by the Federal Communications Commission (FCC), new legislation by Congress, and increased lobbying activities by AT&T competitors, public interest groups, and state utilities commissioners. This spate of activity has forced an untangling of the various components of telephone service and regulation. Just as rapidly, however, the technological revolution is hurling new considerations into the regulatory arena.

The recasting of the telephone industry and of the federal/state matrix of telephone regulation threatens the concept of "universal" service—a telephone available to all households based upon an affordable rate for local service. The divestiture will cause a shift in costs from the long-distance network to the local customer. This shift of cost endangers the current standard of universal service. Historically, the FCC, the state utilities commissions, and the industry have

Edward B. Hipp has been a member of the N.C. Utilities Commission since 1977. He has testified before Congress on pending telephone legislation and has represented the National Association of Regulated Utility Commissioners (NARUC) on telephone issues in various capacities. Currently, Hipp is one of four NARUC representatives on the Federal-State Joint Board on Implementation of the Access Charge, which advises the Federal Communications Commission.

agreed to have the long-distance component of AT&T pay a fee to the local component for using the equipment maintained at the local exchange. Telephone companies have called this a long-distance "subsidy," resulting in an average nationwide cost of only \$11.00 per month for local telephone service.

This low monthly charge has made the concept of universal service a near reality. Nationwide, 93 percent of all households have telephones; in North Carolina, 87 percent have phones. The lower percentage here stems partly from slightly higher rates in the low-density exchanges in the mountains and other rural areas (\$12 to \$14) and partly from the below-national-average family income in the state.

Now that long-distance and local service will be divided, the so-called long-distance subsidy will no longer exist. The FCC has ruled that local customers must pay an "access charge" for being connected to the *interstate* long-distance network.

New competition among long-distance companies should provide local customers more choices. Those who can afford to enter an expanding long-distance market will shop for new telephone services much like they do for new television sets or home computers. But those who want only local telephone service will in effect be paying more for basic service. State utilities commissions and consumer representatives believe that the proposed FCC regulations resulting from the divestiture order will drive local service rates up beyond the affordable point for an increasing number of low-income households and thus reduce the possibility of achieving universal service.

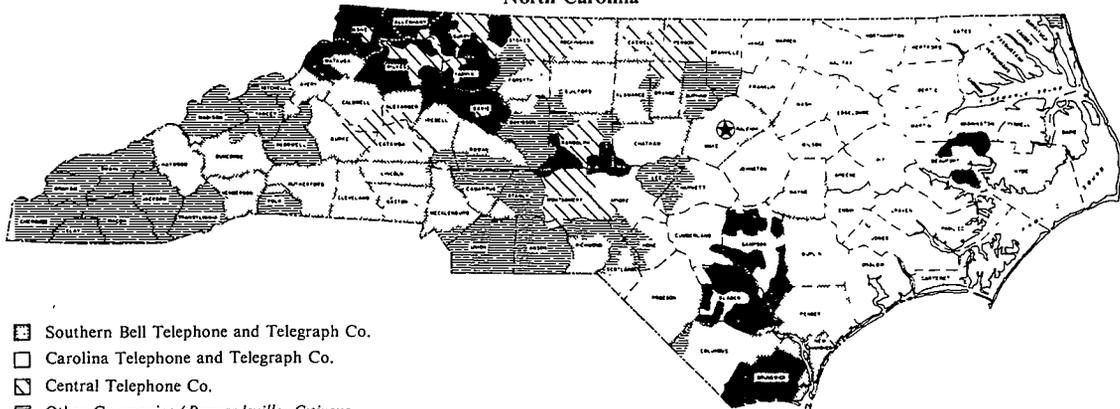
The most important decisions affecting

telephone rates are being made in Washington. The N.C. Utilities Commission, however, still controls many aspects of telephone service wholly within North Carolina. Under N.C. law and under the laws of most states, telephone service is still basically defined as a public utility service. During the development of the present telephone system over the last 30 to 40 years, the N.C. laws have not changed substantially. Companies provide this utility service under a monopoly franchise for a specified service area. The company must in turn provide adequate service to everyone who requests it in the franchise area at rates fixed by the Utilities Commission.

In North Carolina, 29 different telephone systems have franchises. Southern Bell has the franchise for the major cities and areas surrounding them, covering 48 percent of N.C. customers (see map below). Nineteen independent telephone companies serve varying parts of the state. The largest, Carolina Telephone and Telegraph Company, serves 26 percent of the N.C. customers and most of eastern North Carolina; the smallest, Barnardsville Telephone Company, serves one town with 654 telephones in the far western part of the state. Finally, nine telephone membership corporations, financed primarily by the Federal Rural Electrification Administration, and not regulated by the Utilities Commission, serve various rural areas.

