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In the Matters of	)	
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-147
	)	
and	)	
	)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	CC Docket No. 96-98

COMMENTS OF BELLSOUTH

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BellSouth Corporation, on behalf of itself and its affiliates ("BellSouth"), submits these comments in response to the Fifth Further Notice of Proposed Rulemaking ("*Notice*"), FCC 00-297 (August 10, 2000), issued in the captioned proceeding.[1]

I. INTRODUCTION AND SUMMARY

The Commission's Fifth Further Notice (*Notice*) raises several issue concerning how the Commission's loop unbundling rules should apply to the new investments ILECs are making to upgrade their last mile transmission facilities, but seems to miss the issue of *whether* those rules can apply to these new ILEC investments.[2] This is a fundamental flaw, and the *Notice* needs to be completely rethought for at least two reasons. First, the Supreme Court's *Iowa Utilities Board* decision and the Commission's own *UNE Remand Order*[3] are clear that a fact-based finding of impairment is an essential pre-requisite to unbundling ILEC facilities. However, there is no finding (or record) in the *UNE Remand Order* proceedings that CLECs would be impaired in delivering advanced services without unbundled access to ILEC facilities. ILEC investments in new and upgraded last mile facilities networks cannot be unbundled so that CLECs can provide advanced services until the Commission makes the required findings.

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[1] See *In re* the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, adopted August 9, 2000, released August 10, 2000, FCC 00-297. *Notice.*

[2] *Notice* at ¶ 118.

[3] Implementation of the Local Competition Provisions in the Telecommunication Act of 1996, Third Report and Forth Further Notice of Proposed Rulemaking, CC Docket No. 96-98, (rel. Nov. 5, 1999)(*UNE Remand Order*).

Second, the *Notice* absolutely fails to grapple with the essential overall questions of the Commission's statutory responsibility to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability."[4] Requiring ILEC investment in new advanced services facilities to be sold at government-set prices will discourage ILEC investment, and encourage CLECs to free-ride on ILEC investment rather than deploy their own facilities. This result is especially ill-advised because CLECs and other firms are as well-positioned as ILEC to invest in new last mile facilities.

[4] 47 U.S.C. § 706(a).

The Commission raises the right questions in its more recent and broad-ranging Notice of Inquiry concerning whether to regulate high-speed access over cable facilities.[5] In the *NOI* the Commission explains that "[t]he convergence of technologies that allows the provision of high-speed services over traditional cable television facilities, telecommunications lines, and other facilities raises several fundamental questions concerning the Commission's traditional approaches to such technologies."[6] Key policy questions raised in that *NOI* concern whether market forces will continue to guarantee open access and whether a "uniform framework" should apply to "all providers of high-speed services," including specifically "[w]ireline incumbent and competitive LECs."[7] The *Notice's* narrow proposal to consider how to unbundle ILEC advanced services facilities in isolation, without resolution of the essential policy questions raised by the *NOI* -- policy questions that affect all providers of high-speed and advanced services -- is untenable.

BellSouth is a leader in the initial exploration of using fiber technologies to deliver advanced services to consumers. The deployment of fiber to serve consumers is both expensive and risky. UNE regulation of new fiber deployment is likely to remove the financial incentive for BellSouth to deploy fiber last mile facilities in order to provide consumers advanced services.

Subjecting ILEC investments in upgrading local loops would conflict with well-established Commission precedent that there is vibrant competition to deliver advanced services. The Commission cannot and should not proceed to unbundle ILEC investment

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[5] Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Notice of Inquiry, GN Dkt. No. 00-185 (rel. Sept. 28, 2000)(*NOI*).
[6] *NOI* at ¶ 1.
[7] *NOI* at ¶¶ 34, 43-44.

in new loop technologies to deliver these services without, at a minimum, carefully analyzing whether these risky new investments can be unbundled under the test set out in the *UNE Remand Order*. The Commission should also complete its consideration of the overarching questions teed up in the *NOI* concerning whether advanced services should be regulated, and if so, whether a uniform framework is necessary to encourage investment and innovation, before singling out ILEC last mile investments for regulation.

