

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Developing a Unified Intercarrier) CC Docket No. 01-92
Compensation Regime)

**REPLY COMMENTS
OF THE
UNITED STATES TELECOM ASSOCIATION**

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November 5, 2001

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SUMMARY

The FCC must reject proposals that will worsen the inefficiencies of the current CPNP intercarrier compensation arrangements, such as the prescription of interstate and intrastate access charges at forward-looking costs. In a paper attached to these reply comments, Dr. Larry Darby discusses how the adoption of such a proposal will only serve to suppress investment, deter long-term efficiency and diminish consumer welfare. He explains the critical importance of investment as a means to hasten broadband deployment and facilitate local competition as well as the relationship between regulation and capital formation. He warns that the already uncertain capital markets will be even less likely to commit necessary capital due to the enormous risks that would be associated with the delays and uncertainties accompanying a new FCC prescription of access prices. He observes that the risks would be compounded by the use of TELRIC because that would inhibit the ability of both incumbents and competitors to invest.

The choice of regulatory framework will have a significant impact on investment. Rate levels and rate structures are particularly important since they are the drivers of earnings, growth and risk and the cost basis used for rates will influence investment incentives through its implication for cost recovery, risk and expected earnings. Prescription of access charges forces the FCC to impose its judgment as to the appropriate market outcome even though it does not have the information necessary to replicate market outcomes. Regulatory intervention is far inferior to the market in setting prices. A prescriptive policy based on TELRIC only worsens the problem. Regulators cannot calculate appropriate TELRIC rates. Dr. Darby points out that the rates now in effect under the TELRIC standard show very high variation with almost random differences. He refutes the arguments of AT&T and WorldCom that the use of TELRIC will encourage efficiency since that would require that TELRIC be accurately and consistently

applied and there is no evidence that such conditions exist. Further, the use of TELRIC as the standard to prescribe access charges would reduce total investment in facilities and undercut the incentives to invest in facilities. This would also impact the investment programs of entrants thus discouraging facilities-based entry and competition in local markets. Finally, Darby explains that there is no explanation that the rate reductions that AT&T and WorldCom expect to enjoy if access charges were prescribed at TELRIC will serve the public interest in any way.

USTA also points out that the FCC has rejected the self-serving arguments of AT&T and WorldCom in CC Docket No. 96-262 and that the overwhelming weight of economic evidence presented in that docket supports a market-based approach to the development of access prices.

The problems with CPNP will not disappear and the long-term answer to establishing more efficient intercarrier compensation arrangements will not materialize with the prescription of access rates at TELRIC. So long as access charges are used to pursue other beneficial policies such as universal service, TELRIC-prescribed access rates are not feasible. And, even if the universal service problem was resolved, as USTA indicated in its comments that it must be, the disparate regulatory treatment that allows information service providers to utilize local networks and escape contributing to universal service poses another unresolved problem. The regulatory arbitrage opportunities present under the current CPNP arrangement that are creating market distortions deserve the full attention of the FCC and FCC resources should not be wasted in a futile attempt to develop “correct” TELRIC rates. USTA strongly recommends that the FCC address the following: the development of an explicit, universal service mechanism that meets the requirements of the 1996 Act, the elimination of asymmetrical and outdated regulatory structures, the elimination of uneconomic pricing policies based on obsolete service/provider distinctions such as the ESP exemption, the development of coordinated rate rebalancing at both

the state and Federal levels and the resolution of operational issues such as equal access obligations, dialing parity, repair and maintenance obligations, billing issues, network compatibility and network security.

USTA also strongly opposes the current use of virtual NXX codes under CPNP unless the carrier using the virtual NXX pays for the transport. USTA explains that virtual NXX is contrary to the Central Office Code Guidelines. USTA refutes those commenting parties who claim that virtual NXX is akin to FX service. Virtual NXX refers to the use of NXX code assignments to mask non-local traffic such as when toll calls are rated as local calls and yet are routed to distant toll points. With virtual NXX, carriers do not have either facilities or customers in the local exchange area. In the case of FX service, the LEC has both facilities and customers in the local exchange area and the FX customer pays for the transport. With virtual NXX, the call is accounted for as local and the carrier assigned the virtual NXX avoids paying access charges even though the call is an interexchange call. Compounding the virtual NXX problem is the fact that the originating carrier is billed for reciprocal compensation.

Other commenting parties claim that competitive carriers should be permitted to define the boundaries of their calling areas for inbound as well as for outbound calls. A virtual NXX code has the effect of changing the local calling area of the originating LEC. The transfer point must be within the local calling area of the customer originating the call. By clearly determining where the responsibility to transport local traffic changes hands, carrier can then make business decisions about whether to purchase facilities required to handle the traffic. With virtual NXX, the traffic should be considered local only if a dedicated facility exists between the carrier owning the virtual NXX code and the local calling area. If the traffic is carried on interoffice facilities to a customer located outside the local calling area, the call is an interexchange call and

is not subject to reciprocal compensation, but is subject to originating access charges. Carriers must pay when they use the facilities of another carrier to complete calls.

While most parties agreed with USTA's comments that a geographic limit on the location of the POI is necessary, some parties sought to impose additional burdens on ILECs. In order to ensure competitive neutrality as well as a fair distribution of transport costs, the FCC should adopt a symmetrical default structure that would be applicable to all carriers that could not negotiate a mutually agreeable POI. The objective of any FCC policy should be to facilitate negotiation and reduce reliance on regulation.