All of these 29 systems are linked together by an *intrastate* toll network owned primarily by Southern Bell prior to January 1, 1984, but also, in part, by five of the independent companies. Under this network, the Utilities Commission has fixed *uniform intrastate* long-distance

Telephone Company Operating Areas in North Carolina



- Southern Bell Telephone and Telegraph Co.
- Carolina Telephone and Telegraph Co.
- ▨ Central Telephone Co.
- ▩ Other Companies (Barnardsville, Citizens, Concord, Continental Telephone of N.C., Continental Telephone of Va., Ellerbe, General Telephone, Heins, Lexington, Mebane Home, Mid-Carolina, North State, Pineville, Randolph, Saluda Mountain, Sandhill and Service telephone companies)

- Membership Corporations (Atlantic, Piedmont, Randolph, Skyline, Star, Surry, Tri-County, Wilkes, and Yadkin Valley telephone companies)

Source: N. C. Utilities Commission

Carol Majors

rates. Revenues from all intrastate calls were first pooled and then allocated back to the 29 systems according to the costs of service and a return on the portion of the local facilities used to originate and terminate intrastate long distance messages.

Much of this structure of telephone service in North Carolina is being recast by the AT&T divestiture. The 29 companies will continue to serve the local areas shown on the map. But intrastate long-distance service will change a great deal, and all 29 companies must eventually offer their customers access to the *interstate* long-distance services of AT&T competitors (see box below).

Major Results of Divestiture

A decade ago, AT&T competitors in the telephone equipment market and the interstate market — companies like MCI and Sprint—prompted the U.S. Justice Department's antitrust investigation of AT&T, and the eventual litigation which resulted in the recent divestiture. Because of the structure of the telephone industry, the divestiture order and the resulting actions by the Federal Communications Commission go far beyond promoting competition within the interstate telephone market. The divestiture—coupled with changing technology—affects virtually every aspect of telephone service. Below are the major results of the divestiture.

Structure. The present 22 Bell subsidiary operating companies, as of January 1, 1984,

were spun off from AT&T into seven regional holding corporations. These seven own the stock of the present 22 Bell operating companies. Southern Bell Telephone and Telegraph Company, which will continue to serve North Carolina, South Carolina, Georgia, and Florida, is part of the newly organized BellSouth Corporation of Atlanta, one of the seven regional corporations. BellSouth also owns South Central Bell Telephone Company, which serves Kentucky, Tennessee, Alabama, Mississippi, and Louisiana. The divestiture was accomplished primarily by AT&T issuing shares of stock in the seven regional holding companies to the stockholders of AT&T. The "new AT&T" stock and stock in the seven new holding companies was first sold over the market in November 1983.

The "new AT&T" is now released from the 1956 antitrust consent decree, which for 27 years prohibited AT&T from engaging in certain new services and enterprises. AT&T's first expansion appears to be into more computer-related telephone services and the general computer field, although anything might be possible in the future.

Equipment. On January 1, 1984, all of the telephones (technically called "customer premise equipment") owned by Southern Bell and leased to its customers were transferred to AT&T. Hence, AT&T now operates the phone stores in North Carolina and will continue to lease telephone sets presently in people's homes to those who desire to have the telephone sets

Interstate Companies Competing With AT&T

Beginning in 1969, Microwave Communications Inc. (MCI), earned the right through the federal courts to construct microwave facilities between St. Louis and Chicago. MCI subsequently earned the right to expand this system and has developed into a major communications supplier in the United States. Nearly 200 other common carriers operating over different parts of the United States now offer some kind of long-distance service. Companies like GTE's SPRINT (formerly Southern Pacific Communications), ITT Longer Distance, Satellite Business Systems, and MCI offer services throughout the major areas of the United States.

Those companies referred to as "other common carriers" (OCCs) normally own a

portion of their operating system through owned microwave lengths or leased satellite channels. They are also sometimes tied together with private lines and WATS lines leased from the telephone companies. Some, such as MCI, are constructing their own fiber optic light wave systems.

Other companies moving into the long-distance market are known as "resellers." They offer service almost entirely through the resale of WATS lines, which they rent on low 24-hour-a-day rates and resell on a minutes-of-use basis. Some companies utilize WATS resale, leased satellite services, and leased private lines.

Together, these AT&T competitors have gained some six percent of interstate toll revenues, a portion which is growing at a very rapid rate, estimated to reach 14 percent by 1984. Many new prospective entrants into the market have announced plans for ambitious national service offerings as new technology develops.

Some very large long-distance customers are developing private communications systems that do not utilize the major national interstate

owned and maintained by AT&T. Prior to January 1, 1984, residential customers could have purchased the sets from Southern Bell, along with certain single line business sets (see box on page 34). Customers may now purchase their telephones sets from sources registered with the FCC, including AT&T, and may plug them in themselves. Telephones are now available even at grocery checkout counters. The Bell operating companies will re-enter the business of selling or marketing new customer premise sets on a deregulated basis in areas where they can compete with the new suppliers.