II. BELLSOUTH'S PLANS TO DELIVER ADVANCED SERVICES BY INVESTING IN NEW LOOP TECHNOLOGIES

BellSouth is at the forefront of using fiber technologies to deliver advanced services to consumers. BellSouth is already deploying fiber-in-the-loop (FITL) to deliver advanced services on a limited basis. BellSouth is also investing in Integrated fiber-in-the-the-loop (IFITL) technology to combine voice, data and video services over an integrated loop facility. BellSouth IFITL facilities pass over 150,000 homes today.

BellSouth continues to invest in upgrading its current network to deliver voice and data services more efficiently. The first section below describes BellSouth's investment in upgrading its current network. The second describes BellSouth's experience with fiber in the loop and its plans to invest in building new networks based on fiber loop technologies in order to deliver advanced services to consumers.

A. Upgrading Today's Network

BellSouth has been actively deploying electronics to upgrade its copper loops for some time. These electronics consist primarily of Digital Loop Carrier (DLC), fiber optic multiplexers and Digital Subscriber Line (DSL) products. Today, BellSouth serves approximately 9 million lines through DLC systems. These systems range in size from small two-line transport systems up to systems with as many as a few thousand lines. BellSouth has been placing DLC since the 1970s. In most cases involving larger DLC systems, fiber is used between the DLC Remote Terminal (RT) and the central office. Smaller DLC systems are deployed on copper using DSL-like technology. BellSouth uses both Time-Division Multiplexing and Wave Division Multiplexing (WDM) products today to make additional bandwidth available at DLC RT sites. (BellSouth uses a coarse WDM approach that uses only two wavelengths. Utilizing additional wavelengths poses several technical and economic issues, as discussed below. BellSouth is now evaluating Dense Wave Division Multiplexing for use on certain CO-to-CO routes, but is not considering using DWDM in the loop.)

In order to deliver higher speed consumer Internet access BellSouth is actively deploying DSLAMs in central offices and remote terminals. Although remote DSLAMs are generally fed by fiber, some are still served over copper. Where they are served by fiber, WDM is being used today in some locations to provide a high-bandwidth data circuit to the CO for ATM traffic, in addition to a narrowband circuit.

B. Investing In Tomorrow's Network

BellSouth is also investing in what is in essence a new fiber loop network that, if it can be broadly deployed, could provide advanced services to the consumers as

contemplated by the Congress and the Commission.[8] The IFITL technology that BellSouth is testing allows voice, data and video to be delivered to consumers over an integrated local network. BellSouth FITL facilities, which can deliver voice and data, currently pass about 550,000 homes. About 150,000 of these homes are served by upgraded IFITL facilities, which add the ability to provide multichannel video programming.

FITL deployments generally occur in "no plant" areas where new telecommunications facilities must be placed, primarily to serve new housing developments. FITL is also first choice for copper plant replacements when the area to be replaced is significantly large and market requirements exist. FITL deployments have averaged about 100,000 homes passed per year and are expected to continue (closely tied to new housing starts). Where BellSouth has an active Cable TV franchise and market demand is high enough to warrant investment, FITL systems are upgraded to IFITL. In year 2000, we expect about 20,000 of these new 100,000 FITL homes passed to be IFITL/video homes passed.

IFITL works by literally marrying two common telecommunications architectures. The base system is either a time-division-multiplexed/SONET Fiber to the Curb Digital Loop Carrier or an ATM Fiber to the Curb Digital Loop Carrier. Overlaid on this base system is an advanced Hybrid Fiber Coax (HFC) system that shares the same fiber from the Remote Terminal (RT) to the curbside pedestal (ONU). In both fiber to

[8] Section 706 of the Act defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications." The Commission recently defined "high-speed" as "those services with over 200 kbps capability in at least one direction." Advanced services are those services with over 200 kbps capability in both directions. *Second 706 Report* at ¶ 11. BellSouth's IFITL architecture can provide services at speeds well over 200 kbps in both directions. Service provided over IFITL can

the curb designs, as well as our emerging fiber to the home architecture under field testing today, a very broad spectrum of light is used in the 1550-nanometer window to provision the HFC system carrying the cable service. This 1550 HFC spectrum is presently incompatible with DWDM in that the former has a broad linewidth that overshadows the narrow linewidth used with DWDM. There two types of spectrum usage cannot coexist on the same system.