Some parties suggested that ILECs be required to provide transiting services at TELRIC rates. It is very unlikely that these parties would submit to such a requirement themselves. The FCC does not have exclusive authority to require transiting or to establish cost standards for transiting except for interstate traffic. A better policy approach would be to permit all carriers the ability to offer transiting as an unregulated service. If carriers do not want to purchase transiting, they could purchase special access under tariff.

Finally, while some parties requested that they implement bill and keep immediately, USTA believes that an equitable transition mechanism would have to be developed to avoid unwelcome consequences and that the transition apply to all carriers, networks and technologies to avoid the creation of new, uneconomic arbitrage opportunities and unfair competitive advantages. Regulation that creates artificial distinctions also creates false market signals, distorts investment incentives and leads to the misdirection of resources. Any benefits that may be obtained under bill and keep will be diluted if regulatory handicapping and platform discrimination are maintained in the FCC's rules.

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It is not surprising that the majority of commenting parties agree that current intercarrier compensation mechanisms have created unwieldy arbitrage opportunities that distort the current market. It is also not surprising that the majority of commenting parties agree that the status quo arrangements will not be workable in the future. Finally, it is not surprising that the majority of commenting parties agree that adopting a bill and keep regime may have unwelcome consequences for many companies and customers that must be anticipated and resolved as the FCC moves toward a new arrangement. What is surprising though is that some parties suggested alternatives that actually would be worse than the current mechanisms and that would do nothing to address the regulatory arbitrage problems that exist under the current regime. Such suggestions, such as prescribing access prices based on TELRIC, would exacerbate market distortions, would have severe consequences for companies and customers and would not meet the necessary objectives for future intercarrier compensation arrangements.

I. INTRODUCTION AND SUMMARY

In its comments, USTA identified a number of objectives that should serve to guide the FCC in its development of a new intercarrier compensation mechanism for the future. USTA urged the FCC to create a policy that will provide positive incentives for investment in network infrastructures, eliminate outdated regulatory structures, including arbitrage opportunities and

regulatory distinctions based on provider, geography, service or price, and accommodate technological and market forces. Changing the methods, revenue flows and cost recovery responsibilities among carriers, services and locations will have a huge financial impact. Due to the substantial nature of this impact, USTA urged the FCC to establish equitable transition mechanisms that clearly define the objectives and provide sufficient notice. USTA also listed several concerns that must be addressed within the new policy. For example, carriers that rely on access revenues received from current compensation arrangements that could be displaced must have an equal opportunity to recover costs from alternate sources. End user pricing flexibility is required. In areas where end user recovery could result in prices that are not affordable and reasonably comparable, universal service support must be provided. Implementation must be timed to ensure that carriers maintain revenues necessary to serve existing customers, attract new ones and update network structures as necessary. To address these issues, USTA suggested that the following principles be adopted to guide FCC decision making: minimize regulatory intervention, coordinate state and federal policies, ensure competitive neutrality, ensure technological neutrality, maintain universal service, provide incentives for investment and innovation and promote quality of service.

As part of its analysis of the COBAK and BASICS bill and keep proposals, USTA developed a framework for a bill and keep policy that meets the objectives listed above. First, the following set of conditions must be met: transitional equity, universal service, pricing flexibility, application to all carriers, networks and technologies, application to both the interstate and intrastate jurisdictions and the development of a reasonable bill and keep process to guide carrier relationships. USTA refined that process to include the following: a preference for negotiation and a reduced reliance on regulation, a rebalancing of current price structures, the

development of appropriate universal service mechanisms, and the establishment of a geographic limit on the network access provider's obligation to reach the POI.

This framework provides the FCC with a comprehensive look at what a reasonable bill and keep policy must consider, including the interrelationship of universal service, pricing flexibility and the need for the elimination of unequal and unnecessary regulation.

Unfortunately, a number of the commenting parties failed to provide any long term policy suggestions to address the issues actually identified in this proceeding and merely used it as another forum to advance their too familiar refrain that increased regulatory constraints on LECs should be adopted. For example, some parties claim that the problems with CPNP can be resolved by prescriptively reducing access charges without modifying the access charge structure. As USTA will demonstrate below, prescription of access prices is the wrong approach and prescription of access to TELRIC or some arbitrary forward-looking cost methodology only compounds the error. USTA will respond to those comments as well as others regarding virtual NXX, transiting, location of the POI and bill and keep for wireless traffic in its reply comments.

II. THE FCC MUST REJECT PROPOSALS THAT WILL WORSEN THE INEFFICIENCIES OF THE CURRENT CPNP INTERCARRIER COMPENSATION ARRANGEMENTS.

A. The Prescription of Access Rates Based on TELRIC Will Inhibit Network Investment

In the NPRM, the FCC requested comment on whether, as an alternative to bill and keep, both interstate and intrastate access rates as well as reciprocal compensation rates should be prescribed at forward-looking costs, such as TELRIC. Several parties supported such an alternative.¹ In its comments, USTA urged the FCC to reject this proposal, as it would only

¹ AT&T at 3, WorldCom at 13.

result in worsening the inefficiencies of the current CPNP arrangements, a fact that the FCC acknowledged when it rejected a similar proposal in 1997.