Local Service. The Bell operating companies, i.e., Southern Bell in North Carolina, will be restricted primarily to providing local telephone service, new equipment sales, and limited long-distance calls. This local service has a broader definition, however, than just calls within Raleigh, for example. A new local area is called a "local access and transport area" or LATA. A call from Raleigh to Chapel Hill, for example, is within the *same* LATA and hence is considered "local service" by the divestiture order. Customers, however, will still pay a "long distance" fee for calls between two towns within a LATA, e.g., from Raleigh to Chapel Hill.

The divestiture order divided the North Carolina service area of Southern Bell into five LATAs, based on areas around Wilmington, Raleigh, Greensboro, Charlotte, and Asheville. All of the independents *except* the largest, Carolina Telephone and Telegraph Company, have joined the LATA system. Carolina

Telephone and Telegraph Company will have two separate "geographic transport areas" or GTAs (in Rocky Mount and Fayetteville), which will function like the LATAs.

Intrastate Long Distance. On January 1, 1984, Southern Bell, the 19 independent telephone companies, and the 9 telephone membership corporations providing local service in North Carolina began a new system of intrastate, long-distance calls. It is based on the LATA system prescribed by the federal court. A new subsidiary of AT&T, called AT&T Communications of the Southern States Inc. (ATTCOM), now provides all *inter-LATA* service—i.e., service *between* any two of the five Bell LATAs—and most service between a Bell LATA and a Carolina Telephone GTA.

For example, a call from Raleigh to Asheville travels *between* two of the new "local-service" areas, called LATAs; a call from Raleigh to Rocky Mount goes between a LATA and a Carolina Telephone GTA. The new AT&T subsidiary ATTCOM will provide this service—not Southern Bell. Southern Bell must withdraw from the inter-LATA long-distance service in North Carolina and transfer all of the equipment used in this service to ATTCOM. Hence, a Raleigh customer, even for calls *within* North Carolina, will have to pay a monthly bill to Southern Bell (for local service and long-distance calls within a LATA) and to AT&T (for most intrastate calls). AT&T may contract the actual billing procedure for these intrastate calls to Southern Bell.

switched system owned by AT&T. This fact—called "bypass" (see discussion in article, page 33)—has caused an important debate in Congress concerning an access bypass charge *for not using the central national switched system*. Congress is considering legislation that would require parties using communication systems that bypass the switched network to pay a charge in support of the national network in lieu of the common carrier access charges and the surcharge to support universal service. Such legislation has passed the House and the Senate committee.

"The authors of the House communications bill [HR 4102] consider bypass a serious threat to their plan to continue the long-distance subsidy," explains a recent issue of *State Policy Reports*.* "Their solution? Make the bypassers pay a subsidy also . . . If you start from a desire to use long distance to subsidize local rates and believe bypass is a serious problem, you wind up either with prohibiting [such companies as] GM and the railroads from developing a communications system or charging them for using systems

totally independent of phone companies."

The theory for this "non-use access charge" goes like this. Bypassers are using part of the national communications resources—radio frequencies, satellite licenses, and private lines—and therefore should support the national network as a national resource. Exemptions could be awarded to parties which demonstrate sufficient reason through: 1) a system that uses neither the switched network nor any connection to a facility in joint use with the switched network (i.e., private lines); and 2) have a volume high enough to provide service cheaper than the network can provide it. Such systems exist, but adequate and objective studies have not been made of the extent of such uses and the cost-benefit results of such use under the new technologies now available in the communications field.

—Edward B. Hipp

**State Policy Reports* special telephone issue, December 2, 1983, p. 24. Copies available from 3518 South Wakefield, Arlington, Va. 22206.

Table 1. N.C. Telephone Companies
Estimated Single-Party Flat Residential Telephone Rates, 1984-1990