Today, BellSouth delivers voice and data services to a group of houses over fiber by using a single wavelength – one color. BellSouth uses time division multiplexing to provide separate voice and data channels to individual households. Employing different wavelengths for each household, the equivalent of making each wavelength (or color) the equivalent of a loop does not appear to be workable at present. Doing so would require balancing the power of multiple lasers and accomplishing a number of other difficult technical tasks.

Video services, where available, are delivered to the RT over fiber on a separate wavelength using coarse WDM. WDM uses two colors, one to deliver voice and data and a second to deliver video. BellSouth does not use DWDM in the loop and has no current plans to do so.

The costs of installing fiber loops so that consumers can benefit from advanced services will be immense. BellSouth estimates that the capital costs of overbuilding its current copper facilities would run well over 1,000 dollars per household passed. Of course, there are many millions of households in BellSouth's region. Although the cost of fiber has decreased substantially over the last several years, installing fiber loops still

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meet the Commission's goal for advanced telecommunications capability that will create "a two-way, truly interactive medium rather than one that is passive and entertainment-oriented. *Second 706 Report* at 12.

costs significantly more than copper. The incremental costs of deploying fiber in greenfield housing developments, which is where BellSouth has chosen to engage in its limited deployment of fiber, runs a few hundred dollars more per household passed than copper.

Because deploying fiber loops costs substantially more than copper loops, even in greenfield developments, the financial case underlying BellSouth's current greenfield deployment of fiber loops depends on being able to reap some financial upside beyond the retail revenues from selling voice and data services to consumers. Whether sufficient market demand for these additional services -- from consumers or carriers -- will appear is uncertain. However, it is clear that subjecting this risky investment to UNE regulation is likely to destroy the financial justification for deploying fiber loops. UNE regulation would allow competitors to free ride on BellSouth's investment at government set prices, lowering the potential for basic retail revenues from voice and data services, and limiting the ability to reap additional revenues from providing advanced services. Greenfield deployment of fiber loops, let alone the wide-scale fiber overbuilds necessary to make advanced services available to all consumers, will not be financially justifiable if the Commission chooses to subject these new investments to UNE regulation.

III. The *Notice's* Approach Is Wrong; ILEC New Investment In Last Mile Facilities Cannot Be Subject To Unbundling So That CLECs Can Deliver Advanced Services Until The Commission Finds That CLEC Ability To Deliver Advanced Services Would Be Impaired Otherwise And That Unbundling Meets The Policy Objectives Of Congress And The Commission

The *Notice* seems to assume that as ILECs invest in improving their networks, CLECs are entitled to those upgrades and any newly created features, functions or

capabilities as unbundled network elements at prices set by the government.[9] However, before any unbundling can occur, section 251(d)(2) requires that the Commission find that carriers are impaired in their ability to deliver the services at issue. Thus, the Commission must apply the impairment test set out in its *UNE Remand Order* before proceeding further. In particular, the Commission must apply its impairment test to advanced services and to newly deployed loop facilities where CLECs have the same opportunity to invest in deploying facilities over their own.

The *Notice* simply skips these legal prerequisites. For example, the *Notice* seeks comment on how to guarantee that CLECs get enough of the new capacity on fiber loops that ILECs are deploying so that CLECs can deliver "entertainment quality video."[10] The idea that UNE access is available so CLECs can become cable television providers or providers of "entertainment," does not have the benefit of any Commission finding of impairment, and cannot legally be justified under section 251(d)(2).

A. Unbundled Access To ILEC Fiber Loops And Other Network Upgrades Requires A Finding Of Impairment; All The Evidence Suggests That CLEC's Are Not Impaired In Their Ability To Provide Advanced Services Without Unbundling

[9] Thus, the *Notice* asks whether ILEC efforts to upgrade their networks "necessitates any modification to or clarification of the Commission's local competition rules" instead of asking whether those rules allow for unbundling of this new investment at all. *Notice* at ¶ 118.

[10] *Notice* at n. 264 ¶ 126. Another example is the *Notice's* inquiry into unbundling entire wavelengths in the local loop. *Notice* at ¶ 121. Again, this appears to be intended to provide CLECs with capacity to offer advanced services including cable television services.