AT&T and WorldCom argue that the FCC should maintain the status quo and continue to arbitrarily slash access charges with no provision for the alternate recovery of access costs and without considering the impact of the loss of such revenue streams on long term investment. As discussed in the attached paper by Dr. Larry F. Darby, prescription of access rates based on TELRIC will only serve to suppress investment, deter long-term efficiency and diminish consumer welfare. Dr. Darby discusses the critical importance of pursuing the goal of promoting investment by explaining that the FCC and many of the commenting parties have conveniently overlooked the importance of encouraging investment, particularly as a means to hasten broadband deployment and to facilitate local competition. He explains that emphasizing investment is important for the following reasons:

- the next generation of local networks will be very capital intensive with high ratios of sunk costs relative to variable operating costs;
- the success of competition policies requires the concurrent development of multiple paths from end users to national networks;
- capital markets are increasingly wary of underwriting these costs;
- the FCC has recently noted that investment in advanced services has slowed, and
- the overall performance of the economy is linked to the performance of the information technology sector, which increasingly relies on upgrading the broadband capability of local networks through more rapid capital formation for its growth.

Dr. Darby also examines the relationship between regulation and capital formation. He warns that uncertain capital markets are characterized by significant risk aversion, particularly risks associated with the delays and uncertainties that would accompany a new FCC prescription of access prices. He responds to those parties that advocate application of TELRIC to access by

discussing the detrimental impact such a policy would have on the ability of both incumbents and competitors to invest. He concludes that the choice of the regulatory framework, whether it is ultimately bill and keep or CPNP, will have significant impacts on investment. Rate levels and structures will be particularly important since they are the drivers of earnings, growth and risk and the cost basis for rates will influence investment incentives through its implications for cost recovery, risk and expected earnings.

The suggestion that the FCC prescribe access prices at TELRIC is flawed in two major ways. First, it requires regulators to approximate a market outcome through regulatory structures that cannot work because regulators lack the information necessary to replicate market outcomes. Congress mandated that the FCC adopt a deregulatory telecommunications policy that necessarily entails greater reliance on market forces and not on new regulatory structures. The FCC is well aware that regulatory intervention is far inferior to the market in setting economically appropriate prices. As Justice Stephen Breyer observed in his separate opinion in *AT&T v. Iowa*, 119 S.Ct. 721 (1999), the Courts have consistently recognized the fallibility of regulators who attempt to approximate market outcomes. “Modern critics question whether regulators can accurately determine the ‘efficient’ cost of supplying telephone service...” Professor Alfred E. Kahn recently noted that for the FCC,

...simply to prescribe at once what it thinks would be the outcome of that new form of incentive regulation flatly contradicts the reasoning that led both it and the majority of states to abandon cost-plus regulation and move to rate caps in the first place – namely, the inability of regulators to second-guess management decisions and evaluate those costs, except in cases of demonstrable imprudence, or to determine what the ultimate outcome of a competitive process would be...[C]ompetitive markets set prices on the basis (roughly speaking) of the costs of incumbents. Those prices give challengers the proper target at which to shoot – the proper standard to meet or beat and the proper reward if they succeed. If they can achieve costs lower than that, firms will enter and in the process beat prices down to efficient levels. The FCC’s choice of – omnisciently – prescribing at once what it thinks would

be the *outcome* of such a process, *short-circuits* it...²

The FCC must focus on reducing regulation and reconciling the differences in regulation between wireline, cable and wireless networks, and rigorously avoid distorting the allocation of investment and favoring one technology over another.

Second, as Dr. Darby explains in detail, a prescriptive policy will not encourage capital markets to provide investment, but will frustrate the FCC's important goal of encouraging investment in telecommunications networks. This type of regulatory intervention in particular will prevent investment by increasing risk and uncertainty and by restricting and delaying the recapture of investment outlays. The added uncertainty that accompanies a change in regulatory policy that has no basis in technology or market forces substantially inhibits investment. Less regulation, not more regulation, will foster an environment conducive to risk taking that will encourage financial managers to commit scarce capital.

Dr. Darby notes that the FCC is well aware of this fact, pointing out that it has been appropriately cautious about not extending traditional regulation to new technologies and new firms that compete with incumbent lines of business. More important, he finds that there is nothing in market experience over the past five years to support extending a prescriptive approach to access services. "While new regulatory tools were established under the Act as transitional devices to help open markets, it was clearly not Congress' intent or the expectations of the capital markets to have regulators prescribe a new set of prices for the telecom sector." He finds no indication from capital markets that current revenue levels generated by access charges have been a deterrent to investment for any carrier. "Most investors will recognize that if the FCC launches a new prescription for access, that process would last several more years and

² Alfred E. Kahn, "Whom the Gods Would Destroy, or How Not to Deregulate", AEI-Brookings Joint Center First Distinguished Lecture, 2001 at 6.

thereby occasion new sources of uncertainty – for all carriers and users involved in related transactions – in an already uncertain market. The result will necessarily be to add risk, increase capital costs and diminish the case for accelerating investment. Certainly a new prescription would diminish investment incentives for ILECs, but by lowering rates for fungible facilities, a Commission move toward prescription would discourage investment for all facilities-based carriers.”

Professor Kahn has also warned against the debilitating impact of arbitrary cuts in access prices based on a TELRIC standard on both incumbent and competitive LECs. In 1998, Kahn opposed FCC proposals to arbitrarily cut access charges to TELRIC levels because the depressing effect on investments in upgrading the public network would not be confined to the effect on the incentives of other incumbent and competitive LECs, but would also drastically diminish their ability to finance such investments.³ Further, since the FCC has already required that CLECs use ILEC access prices as a benchmark, a prescriptive cut in ILEC access prices will necessarily have an equally damaging impact on CLECs by arbitrarily lowering their access revenue streams as well. If this unwise approach were required of all LECs, it would subject previously unregulated CLECs to the vicissitudes of a flawed regulatory approach as well.