Company ¹	No. of Residential Lines ²	Percent of Total	1983 Actual Rate ³	Average Residential Flat Rate ⁴			Increase, 1983-1990		
				1984	1987	1990	Dollars	Percent	
1. Barnardsville	654	0.03%	\$ 9.55	\$12.37	\$17.72	\$23.61	\$14.06	147.2%	
2. Carolina	497,429	26.10%	L ⁵ 6.75	9.25	14.85	21.34	14.59	216.1%	
			H 14.15	16.65	23.42	31.25	17.10	120.8%	
3. Central	128,744	6.75%	L 9.65	11.65	16.91	23.31	13.66	141.6%	
			H 14.14	16.14	22.10	29.33	15.19	107.4%	
4. Citizens	9,035	0.47%		10.20	13.02	18.66	14.71	144.2%	
5. Concord	53,898	2.83%	L 7.90	10.72	16.31	22.43	14.53	183.9%	
			H 9.90	12.72	18.62	25.10	15.20	153.5%	
6. Continental/ NC	61,419	3.22%	L 12.60	15.42	21.75	28.72	16.12	127.9%	
			H 15.30	18.12	24.87	32.34	17.04	111.4%	
7. Continental/ VA	337	0.02%		12.75	15.57	23.30	29.72	16.97	133.1%
8. Ellerbe	1,199	0.06%		11.00	13.82	19.80	26.39	15.39	139.9%
9. General Tel/ SE	70,406	3.69%	L 11.25	14.25	20.11	25.22	13.97	124.2%	
			H 12.35	15.35	21.38	26.69	14.34	116.1%	
10. Heins	15,160	0.80%		6.45	9.27	13.27	17.69	11.24	174.3%
11. Lexington	15,981	0.84%		8.25	11.07	15.85	21.13	12.88	156.1%
12. Mebane Home	3,970	0.21%		9.15	11.97	17.16	22.87	13.72	149.9%
13. Mid-Carolina	60,831	3.19%	L 10.00	12.82	18.73	25.22	15.22	152.2%	
			H 13.95	16.77	23.31	30.52	16.57	118.8%	
14. North State	53,532	2.81%		4.50	7.32	10.48	13.97	9.47	210.4%
15. Pineville	595	0.03%		4.75	7.57	10.85	14.46	9.71	204.4%
16. Randolph	2,124	0.11%		8.70	11.52	16.50	21.99	13.29	152.8%
17. Saluda Mountain	885	0.05%		6.10	8.92	12.77	17.02	10.92	179.0%
18. Sandhill	2,380	0.12%		6.95	9.77	14.00	18.66	11.71	168.5%
19. Service	712	0.04%		7.55	10.37	14.85	19.80	12.25	162.3%
20. Southern Bell	926,733	48.63%	L 10.02	13.11	19.51	26.91	16.89	168.6%	
			H 12.48	15.57	22.35	30.20	17.72	142.0%	
Total/ Weighted Avg.	1,906,024	100.00%	L \$ 9.00	\$11.82	\$17.74	\$24.50	\$15.50	172.2%	
			H \$12.74	\$15.56	\$22.06	\$29.51	\$16.77	131.6%	

¹The nine telephone membership corporations, which are not regulated by the N.C. Utilities Commission, are not shown on this chart.

²Source: Station Development Reports and Company Contacts.

³Average residential single party tariffs of each company on file with the Utilities Commission as of October 27, 1983.

⁴Data for the four largest companies (Carolina, Central, General Telephone, and Southern Bell) developed from company contacts. Data for all the other smaller companies based on average of increases of the four largest. Estimates

compiled by increasing 1983 flat rates by the estimated access charges anticipated because of the AT&T divestiture. Also there is added a five percent annual factor to cover other increases which may or may not be related to the divestiture (inflation, etc.).

⁵L is lowest flat rate and H is highest flat rate for one party residential service based on company calling scope.

Table prepared by N.C. Utilities Commission, November 16, 1983.

Interstate Service. AT&T will continue to own and operate its "long lines" division operating the primary national long distance network. AT&T will also retain ownership of Bell Labs and Western Electric Corporation. Finally, most of the long distance equipment and facilities owned by Southern Bell and the other 21 operating companies will be transferred to AT&T.

AT&T's *interstate* long-distance network will be interconnected with ATTCOM, the AT&T subsidiary providing *intrastate* service between LATAs. This interconnection allows for joint utilization of the existing local and toll facilities in North Carolina in originating and terminating interstate calls.

Long Distance Competition. All Bell operating companies, by specific order of the federal court, are required to offer *equal access* to their local exchange to any long-distance telephone company seeking to connect to that local exchange. While not parties to the AT&T

suit, the independent local telephone companies are currently in an FCC rule-making proceeding to require such equal access. Those local exchanges without sufficiently modern equipment to offer the equal access immediately must comply within three years (exchanges with over 10,000 subscribers) or by the 1990s (for smaller exchanges). This aspect of the settlement—directly related to the antitrust origins of the suit—allows local customers to select the long distance company they desire to use. Customers using MCI, Sprint, and other new carriers can eventually use the same dialing techniques as they use now for AT&T long lines and Southern Bell intrastate.

Some states, based upon their statutes, have approved other common carriers for *intrastate* long-distance service. The North Carolina law, based upon a *franchise system*, does not allow competition for intrastate service. Thus far, the Utilities Commission has not issued operating rights for new intrastate service to any carriers competing with Southern Bell.

Even so, several companies offering *interstate* toll service to and from North Carolina are located in the major North Carolina cities and are also providing *intrastate* service without authority. In 1983, the N.C. House of Representatives passed HB 1365, sponsored by Rep. George Miller (D-Durham), which would authorize the Utilities Commission to permit competition in North Carolina intrastate telephone service. This bill will probably be considered in the N.C. Senate in June 1984 for determination of the state policy on intrastate telephone competition.