The Supreme Court's *Iowa Utilities Board* decision and the Commission's *UNE Remand Order* are absolutely clear that a pre-condition to compelled unbundling is a finding of impairment for the services at issue based on a careful analysis of network alternatives. Yet, the *Notice* reads as though the Commission intends to skip over the question of *whether* its current unbundling rules for loops and sub-loops can be applied to new last mile facilities needed to provide advanced services in favor of going directly to the question of *how* those rules should be applied.[11]

The *Notice* approach is not only directly at odds with the Commission's past approach to compelled unbundling, but also directly inconsistent with section 251(d)(2) and the Supreme Court's *Iowa Utilities Board* decision. What's more, this approach would reverse the Commission's considered course of approaching unbundling decisions: "we generally do not impose such [unbundling] obligations first and conduct our "impair" inquiry afterwards."[12] New facilities for advanced services cannot, and should not, be unbundled by the operation of labels rather than the considered analysis required by the statute, Commission policy and commonsense.

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[11] *Notice* at ¶ 118.
[12] *Supplemental Order Clarification* at ¶ 16.

As acknowledged in the *UNE Remand Order*, section 251(d)(2) sets the standard for unbundling network elements. Network elements may only be unbundled where they meet that section's "necessary" or "impair" requirements. The statutory impair standard requires consideration of whether a carrier's ability to "provide the services it seeks to offer" would be impaired without access to a particular unbundled element. In addition to section 251(d)(2)'s explicit factors, the Commission separately weighs the effects unbundling would have on innovation and investment.[13]

The Commission's judgment in the *UNE Remand Order* that loops should be UNEs did not consider impairment relative to the offering of advanced services and so cannot be extended as the *Notice* seems to propose.

> Section 251(d)(2) does not compel us, once we determine that any network element meets the "impair" standard for one market, to grant competitors automatic access to that same network element solely or primarily for use in a different market. That provision asks whether denial of access to network elements 'would impair the ability of the telecommunications carrier seeking access to provide *the services that it seeks to offer.*[14]

Evaluating impairment as it relates to the specific services the carrier seeks to offer is an essential step in the Commission's analysis under section 251(d)(2). Thus, the Commission analyzes whether the same network elements can be unbundled for local service separately from whether they can be unbundled for access services. *Id.* Just as "Congress itself drew an explicit statutory distinction between [local and access markets]," *Id.*, it drew a line between local and advanced services. *Compare* 47 U.S.C. §

[13] *UNE Remand Order* at ¶¶ 101-116.
[14] Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Supplemental Order Clarification, FCC 00-183 (rel. June 2, 2000)(*Supplemental Order Clarification*) at ¶ 15.

153(47)("defining telephone exchange service") and § 706(c)(1)(defining "advanced telecommunications capability").

A finding that a CLEC's ability to offer local exchange services would be impaired without access to UNE loops cannot by itself support a finding that the CLEC"s ability to offer advanced services would be impaired. The factual record bears this out. For example, one important factual basis for the Commission's decision to unbundle ILEC loops that cannot support UNE treatment of advanced services loops was the finding that only ILECs have "vast and ubiquitous" loop facilities for delivering local services.[15] The Commission has consistently found that ILECs do *not* have ubiquitous last mile facilities to deliver advanced services.[16]

A second important basis for the *UNE Remand Order* finding that cannot be transferred was that ILECs supplied the great majority of local service.[17] In sharp contrast, it is ILEC competitors that have the substantial lead in providing advanced services.[18]

The Commission has found that the question of whether a finding of impairment for one set of services can be transferred to another is a difficult "empirical" one requiring record evidence. Answering that question requires a careful analysis of whether the services are "so closely interrelated from an economic and technological perspective" that the finding can be transferred.[19]

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[15] *UNE Remand Order* at ¶ 182.
[16] Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, Second Report, FCC 00-290 (rel. Aug. 21, 2000) (*Second 706 Report*) at ¶ 70 (only 1% of the market receives advanced services, and most of those subscribers are served by cable companies).
[17] *UNE Remand Order* at ¶ 127.
[18] *Second Report* at ¶ 96.
[19] *Supplemental Order Clarification* at ¶ 16.