The flaws inherent in a prescriptive regulatory approach would only be compounded by a requirement that access prices be based on TELRIC. AT&T and WorldCom blithely state, without factual support, that the use of a TELRIC standard for access charges will promote efficient investment so long as intercarrier rates are appropriately set on the basis of forward looking economic costs. However, as Dr. Darby points out, such a statement merely begs the question raised by Justice Breyer and Professor Kahn as to whether regulators can determine

³ Alfred E. Kahn, “Letting Go: Deregulating the Process of Deregulation, or : Temptation of the Kleptocrats and the Political Economy of Regulatory Disingenuousness,” MSU Public Utility Papers, 1998 at 108.

appropriate TELRIC rates. He explains that their TELRIC-related recommendations are based vaguely and ambiguously on imprecisely specified terms that have widely different meanings. There is no way to predict what prices might actually be under TELRIC. As Dr. Darby points out, rates and prices in effectively competitive markets in other sectors of the economy do not reflect TELRIC as the FCC has defined it. Such rates and prices generally reflect a variety of cost bases for prices as well as assorted variations from costs, however defined, based on demand factors, expectations and assorted random variables. Notably, the rates now in effect under the TELRIC standard show very high variation with almost random differences. Even if TELRIC is the correct standard in theory, which experts agree it is not, the implementation of TELRIC has resulted in rates with bases that defy generalization. Any possible efficiency benefits, which USTA avers do not exist, would necessarily require that TELRIC be accurately and consistently applied. Neither AT&T nor WorldCom offer any evidence that that is possible.

In addition, it also begs the question as to what is efficient investment. There is no evidence provided by any party to support the proposition that investment incentives or new capital formation will be increased by prescribing any type of forward looking cost basis. To the contrary, Dr. Darby demonstrates that using TELRIC as the standard to prescribe access prices will compound the uncertainty now pervasive in capital markets and introduce an unnecessary and costly element of regulatory lag and delay. The result would be to reduce total investment in facilities and undercut the incentives of LECs to invest in facilities. Dr. Darby notes that the impacts, as discussed above, also affect the investment programs of entrants thus discouraging facilities-based entry and competition in local markets.

Adoption of the AT&T plan would compound enormously the uncertainty now pervasive in capital markets and introduce an unnecessary and costly element of regulatory lag and delay. The result would tend to reduce total investment in access and transit facilities by undercutting the incentives for both incumbents

and entrants to invest in facilities used in their businesses. Incumbent investment programs would be subject to increased risk and reduced financial reward by adoption of the AT&T plan. This impact on incumbent investment incentives of extending the TELRIC methodology to other service is pretty clear cut. Investment programs for entrants would, for similar reasons, be distorted and investment reduced by moving to TELRIC based access charges. Such charges would discourage facilities based entry and competition in local markets.

Dr. Darby observes that what clearly motivates and nullifies the various claims about adopting TELRIC to price access services is the very clear expectation that doing so will lead to rate reductions. But there is no evidence presented that such action will benefit consumers or serve the public interest in any way. He suggests that the FCC require that proponents show that TELRIC-based access charges will be sufficient to recover capital and earn required returns properly adjusted to reflect market, technological and regulatory risks or show how a reduction in cash flow from services provided to carriers of the magnitudes suggested by conversion to TELRIC would translate into investment incentives and the level of new capital formation needed by facilities-based carriers.

In fact, the FCC has already heard the self-serving arguments of AT&T and WorldCom seeking prescription of access prices to TELRIC levels. In CC Docket No. 96-262, the FCC properly rejected their arguments and instead adopted a market-based approach to the development of access prices.

We conclude in this Order, based on our experience in exchange access and other telecommunications markets and the record in this proceeding, that a market-based approach to reducing interstate access charges will, in most cases, better serve the public interest... We believe that this approach is most consistent with the pro-competitive, deregulatory policy contemplated by the 1996 Act. Accordingly, where competition is developing, it should be relied upon in the first instance to protect consumers and the public interest. We acknowledge that a market-based approach under this scenario may take several years to drive costs to competitive levels. We also recognize that several commenters have urged us to move immediately to forward-looking rates by prescriptive measures utilizing forward-looking cost models. We decline to follow that suggestion for several reasons. First, as a practical matter, accurate forward-looking cost models are not available

at the present time to determine the economic cost of providing access service. Because of the existence of significant joint and common costs, the development of reliable cost models may take a year or more to complete... In addition, even assuming that accurate forward-looking cost models were available, we are concerned that any attempt to move immediately to competitive prices for the remaining services would require dramatic cuts in access charges for some carriers. Such an action could result in a substantial decrease in revenue for incumbent LECs, which could prove highly disruptive to business operations, even when new explicit universal support mechanisms are taken into account. Moreover, lacking the tools for making accurate prescriptions, precipitous action could lead to significant errors in the level of access charge reductions necessary to reach competitive levels. That would further impede the development of competition in the local markets and disrupt existing services. Consequently, we strongly prefer to rely on the competitive pressures unleashed by the 1996 Act to make the necessary reductions.⁴