Access Charges Boost Local Rates

The local telephone plant is used for both local and long-distance service. This plant has two major components: 1) the distribution or "outside" plant; and 2) the central office switching equipment. The outside plant includes the "local loops," the wires running from home or office to the central office. This outside plant is considered *non-traffic sensitive* (NTS)—that is, the cost of the outside plant (installation, maintenance, etc.) has to be incurred whether the lines are in use or not. The outside or NTS plant makes up 60 to 70 percent of the local-plant costs. The central switching equipment is *traffic sensitive* and hence is designed to cover the percentage of lines in use at peak periods.

Before divestiture, the local plant was considered a joint expense for long-distance and local use, but the *long-distance* providers paid more per minute of use than local users, based on a higher value assigned to long-distance service. After the divestiture order, the Federal Communications Commission devised a new theory for dividing the joint-use costs. Under this theory, the local customers—not the long-distance providers—will pay most of the NTS or outside plant costs through a system of "access charges."

The new FCC theory goes like this. Local customers should pay for the local loops—that is, the cost of getting a call from a local residence or business to the central office equipment. These local loops have to be built for the customers' convenience, regardless of the volume of use. Hence, reasons the FCC, the end user should pay the entire cost of this non-traffic sensitive plant. The interstate long-distance providers are secondary users of this NTS plant so they should be able to use it without charge, says the FCC. Because the cost of the central office switching equipment is traffic sensitive, the long-distance companies will continue to pay local providers a fee for using this equipment. This FCC theory could lead to a

two-tiered system of new charges for access to the interstate and intrastate telephone network.

Interstate Access Charge. According to an FCC regulation, beginning April 3, 1984, all residential end users were to pay a \$2.00 per month charge and all businesses up to \$6.00 per month for access to the interstate network. The charges were to be phased in through 1989 when the national average for residences and businesses would be \$6.00 per month. State utility regulators have no authority over this charge; only Congress or the FCC can alter it. Indeed as this issue of *North Carolina Insight* went to press, the FCC delayed the schedule until 1985.

A principal justification used by the FCC for this access charge is the "bypass" problem. Unless all local customers absorb the joint costs of the outside plant in a flat monthly fee, contends the FCC, extensive long-distance users will "bypass" the switched network. Put another way, if the NTS costs of the local telephone plant are included in long-distance tolls—rather than being paid by *all customers* as a flat-fee charge—these toll rates will be higher than the cost of new alternative long-distance services. Without reducing interstate tolls through the new access charge, interstate rates would drive some customers away from the switched toll network to many new technological means of direct communications, argues the FCC.

The FCC points to existing bypass systems using primarily microwave and private-line networks and to the beginning availability of even more advanced private networks utilizing satellites and shared ownership of fiber optics systems. Some of these modern bypass installations will be able to compete against *any possible rates* on the switched network, even after transferring the NTS costs to the local customer. Other systems, called "uneconomic bypass" systems, would be feasible only against the higher toll rates that would result if there was no flat-fee access charge. The FCC program is designed to discourage these systems.

Consumer groups and others opposed to the FCC's system of customer access charges argue that no adequate analysis has been made of the bypass problem. Moreover, all evidence shows that users of the present long-distance switch system are growing at a rate of 8 to 9 percent each year. Finally, they argue that most of the bypass systems will have little overall effect on the current network and will benefit only those customers that use interstate services extensively.

The cost of the outside plant varies extensively from area to area depending upon the density of customers using a distribution plant. Since the outside plant is 60 to 70 percent of the

local joint-use costs, shifting the burden of this joint cost to the local customer will result in varying increases across the country. Present estimates indicate that local rates will double in most exchanges and triple in some rural and low-density exchanges by 1989 (see Table 1), although the FCC contends the increase will average no more than 50 percent.

Because of the recognition of the value of universal service and the need to maintain affordable rates, the Federal-State Joint Board on Implementation of the Access Charge, composed of three members of the FCC and four members of state utilities regulatory commissions, has recommended to the FCC that a new "universal service fund" be created. This fund, supported by a surcharge on long-distance calls, would help support those local companies with NTS costs greater than 15 percent above the national average due to low density or other geographic considerations. The FCC approved this proposal by voice vote on December 1, 1983.

For nearly a decade, Congress has been studying the need to revise the Communications Act of 1934. As recently as 1982, the U.S. House and U.S. Senate passed bills aimed at this purpose, but they were so divergent in approach that no bill reached a conference committee. In the 1983 Congress, both the full House and a Senate committee governing communications matters passed bills entitled "The Universal Telephone Service Preservation Act of 1983." These bills (HR 4102 and S 1660) would reverse the FCC end-user access-charge decision and institute a substantially different approach to the access charge. Each bill incorporates a universal service fund for assistance similar to the Joint Board recommendation approved by the FCC. (Both bills would aid those local companies with costs greater than 10 percent above the national average; the figure is 15 percent in the Joint Board recommendation.) In an action considered a rebuff to the Reagan administration and AT&T, the House passed HR 4102 in November of 1983, shortly before adjourning. The Senate will probably consider S 1660 in its 1984 session. A conference committee may well be the critical arena for deciding whether the FCC access-charge system will stand.