Before unbundling new ILEC investment in the last mile facilities necessary to deliver advanced services so that CLECs may use them to deliver advanced services, the Commission *must* analyze impairment as it relates to advanced services as well as the effect on investment and innovation in advanced services that unbundling would have. In particular, this will require record evidence and careful analysis in the following three areas. First, as noted, the *UNE Remand Order*'s consideration of loop unbundling did not analyze whether the ability of carriers to offer advanced services would be impaired without access to advanced services UNEs at government set prices. The Commission must develop a record relevant to the ability of carriers to offer advanced services without unbundled access to ILEC advanced services facilities. Today's "burgeoning competition" to provide advanced services exists without unbundled access to ILEC fiber loops envisioned by the *Notice*.[20]

This competition alone would seem to preclude a finding of impairment. It is supported by a number of other Commission findings, including that the advanced services business is "nascent," that the pre-conditions of natural monopoly are absent, that several technologies are well positioned to serve as the last mile connection and that ILECs, if anything, trail in the deployment race.[21] In this context, it is difficult to envision a factual record that would support a finding of impairment without unbundled access to the investments in new last mile facilities that BellSouth, for one, is making.

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[20] *UNE Remand Order* at ¶ 316.
[21] *Second Advanced Services Report* at ¶¶ 48, 70, 94-111.

Second, the Commission must analyze the effects unbundling will have on investment and innovation in advanced services.[22] There are important differences between the effects of unbundling today's loops and the effects of unbundling new investment in last mile facilities for advanced services. "[I]nvestments in facilities used to provide service to nascent markets are inherently more risky than investments in well established markets. Customer demand for advanced services is also more difficult to predict accurately than is the demand for well established services."[23]

The Commission's analysis of whether to unbundle packet switching used to deliver advanced services highlights the differences in the investment and innovation dynamic between older and newer services.

> We are mindful that regulatory actions should not alter the successful deployment of advanced services that has occurred to date. Our decision to decline to unbundle packet switching therefore reflects our concern that we not stifle burgeoning competition in the advanced service market. We are mindful that, in such a dynamic and evolving market, regulatory restraint on our part may be the most prudent course of action in order to further the Act's goal of encouraging facilities-based investment and innovation.

UNE Remand Order at ¶ 316.

The need for "facilities-based investment and innovation" to deliver advanced services is all the greater when it comes to last mile facilities. In fact, because investment in last mile facilities is sunk to a much higher degree than investments in

[22] Even a conclusion that carriers would be impaired in their ability to offer advanced services without unbundling would not be sufficient to lead to UNE treatment of last mile facilities used for advanced services. The Commission's multi-part test requires consideration of the effect of unbundling on investment and innovation, and the results of that analysis may determine the outcome. Thus, the Commission has determined that packet switching should not be unbundled due to the negative effects unbundling would have on ILEC investment in packet technologies.

switching, decisions to invest in last mile facilities are likely to be even more sensitive to the Commission's unbundling policies. The Commission's reasoning that packet switching should not be unbundled even where circuit switching is because of the different effects on investment and innovation is likely to compel a similar distinction between today's loops and tomorrow's last mile advanced services facilities.

Third, the Commission's analysis of whether newly deployed advanced services facilities can properly be unbundled must take into the account the fact that CLECs and other firms can also choose to invest in deploying similar new facilities. Thus, CLECs can choose to install fiber in new subdivisions, just as BellSouth is doing. Unbundling BellSouth's new investments in fiber loops is more like unbundling investment dollars than unbundling network elements.

The Commission's recent *UNE Remand Order* will affect this analysis. That order provides for UNE treatment of dark fiber loops and sub-loops, among other things. These local loop elements "should significantly increase competition in local markets."[24] As a result, the Commission declared that, in the future, "we must take the market effects of those new rules into account as we conduct our 'impair' analysis." *Id.* The availability of these new loop elements will affect the analysis of whether CLECs would impaired without access to newly deployed ILEC loops.