Certainly the overwhelming opinion of the expert economic evidence presented in that proceeding supported the FCC's decision. For example, Richard Schmalensee and William E. Taylor warned that if TELRIC costs were used to set switched access prices, one or more of the following would occur: local exchange rates would be increased, explicit universal service subsidies would increase and/or incumbent LECs would suffer financial losses promoting inefficient competition and hindering network-deployment incentives.⁵ They also explained that a prescriptive approach would require detailed FCC intervention in the exchange access market and accurate forecasts of long run competitive prices, a process that would entail significant regulatory costs and risks of error and that would be likely to confound desirable market outcomes and skew long run market dynamics. Dr. Taylor reiterated these views in 1998:

Any use of a prescriptive approach for moving current access rates to competitive levels would require the FCC to make two very difficult judgments. First it would have to determine the levels that access prices would reach naturally in a competitive market. Second, it would have to determine the true economic cost of access

⁴ In the Matter of Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Transport Rate Structure and Pricing End User Common Line Charges; CC Docket No. 96-262, 94-1, 91-213, 95-72; 12 FCC Rcd 15982, 16001-16002 (1997).

⁵ Richard Schmalensee and William E. Taylor, "Economic Aspects of Access Reform", USTA Comments, CC Docket No. 96-262, Jan. 29, 1997 at Attachment 1 and "Economic Aspects of Access Reform: A Reply", USTA Reply Comments, CC Docket No. 96-262, February 14, 1997 at Attachment 3.

services. These are both easier said than done in today's enormously complex telecommunications industry... Therefore, as long as the industry is to remain open to market forces, it would be pointless and futile to employ a prescriptive approach (based on incomplete or imperfect information) to determine costs and prices... [N]othing in economic theory suggests that multiproduct firms in competitive markets price services at forward-looking incremental costs marked up by some arbitrary allocation of shared fixed and common costs. Firms in competitive markets recover such costs where market conditions – not accounting conventions – permit... A market-based approach reveals the economic cost of access, not as the sum of a TSLRIC study and an allocation of fixed costs, but as the level to which competitive pressure forces access prices.⁶

J. Gregory Sidak and Daniel F. Spulber explained that the adoption of prices for interstate access at TELRIC would guarantee that the LEC could not recover even its forward-looking economic costs unless accompanied by a competitively neutral, nonbypassable charge. They argued that slashing access prices to TELRIC levels would impose unconstitutional conditions on a LEC's right to just compensation. Sidak and Spulber observed that TELRIC pricing of access does not reflect economic costs and therefore creates economic inefficiencies.⁷ "In short, the call to apply TSLRIC or TELRIC pricing to interstate access is a mantra that misapprehends the most basic principles of price theory."⁸

And, finally, Professor Kahn observed that "what is particularly troublesome about the FCC's proposal to base charges for carrier access... at TELRIC, on the basis of the belief that that would be the efficient level, is that its definition of efficiency is entirely static, while the nature of competition – especially in telecommunications – is inherently dynamic... To tie the rates for new services closely to costs, incremental or otherwise, would fatally attenuate the

⁶ William E. Taylor, "Access Reform Again: Market-based Regulation, Pricing Flexibility and the Universal Service Fund," USTA Comments, CC Docket No. 96-262, Oct. 26, 1998 at Attachment A.

⁷ Reply Affidavit of J. Gregory Sidak and Daniel F. Spulber, USTA Reply Comments, CC Docket No. 96-262, Feb. 14, 1997 at Attachment 2.

⁸ Affidavit of J. Gregory Sidak and Daniel F. Spulber, USTA Comments, Jan. 29, 1997 at Attachment 3.

incentives of incumbents to develop new and innovative service as well as of competitors to enter on a facilities basis.”⁹

The problems with CPNP will not disappear and the long-term answer to establishing more efficient intercarrier compensation arrangements will not materialize with the prescription of access rates at some TELRIC standard. So long as access charges are used to pursue other beneficial policies such as universal service, TELRIC prescribed access rates are not feasible because such rates will not provide LECs with the ability to support universal service. As USTA explained in its comments, the current system of interstate access charges achieves the historic policy objectives of both low intrastate local rates and low toll rates on a nationwide basis. LECs currently charge interexchange carriers for the costs LECs incur in originating, transporting and terminating interexchange calls. The recovery of these costs from interstate services reimburse a significant portion of the costs borne by LECs which in turn allows the LECs to maintain local rates at affordable levels. The current structure also averages rates to ensure that even customers whose unit costs are above average remain on the public switched network. Eliminating this cost recovery responsibility from toll services will effectively eliminate a nationwide source of revenue from interstate users to help pay for universal service. This cost recovery problem also exists, in many instances to a much greater degree, at the state level.

Even if the FCC concurrently addressed the universal service problem, as USTA also pointed out, the disparate regulatory treatment that allows information service providers to utilize local networks and escape contributing to universal service poses another unresolved problem. This disparity will only serve to incent interexchange carriers to avoid access charge payments through the use of IP technology to provide interexchange service and to be reclassified as ISPs.

⁹ Statement of Alfred E. Kahn on FCC’s Proposed Reforms of Carrier Access Charges, USTA Reply Comments, CC Docket No. 96-262, Feb. 14, 1997 at Attachment 1.

The regulatory arbitrage opportunities present under the current CPNP that are creating market distortions deserve the full attention of the FCC in this proceeding. FCC resources should not be wasted on attempting to develop the “correct” TELRIC price for access because such an exercise will not solve the arbitrage problems associated with CPNP. Even if a jalopy is refitted with smaller tires so that it appears as if it will go faster or will be more fuel efficient, it is still a jalopy.