Intrastate Access Charges. The second-tier access charge related to the joint-use plant is regulated at the state level. In North Carolina, the new AT&T subsidiary ATTCOM, Southern Bell, and the other telephone companies requested that local customers pay an end-user access charge for connection to the intrastate long-distance network. Following the FCC method in its request, these companies want end users to pay for access to the intrastate

long-distance network with a flat monthly rate. Local customers would have to pay this fee even if they never make an intrastate long-distance call.

The Utilities Commission Public Staff, which represents consumers in rate hearings, filed a plan which would put *all of the charges on the long-distance providers* seeking access to the local exchange. Consumers would pay no access charge to intrastate service.

The commission completed public hearings on November 4, 1983, on this proposed intrastate access charge. Numerous participants

Have you bought your telephone yet?

The federal rules authorizing customers to provide their own equipment apply to North Carolina local service. North Carolina subscribers have the right to provide their own telephone sets and to save the \$1.50 to \$4.60 per month charge per set for lease and maintenance from AT&T. North Carolina customers have not exercised their option to any great degree to date, although the rate of transfer to customer-owned equipment is increasing month to month.

In October 1983, there were 2,442,226 access lines in North Carolina, to which there were connected 3,348,407 company-owned telephone sets. In other words, in North Carolina, for each access line, there are still 1.42 *company-owned* sets. During October 1983, North Carolina customers turned in 70,587 company-owned sets, while the number of access lines increased by 7,247. Should this rate continue, it would represent approximately 840,000 conversions to customer-owned sets per year—or about 25 percent of the total company-owned sets. If this rate were to continue, there would be a substantially complete changeover to customer-owned equipment in four years. An unknown factor in these conversions is the final number of customers who will continue to prefer or need company installation and maintenance as compared with those who prefer to own and maintain their own sets.

From January through August 1983, 18,500,000 telephone instruments were imported into the United States, compared to 2,100,000 for the same period in 1982. The effect of this increase in imported telephones on manufacturing employment in the United States has not been fully reported.

—Edward B. Hipp

presented evidence during the two-week hearing. On December 16, the commission released an interim order rejecting the proposed flat-rate, monthly, end-user fee. The commission will release a broader decision by April 3, 1984, regarding access charges to be paid by long-distance companies providing intrastate service.

Telephone Rate Designs and Other Changes

The new deregulation policies and technological advances will alter service in other ways besides the new access charges. Local rates will increase due to changes in depreciation methods and because of reduced revenues from customer premise equipment. In addition, many new petitions will emerge from various parties to modify telephone rate designs. These modifications could also alter local rates.

Depreciation Rates. The national deregulation policy requires local exchanges to offer equal access to all toll providers. Consequently, local exchanges must modernize older "step-by-step" and "cross-bar" exchanges and install modern digital and electronic exchanges and the more advanced "fiber optics" transmission paths. This redesigning of equipment drastically "shortens" the expected life of the old equipment. Formerly, the state commissions fixed the depreciation rates. The FCC has now preempted that state-level authority in order to prescribe higher rates of depreciation expense. Local companies have consequently applied for rate increases based upon a more rapid rate of depreciation to get the old equipment off the investment books.

Customer Premise Equipment Revenue. Beginning in 1957, initially, and receiving more complete approval from orders in 1967 and 1977, customers have won the right to attach their own equipment to the telephone network. The federal courts in the AT&T divestiture and the FCC in a separate ruling have deregulated all new customer premise equipment (CPE). These actions totally open up the marketplace for customers to purchase their own equipment, as contrasted to the former practice of the telephone company leasing the equipment to the customer, and the practice before that of including one set in the monthly subscriber charge. The profits from the lease of equipment helped support the local exchange. To offset the revenue lost from the lease of equipment, some increases in local rates will take place. It is also causing some dislocation in the telephone workforce by eliminating the obligation to maintain the customer-owned equipment.

The FCC has also begun a program of getting the wiring on the customer's premises out of the "rate base" (see sidebar by Hugh