B. Two Specific Unbundling Concerns

Two specific concerns about the unbundling proposed in the *Notice* are raised here. First, BellSouth has a major concern about 'wavelength unbundling' or any

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[23] *UNE Remand Order* at ¶ 314.
[24] *Supplemental Order Clarification* at ¶ 17.

mandated scheme that would direct the use of specific wavelengths or frequencies on its fiber systems, particularly FITL and IFITL. Any action that would divide fiber into specific wavelengths at this time would jeopardize BellSouth's current delivery of entertainment services over fiber facilities. BellSouth's IFITL technology currently uses coarse WDM to add enough capacity to deliver entertainment in addition to voice and data. With WDM, only two wavelengths are available. BellSouth does not believe that DWDM will be useable in the local loop in the near future. In these circumstances, wavelength unbundling may prevent BellSouth from delivering entertainment services. This would diminish competition in some markets as well as possibly interrupting cable services for BellSouth customers in areas where there is no effective competition for cable services. Reserving specific wavelengths for CLECs would balkanize BellSouth's fiber loops, and reduce flexibility to deliver competitive advanced services now and in the future, especially as the amount of wavelength necessary to provision the service the CLEC wishes to deliver decreases.[25]

[25] BellSouth believes that, where unbundling is appropriate, offering virtual circuits on its network, as opposed to opened or unbundled wavelengths, would allow it to manage its facilities to provide circuits and services in the most efficient manner.

Second, the *Notice* suggests the possibility of unbundling ILEC facilities and tailoring rules so that firms would be guaranteed capacity on ILEC facilities so they could deliver "entertainment quality video" services.[26] Unbundling ILEC facilities so that other firms can use these facilities to compete with cable companies goes well beyond what Congress intended and the Commission's authority under the Act. Any such attempt at unbundling would appear to run afoul of Congress's directive that a LEC that delivers cable service "shall not be required, pursuant to Title II of this Act, to make capacity available on a nondiscriminatory basis to any other person."[27] And, section 251(d)(2) would require a separate analysis of whether unbundling could be justified based on impairment of a carrier's ability to offer video services. Finally, as noted above, BellSouth's financial case for deploying fiber loops depends on revenues over and above today's voice and data revenues. Limiting the revenue opportunity from delivering entertainment-type services by imposing UNE regulation would threaten the deployment of fiber loops.

VI. Unbundling Would Be Inconsistent With The Need For Investment And Innovation And Would Improperly Prejudge The Outcome Of The Recent *NOI*'s Consideration Of A Uniform Framework For Regulatory Treatment Of All Providers Of High-Speed Services

[26] *Notice* at n. 264.
[27] 47 U.S.C. § 651(b)(BellSouth holds a number of cable franchises).

Advanced services are in their infancy today. Only 1% of the mass market receives advanced services. *Second 706 Report* at ¶ 70. Huge amounts of new investment in last mile facilities will be required to expand today's limited offerings to reach the mass market broadly. *UNE Remand Order* at ¶ 317. The Commission's approach to regulating these new investments must account for the need to encourage investment by all firms and all technologies and the likely effects of treating competitors unequally.[28]

The necessary investment in broadband local facilities is coming from a broad array of competitors. The Commission has identified several competing technologies suited to providing high-speed and advanced service, including cable modems, DSL, several types of wireless offerings and satellite.[29] Firms are investing in each of these technologies and beginning to roll-out offerings. The innovative use of fiber loops to deliver advanced services to the mass market, as contemplated by BellSouth's FITL projects, is still too new to figure in the Commission's list of competing technologies.

This nascent market is likely to be very competitive. Competition among cable, wireless, satellite and telephony networks means that "the preconditions for monopoly appear absent in the 'last mile' of the advanced services market." *Advanced Services Report* at ¶ 48(footnotes omitted). Currently, cable providers have built a large lead in the race to provide advanced services. At the end of 1999, cable providers had 78% of residential high speed services, ADSL had about 16% and "other" had the remaining 6%. Thus, cable providers enjoyed a share roughly 5 times greater than the next closest

[28] The recent *NOI* on high-speed access over cable facilities proposes to investigate these issues.
[29] *Second 706 Report* at ¶¶ 94-111: *NOI* at ¶ 7("service providers are deploying a variety of networks that rely on different network architectures and transmission paths, including copper wire, cable, terrestrial wireless radio spectrum, satellite radio spectrum or a combination of these and other media."

competitor. A very substantial 62% of high-speed cable subscribers already receive advanced services. *Second 706 Report* at ¶ 96.