There are important issues that the FCC should address in order to implement the bill and keep policy framework outlined by USTA. These issues include the development of an explicit, universal service mechanism that meets the requirements of the Telecommunications Act of 1996, the elimination of asymmetrical and outdated regulatory structures, the elimination of uneconomic pricing policies based on obsolete service/provider distinctions such as the ESP exemption, the development of coordinated rate rebalancing at both the state and federal levels and the resolution of operational issues such as equal access obligations, dialing parity, repair and maintenance obligations, billing issues, network compatibility and network security.

B. Virtual NXX Codes Should Not Be Permitted Under CPNP Unless the Carrier Using the Virtual NXX Pays for the Transport.

In its comments, USTA proposed that the use of virtual NXX codes should not be permitted under the current CPNP regime unless the carrier using the virtual NXX pays for the transport from the rate center to the customer as well as any other appropriate compensation and the FCC ensures that the integrity of number resources is preserved. Such restrictions on the current use of virtual NXX are necessary since the current use of virtual NXX codes creates a cost recovery anomaly whereby the originating LEC must bear all of the transport costs of calls using virtual NXX and perverts the numbering system by assigning an NXX to a rate center for customers that are not located in that rate center.

Sprint's interpretation of the Central Office (CO) Code Guidelines is incorrect.¹⁰ When a carrier applies for and receives a NXX code, it is for the termination of public switched telephone network traffic to that carrier's subscribers. In order for a call to reach a subscriber, the subscriber must be identified in a uniform manner that is understood by all carriers and their subscribers so that calls can be completed. Therefore, the assignment and use of number resources must conform to strict industry standards. The CO Code Assignment guidelines set forth how NXX codes can be used.

According to the guidelines, before the NXX code is activated (i.e., the public switched network recognizes the code as valid) the owner has to assign the code to a specific geographic area. Normally the NXX code would be assigned to a rate center located in the exchange where the code owner's customers reside. The NXX code is used in several different ways, including rating and routing functions. When traffic is exchanged between carriers, the NXX code of the called number is the information used to determine whether the call should be rated as toll or local. The Local Exchange Routing Guide (LERG) is the industry's guide regarding the specific routing of a call to a NXX code. The carrier transporting a call to the NXX code of another carrier uses the routing instruction of the LERG and places the call on the appropriate facilities for termination. If a virtual NXX code is assigned, even though the called party is outside the NXX routing area, the LERG rates the call as local even though it routes the call through the interoffice transport facilities of the local carrier just as it would a toll call. Thus, the call is accounted for as local and the carrier assigned the virtual NXX avoids paying access charges even though the call is an interexchange call. Compounding the problem is the fact that the originating carrier is billed for reciprocal compensation.

¹⁰ Sprint at 36.

While the guidelines allow a carrier to obtain a NXX in advance of having a subscriber base in a particular geographic location, it is a clear violation of the guidelines to assign a NXX in a location where a carrier does not exhibit any intention of locating facilities and/or marketing its services. It is also a violation of the numbering guidelines to assign a NXX to a customer that is not located in the NXX routing area. While USTA agrees with several parties that numbering issues should be addressed specifically in CC Docket No. 99-200, nevertheless mischaracterization and misuse of currently accepted CO Code Assignment guidelines should not be permitted in this proceeding.¹¹

Many commenters agreed with USTA's position. Verizon Wireless points out that some carriers are using virtual NXXs to disguise the fact that these calls are not local and that the carriers should be paying access and should not be receiving reciprocal compensation from the originating LEC for these calls.¹² BellSouth warned that virtual NXX warps the existing intercarrier compensation mechanisms and distorts the competitive landscape.¹³

It appears that those commenters who disagreed with USTA's position base their arguments on a mischaracterization of virtual NXX traffic. Many argue that virtual NXX is similar to a Foreign Exchange (FX) call and therefore should be treated in the same manner.¹⁴ Such statements are not factually correct. Virtual NXX bears no resemblance to FX service. Virtual NXX refers to the use of NXX code assignments to mask non-local traffic, as described above, when toll calls are rated as local calls and yet are routed to distant toll points. In the case of FX service, the LEC actually has facilities and customers in the exchange area for which it has received a NXX code. With virtual NXX, carriers do not have either facilities or customers in

¹¹ Competitive Telecommunications Association at 28 and KMC Telecom at 7.

¹² Verizon Wireless at 31.

¹³ BellSouth at 7. *See*, Michigan Exchange Carriers Association at 45

¹⁴ *See*, for example, Cablevision at 6-7, and Cbeyond Communications at 13.

the exchange area. As explained by Verizon, transporting a FX call does not impose transport costs on other carriers. Rather, when a customer who actually resides in the exchange area where the LEC NXX is assigned calls an ILEC FX customer, the call is routed to the originating carrier's switch and then returned to the ILEC switch in the same exchange area. The ILEC then transports the call to the distant FX customer.¹⁵

Recently, the Maine PUC wrestled with the problem of virtual NXX. After investigating the use of virtual NXX codes assigned to Brooks Fiber, the PUC found that, based on the facts before it, Brooks was not using the NXX codes it had acquired for the purpose of providing local service, but was instead using the codes to provide an interexchange service it was characterizing as "like foreign exchange (FX) service".¹⁶

The Maine PUC clearly disputed this view and clearly distinguished FX from virtual NXX service. According to the PUC, under traditional FX service, a FX customer located outside of a local calling area can place and receive local calls to and from customers inside the local calling area. However, the FX customer must not only pay the local service rate in the local calling area, but must also pay the cost of the dedicated transport facilities that connect its premises to the local calling area. Under virtual NXX, there is no dedicated transport facility connecting the customer to the local exchange area. Instead, the connection is made using standard interoffice trunking facilities, the same facilities that are used to transport toll calls from the local calling area to an out of area FX customer. "Customers subscribe to FX to avoid

¹⁵ Verizon at 7.