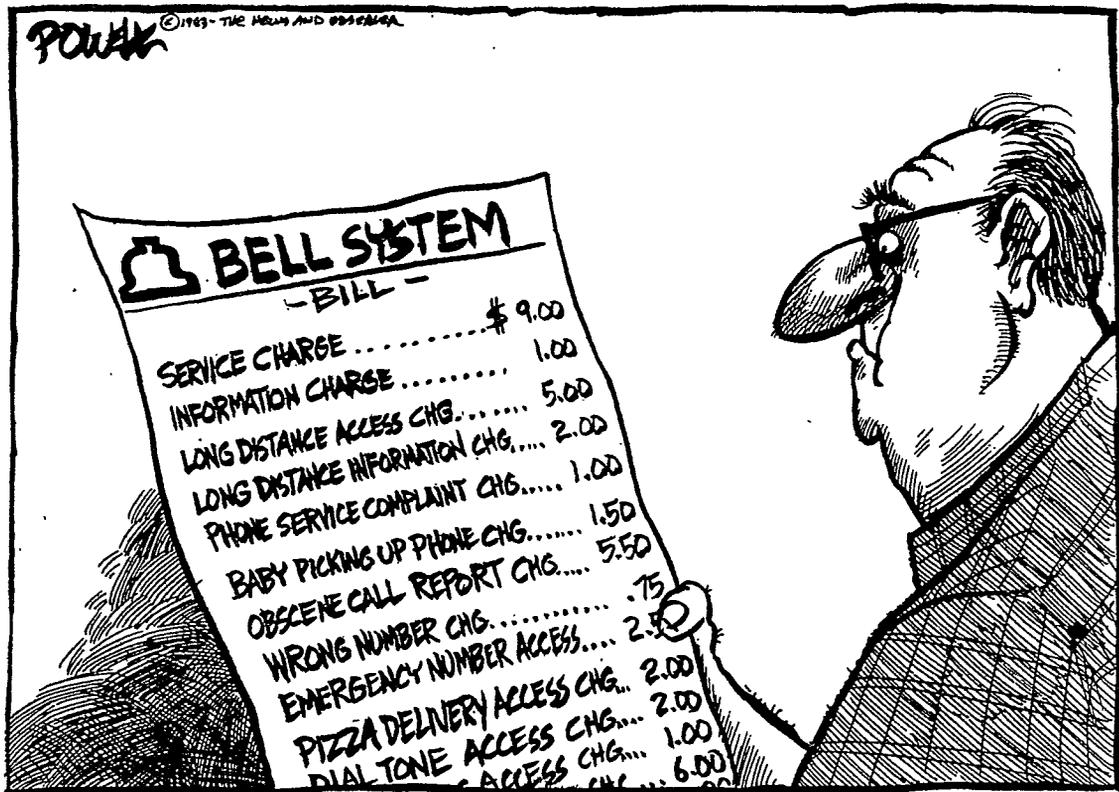
Wells on page 6 for an explanation of this term). The FCC now requires that the inside wiring on the customer's premise be an *expense item* rather than a *capital item*. This causes local rates to increase in the short run because a one-time *expense item* is a higher cost of service for the first few years than this item would be if capitalized as part of the telephone plant, as it has been under North Carolina practice.

Local Measured Service (LMS). The AT&T system has for several years sought to convert most local-exchange rate structures from a flat rate to a *local measured service* (LMS) which measures local calls in essentially the same way as long-distance calls (i.e., the duration of the call, the distance of the call, the time of day of the call, and the number of calls). Some state commissions have approved local measured service, but North Carolina has not. Some customer groups have opposed LMS as a reduced grade of service which infringes upon their present freedom of conversation and inhibits use. Since some 70 percent of the local plant is in the outside distribution wire loops, which is largely non-traffic sensitive (NTS), the same costs are being incurred whether the NTS plant is used or not. These costs are capital costs for installation, maintenance, depreciation, and cost of capital for the wire network.

On June 3, 1983, the N.C. Utilities Commission approved on an experimental basis an offer of *optional* local measured service in nine representative Southern Bell exchanges (Charlotte, Raleigh, Asheville, Wilmington, Gastonia, Shelby, Cary, Apex, and Forest City). The commission viewed this as a possible alternative for a customer seeking to escape increasing local rates. A thorough study of the use and application of the LMS plan needs to be conducted. Research on cost data is also needed for future consideration.

Many large cities in other states have long had very complicated local exchange rates based upon calling zones and number of calls, a system similar to local measured service. Consumer groups which oppose local service when measured all four ways (i.e. duration, distance, time-of-day, and number of calls) have sought a more simplified rate design based only on the number of calls. This method would offer a reduced monthly rate for the first 30 or 60 calls of any length or distance or time, with an extra charge per additional call.

Extended Area Service. The N.C. Utilities Commission has had a program for many years of authorizing and ordering "extended area service" in communities willing to pay an increased flat-rate monthly charge for additional calling scope. This program has most often



provided countywide flat-rate telephone service. It has not been achieved for all 100 counties in North Carolina. Extended area service has been implemented only: 1) after a study of the cost to serve the additional area has been made upon petition by customer groups; and 2) if the study shows an adequate need, subscribers have voted in a post-card ballot system to receive the service at the increased charge. The new structure of intrastate service in North Carolina will affect this system to some degree.

De-averaging of Uniform Rate Design.