Rolling out advanced services to the mass market is risky. The Commission has noted one important category of risk facing firms like BellSouth that are evaluating investing in new approaches to delivering advanced services. "[I]nvestments in facilities used to provide service to nascent markets are inherently more risky than investments in well established markets. Customer demand for advanced services is also more difficult to predict accurately than is the demand for well established services, such as traditional plain old telephone service."[30] *UNE Remand Order* at ¶ 314.

All advanced services competitors and potential competitors face this consumer demand risk. All face technological risks of varying degrees, although the risks facing BellSouth in deploying FITL are particularly high because the technology is relatively unproven. And, all face competitive risks given the number of competitors and competing technologies the Commission has already identified. Given this competitive playing field, and the need for substantial new investment to expand today's service offerings to the remaining 99% of the mass market, there is every reason for the Commission to encourage investment by all firms in this market.

The *Notice's* implication that today's loop unbundling obligations could simply be extended without a policy rationale or legal analysis to new fiber loops deployed to provide advanced services is contrary to Commission practice and represents a striking error. *Notice* at ¶¶ 122, 125. This approach will only serve to discourage new investment necessary to bring advanced services to the broad mass market. In fact, the market-

[30] Of course, the risks of providing POTS service continue to increase given the continuing reductions in wireless pricing and the increasing subscribership to cable telephony offerings.

leading cable firms have strongly and successfully argued to-date that even the hint of Commission regulation of their new offerings would eliminate *any* incentive they have to upgrade cable networks. AT&T has argued that "No company would invest billions of dollars...if competitors which have not invested a penny of capital nor taken an ounce of risk can come along and get a free ride in the investments and risks of others."[31]

The Commission has chosen to rely on market forces to govern access to upgraded cable plant used to deliver advanced services. *Cable NOI.* There no reason to believe, and none put forward in the *Notice*, that similar reliance on market forces to govern access to ILEC upgrades would not be equally effective.

Similarly, the Commission refused to extend UNE obligations generally to ILEC investments in packet technologies in order to reduce the regulatory disincentives to investment. The Commission wished to avoid "stifl[ing] burgeoning competition in the advanced service market," noting that "in such a dynamic and evolving market, regulatory restraint on our part may be the most prudent course of action in order to further the Act's goal of encouraging facilities-based investment and innovation. *UNE Remand Order* at ¶ 316.

There is every reason to apply these pro-investment precedents to ILEC investment in what is in essence a new loop network. For example, BellSouth's decision to invest in deploying new fiber facilities and the electronics necessary to provide advanced services over those facilities will be profoundly affected by the prospect of UNE regulation

[31] C. Michael Armstrong, *Telecom and Cable TV:Shared Prospects of the Communications Future*, delivered to the Washington Metropolitan Cable Club (Nov. 2, 1998) available at <<www.att.com/speeches/98/981102.maa.html.

UNE regulation of fiber loop deployment would work a number of harms. It would substantially reduce the prospect of a market reward for a risky deployment, while doing nothing to reduce the risk of failure. If BellSouth overcame the technical and economic obstacles to providing an offering over this new technology that met consumer acceptance, CLECs would simply opt to free ride on that investment at UNE prices. If BellSouth's efforts failed, CLECs would walk away with none of the loss. Furthermore, The piece part unbundling of UNE loops contemplated by the *Notice* threatens essential engineering economies from concentrating traffic at various points in the loop network. The additional costs of engineering a loop network for shared access, the delay of waiting for necessary standards to accommodate optical interconnection in a multi-carrier environment, and the loss of flexibility as CLECs stake claims to chunks of fiber spectrum all pose further substantial handicaps to fiber loop deployment.

ILECs have no monopoly nor particular advantage on the last mile facilities needed to deliver advanced services and UNE regulation of newly deployed ILEC fiber loops makes little sense where no competing last mile facility is subject to such regulation. All these facilities can be classed as providing telecommunications services.[32] And, the Commission is not legally compelled to regulate ILEC investments in these facilities differently. For example, the Commission has refrained from general unbundling of ILEC investments in packet services to preserve investment incentives. Efforts by ILECs to deploy that last mile, by upgrading copper, and especially by deploying new fiber loops, should receive the same regulatory treatment as the last mile facilities of their competitors.

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[32] *NOI* at ¶ 18.