¹⁶ State of Maine Public Utilities Commission Investigation into Use of Central Office Codes (NXXs) by New England Fiber Communications, Order Requiring Reclamation of NXX Codes and Special ISP rates by ILEC's, June 30, 2000. Sprint attempts to distinguish the Maine decision on the grounds that in its Order on Remand and Report and Order in CC Docket Nos. 96-98, 99-68 regarding intercarrier compensation for ISP-Bound Traffic, the FCC stated that ISP bound traffic was information access and not exchange access and thus the Maine decision no longer applies. Sprint's argument relies on an overly broad interpretation of the term information access. It is not clear that the FCC intended information access and interexchange access to be mutually exclusive. In fact, the FCC

paying toll charges and to allow others to call them without toll charges, but they must have substantial toll calling volumes between the two locations to justify the cost of the dedicated transport facilities.”¹⁷ The Maine PUC found that based on the facts before it, the “FX like” service Brooks provided was actually a substitute for interexchange service and was not in fact local exchange service:

A toll-free service that uses trunking facilities rather than dedicated facilities can be provided efficiently (from an engineering perspective) using either Brooks’ “FX-like” configuration or an “800-like” configuration. The significant difference between the two methods is the vastly greater number of NXX codes used in the Brooks configuration. We suspect that the real difference to Brooks between those two alternatives is that by continuing to argue that it should be permitted to use 54 NXX codes to provide its service, on the grounds that the “FX-like” service is “local exchange service,” it may hold onto its hope that it might avoid paying Bell Atlantic for the interexchange transport service provided by Bell Atlantic. By contrast, under an 800-like service it would be clear without any doubt that Brooks would have to pay the legitimate interexchange costs of long-distance transport, either buying (and paying access charges for) the facilities of another carrier or by paying for the costs of providing its own facilities.¹⁸

Other commenters claim that competitive carriers should be permitted to define the boundaries of their call areas for inbound as well as for outbound calls.¹⁹ As USTA explained in its comments, a virtual NXX code has the effect of changing the local calling areas of the originating LEC because the call is rated as local even though the called party is outside the local calling area established by the state commission. The effective changes in the local calling area occurs without providing the state commission an opportunity to ensure compliance with any local requirements and without regard for the impact on competition, rate levels or customer interests. The Maine PUC also addressed this issue. It found that Brooks was free to offer calling areas of its own design so long as, when it uses the facilities of others to accomplish that

has been decidedly vague in its definitions and it continues to rely on state interpretations of specific facts regarding local traffic.

¹⁷ Maine PUC at 9.

¹⁸ *Id.* at 12.

end, it pays for those facilities on the basis of how the owners of these facilities define them for wholesale purposes. It noted that with the “FX-like” service, Brooks was not attempting to define its own calling area and was not offering a different calling area than that of the LECs. It concluded, “when a carrier uses the facilities of others, it cannot unilaterally redefine wholesale arrangements between itself and the carriers that actually carry its traffic simply by declaring that its calls are “local” if that recharacterization is to its financial advantage.”²⁰

The prerequisite to a rational policy in this regard is to establish a clear understanding as to where one carrier’s responsibility ends and another carrier’s responsibility begins. For local calls, that responsibility transfer point must be within the local calling area of the customer originating the call. Carriers cannot arbitrarily alter the local calling areas already established as Sprint suggests.²¹ Misuse of numbering resources or mischaracterization of services should not be allowed to defeat this basic premise. By clearly determining where the responsibility to transport local traffic changes hands, carriers can then make business decisions about whether to purchase facilities required to handle the traffic. USTA agrees that with virtual NXX or FX-like services, the traffic should be considered local only if a dedicated facility exists between the carrier owning the virtual NXX code and the local calling area. If the traffic is carried on interoffice facilities to a customer located outside the local calling area, the call is an interexchange call and is not subject to reciprocal compensation, but is subject to originating access charges. Carriers must pay when they use the facilities of another carrier to complete calls. AT&T claims that virtual NXX is merely a “low cost” alternative to other services.²² As has been demonstrated, the only reason this alternative is “low cost” is because carriers are not

¹⁹ Focal, Pac-West and RCN at 59.

²⁰ Maine PUC at 15.

²¹ Sprint at 37.

²² AT&T at 60-61.

paying to use the facilities of another carrier. While it may come as a surprise to AT&T, there is no free lunch. Carriers should not be expected to provide transport of local calls beyond *their* local calling area without compensation.