Competition for long-distance service may affect the continued viability of uniform toll rates on a nationwide or a statewide basis. As competition in interstate service has begun to drive prices down in the choice high-density markets, the question has emerged: Should the FCC require AT&T to maintain uniform rates (and hence lose business) or should the FCC allow AT&T to adjust its rates to meet competition in the choice markets? Once the uniform-rate design plan is broken—a step called “de-averaging”—lower rates will result in the high-density markets but high rates in the low-density markets. This result would in fact achieve some economic efficiency through cost-based rates—just as AT&T, the FCC, and others argue. *But the result would also chip away at the public policy of having universal telephone service at uniform rates.*

Historically, public policy has recognized

the value of a national telephone network with uniform treatment and nondiscriminatory rates for all users. Competitors to AT&T have already reduced interstate rates from 30 to 60 percent for certain calls, effectively de-averaging the uniform interstate rate structure. In response to this competition and to the new divestiture structure, AT&T has filed with the FCC a proposal to reduce its *uniform* interstate rates by approximately 10 percent; this reduction is based upon the transfer of cost to the end user through the interstate access charge discussed above. The reduction would presumably grow as the end user access charge is phased in during each year through 1989.

If the legislature changes the present N.C. law to authorize competition on intrastate calls, the companies currently holding the franchise for intrastate service would face the same competitive pressures. They would undoubtedly request reductions in the *uniform* intrastate rates based upon *increased* intrastate flat-fee monthly access charges. Without some kind of surcharge system for relief for low-income persons not using the intrastate services, universal service would be further weakened.

Business/Personal Rate Differentials.

Business rates are generally between two times and two-and-one-half times the residential rates, based upon peak-hour use and value of service. The FCC interstate access charge will ultimately

be the same \$6 per month on residential and business lines after the full phase-in period. Such developments will require more analysis of the rate differentials now assigned between residential and business service.

Negotiating the Future Telephone System

The telephone system of the future in North Carolina, as well as the national network, will depend upon the complex interactions now going on between the federal courts, the Federal Communications Commission, and the Congress for the balance of power in writing the combination of laws, regulations, and court decisions that will control the system. The states, primarily through the state utilities commissions, are seeking to protect the jurisdiction of the states in that national decision—to retain jurisdiction of the local exchange and intrastate long-distance, based upon the overwhelming majority of telephone calls being in local and short-haul toll service. All of the present participants in the system and the potential new entrants are participating fully before the courts, Congress, and the FCC—including AT&T, the other common carriers, the new Bell operating companies, the large users of toll service, the equipment manufacturers, the private communication system operators, and many consumer groups.

Congress could have the final word, but for ten years Congress has been investigating and considering bills to rewrite the Communications Act. The many diverse views in the Congress and the many conflicting parties calling on Congress have so far prevented Congress from enacting any new legislation. The federal courts have participated heavily in granting rights to new entrants in the customer premise equipment field and the interstate toll field. It must be assumed that the federal courts will continue this trend in monitoring the divestiture of the AT&T system and in possible new proceedings concerning issues down to the intrastate level. The Federal Communications Commission is actively pursuing policies that support competition in interstate tolls, customer premise equipment, and in the new cellular radio and radio paging systems.

The substantial changes now taking place in telephone regulations will allow extensive use of new advanced technologies. The drive of the FCC to reduce interstate toll rates by shifting costs to the local exchange will help promote the use of new interstate communications equipment. The new entrants to the competition will offer services through satellites, microwave, new radio services, and fiber optic circuits, together with new uses of the present wire-line system and

conversion to digital service. Tremendous advances in computerized telephone sets will offer many new features in services, including the many proposals now linking data banks and other central services through the communications network.

The goal of the state regulatory commissions will be to see that the costs of the new technology are not shifted to the many residential customers who will not be able to afford the expensive new services and who still want only basic telephone service. There will be a substantial number of middle- and low-income customers who will only want a telephone to reach fire, police, and medical services and to call their friends and family for personal and social reasons.

Some aspects of the existing access-charge plan and other results of deregulation *will place many of the costs of the new technology upon those who will not use it.* The major changes will help those customers who use large volumes of long-distance service through advanced telephone equipment. Most local consumers will rarely use the advanced technologies but will be paying a heavy part of the costs of the transition.

A 100 percent increase in local rates will threaten significant drop-off among low-income customers. This threatens the ability of these persons to reach necessary and essential services by telephone. It also reduces the value of the telephone network for *all customers*, who can then reach a declining percentage of the population by phone. Maintaining affordable rates means that many low-income persons who are housebound or living alone can remain in contact with society through the telephone and hence take care of themselves. Without the telephone, many may have to turn to the far more expensive alternative of nursing homes or other health care institutions.

Advanced technology and deregulation are beginning to offer new services to telephone customers. Competition is bringing reduced rates from long-distance companies. New rate concepts propose options in local rates for limited use customers. All of these changes come at the price of increased local rates and loss of uniform long distance rates.

Unless the changes are accomplished with great care, the public policy supporting universal telephone service will be compromised and a valuable public resource will be weakened. A major issue for the future will be to revise the costing system to protect those customers who need and want only the existing basic telephone. They should not have to pay a disproportionate part of the change-over to the new deregulated system. □