IV. ILEC Decisions To Retire Copper Cannot And Should Not Be Subject To General UNE Requirements

The *Notice* seeks comment on the retirement of copper loops from service. BellSouth retires copper for a number of reasons, as described below, although, as a general matter, BellSouth does not retire copper that is providing adequate service. Retirements occur on a piecemeal basis throughout the entire network, principally to replace deteriorated facilities. Thus, out of the thousands of network jobs worked in any given year that lead to retirement of copper, little of that retired copper may provide adequate voice service, let alone data service. If copper cable in good condition is retired, it is most often due to circumstances such as road moves. In these circumstances, the cable must be removed or abandoned and cannot be maintained in place.

BellSouth currently deploys fiber and Next Generation DLC (NGDLC) as the first choice for new loop feeder facilities and to replace copper facilities that have deteriorated or that have been displaced by public projects such as right-of-way improvements. When BellSouth places fiber and associated electronics in the feeder plant, copper feeder is rarely entirely displaced. It is far more common that, when fiber is placed to an RT, existing copper feeder is left connected in the network in order to serve feeder distribution interfaces (FDI), or re-connected to serve other FDIs closer to the CO.

When fiber feeder replaces copper facilities entirely, the vacated copper cable is retired and removed or abandoned in place. Generally, aerial copper cable and copper cable in conduit are removed. Buried copper cable outside of conduits is abandoned due to the high cost of removal. Removing the aerial or underground cable is often necessary to free space on poles and in conduit so that BellSouth can place other facilities. Thus,

retiring copper creates space on poles and in conduits so that fiber facilities capable of providing high-speed and advanced services can be put into service.

Although the *Notice* correctly points out that the Commission has held that dark fiber is a UNE, it is not clear that that holding is applicable to vacant copper that an ILEC would retire.[33] Unlike dark fiber, vacant copper is not "dormant but ready for service."[34] Instead, it is dormant, may not be capable of providing acceptable service at all, and, in the case of aerial and underground copper, may need to be removed from service so that other facilities can be placed.

The *Notice* asks whether the "removal of copper plant would be consistent with incumbent LECs' obligations under section 251(c)(3)."[35] Section 251(c)(3) requires nondiscriminatory access to UNEs. Removing copper from the network, and replacing it with other facilities, treats all carriers equally and cannot run afoul of that section. The old copper is no longer available to BellSouth or other carriers, and the replacement facilities are.

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[33] *Notice* at ¶ 129.
[34] *Id.*
[35] *Notice* at ¶ 131.

In essence, the *Notice* proposes a set of federal rules that would regulate whether and how ILECs can upgrade their local networks by moving from copper to fiber. These rules would inevitably slow the upgrading of ILEC networks and impose substantial administrative and operational costs on ILECs, all of which will restrict the rollout of advanced services. For example, removing vacant copper cables may be necessary in order to create space to lay fiber. Imposing a requirement that BellSouth obtain federal approval for changing out copper for fiber on a particular route is likely to result in a substantial delay.[36] Clearly, such a set of rules would be inconsistent with the deregulatory intent of the Act.

Given the fact that BellSouth works thousands of jobs a year that may retire copper cable, the administrative burden associated with notification of planned cable retirements and the sale of such cable would be enormous. Much of that burden would be for absolutely no possible benefit because the copper would not provide adequate service.

Requiring ILECs to keep copper in their network even though customers would be better and more economically served with more efficient network facilities runs counter to the Commission's pricing methodology. That methodology assumes that ILECs operate the most efficient network. Limiting the ability of ILECs to make their networks efficient runs afoul of that methodology. In addition, restricting the ability of ILECs to make their networks more efficient will raise the cost of providing service to consumers and will artificially create pressure to raise prices.

Handicapping the ability of ILECs to upgrade their networks by imposing a federal regulatory process on retiring facilities that no longer provide adequate service

[36] *Id.*

would harm consumers and may further cement the lead of cable providers when it comes to providing high-speed Internet access and advanced services. The Commission should refrain from instituting any program to regulate ILEC efforts to increase the efficiency of their networks.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I do hereby certify that I have this 12th day of October, 2000 served the following parties to this action with a copy of the foregoing **COMMENTS OF BELLSOUTH** by hand delivery to the parties listed below.

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*** VIA HAND DELIVERY**