III. A BILL AND KEEP MECHANISM MUST MEET THE OBJECTIVES, CONCERNS AND CONDITIONS AS EXPLAINED IN USTA'S COMMENTS

In its comments, USTA provided a framework for consideration of a reasonable bill and keep mechanism for the future. That framework addresses many of the problems associated with the current CPNP regime and would permit carriers to address the technology and market forces influencing the telecommunications industry so long as the conditions are met. These conditions, discussed in greater detail in USTA's comments included: 1) sufficient transitional equity to permit carriers who have designed their business plans based on assumptions inherent in CPNP regarding compensation, cost, rate and investment determinants the critical opportunity to adapt to a different set of assumptions; 2) the implementation of targeted, explicit, specific, predictable, sufficient and competitively neutral universal service; 3) pricing flexibility; 4) application to all carriers, networks and technologies; 5) application to both the interstate and intrastate jurisdiction; and, 6) the development of a reasonable bill and keep mechanism.

USTA stated that a reasonable bill and keep process must be accompanied by the rebalancing of current price structures. Since bill and keep may require shifting cost recovery responsibilities to end user customers, universal service support will be required in areas where prices are not affordable and reasonably comparable. In addition, all carriers should have pricing flexibility to implement capacity-based pricing plans, package pricing and any other plan that meets customer needs. Carriers should also have the flexibility to consolidate pricing of network access with local service pricing.

In addition, a reasonable bill and keep mechanism should apply to all carriers, networks and technologies for the interconnection of switched services, including intrastate switched access, reciprocal compensation, intracompany settlements, wireless and paging. It should exclude specialized or ancillary network arrangements such as special access, 800 database, LIDB, directory assistance and operator services. Each network access provider should be permitted to recover network access costs from its end user customer or universal service. Network access providers should negotiate network to network arrangements if necessary to interconnect their respective networks on a nondiscriminatory basis. If negotiations fail, default rules would apply so that the calling party's network access provider is responsible for the network to network transport to reach the POI serving the called party. Several parties commented on some of these conditions as will be discussed below.

A. A Geographic Limit on a Carrier's Obligation to Reach the POI is Required

The establishment of default rules regarding the location of and corresponding responsibilities associated with the POI will be critical in assessing whether a reasonable bill and keep mechanism can be established. The POI issue is important because if the originating carrier must transport traffic long distances, its costs will increase and these costs must be recovered from its end user customer under a bill and keep arrangement. In cases where the amount and distribution of traffic is fairly balanced, carriers will have greater incentives to negotiate a mutually agreeable POI. However, in other cases, carriers may have greater incentives to minimize costs by attempting to force the interconnecting carrier to bear the majority of transport costs. There must, therefore, be a geographic limit on the network access provider's obligation to reach the POI that considers network efficiency, technical feasibility, customer density and

size of serving areas. Transitional POIs may have to be developed. Even if some CPNP arrangements are maintained, the POI raises important issues that must be thoroughly evaluated.

Most parties shared USTA's concerns and agreed that a geographic limit on the location of the POI would be appropriate.²³ Cablevision disagreed but did not offer any solution that would even begin to address the costs associated with the geographic placement of the POI.²⁴ Many parties also supported retention of the current requirement of a single POI per LATA.²⁵ While this may be an appropriate starting point for evaluation, there is nothing in their comments that provides any analysis as to whether the current rule will be appropriate in the future, particularly given the fact that LATAs may not even be a relevant boundary in the future.

Several parties argue that for interconnection between ILECs and CLECs, the POI must be at any technically feasible point on the ILEC's network.²⁶ These parties mischaracterize the requirement of Section 251(c)(2) arguing that competitive carriers must be permitted to interconnect with ILECs at any technically feasible location regardless of whether that location is within the ILECs' calling area. They fail to consider the need to recover costs incurred to transport calls outside local calling areas. In order to ensure competitive neutrality as well as a fair distribution of transport costs, the FCC should adopt a symmetrical structure that would be applicable to all carriers. Both AT&T Wireless and Sprint suggested that ILECs and interconnecting carriers should share transport costs and that new rules should be established regarding transport responsibilities and costs.²⁷ The best policy approach, as USTA discussed in

²³ BellSouth at 14-15, SBC at 25-30.

²⁴ Cablevision at 3-6.

²⁵ Level 3 at 20, Time Warner at 12.

²⁶ AT&T at 56, Global NAPS at 2

²⁷ AT&T Wireless at 56 and Sprint at 17. Sprint also proposes to base the location of the POI on specific traffic thresholds. The particular thresholds recommended by Sprint probably would not work well for interexchange traffic where volumes, particularly for larger carriers, would meet the minimum threshold immediately and therefore would require additional POIs to be established in a LATA immediately.

its comments, would be to facilitate negotiations among carriers and reduce reliance on regulation.

B. Carriers Should Not be Required to Provide Transiting Services Without Sufficient Compensation

USTA commented that under a reasonable bill and keep arrangement, network access providers with transport obligations should be free to build their own facilities or to lease facilities from a wholesale provider or from the called party's network access provider. However, network access providers should not be required to provide transiting services or to otherwise act as a wholesale provider without sufficient compensation. Some parties took the position that, as an alternative to bill and keep, ILECs should be required to provide transiting at TELRIC rates.²⁸ It seems unlikely, however, that these parties would want to be subject to such a requirement themselves. The FCC does not currently have exclusive authority to require transiting or to establish cost standards for transiting except for interstate traffic. A better policy option would be to permit all carriers the ability to offer transiting as an unregulated service. Certainly the market for this service in most areas is competitive and regulation would not be required. And, if carriers do not want to purchase transiting service they could purchase special access under tariff. However, if the FCC determined that it must impose regulation, transiting should be treated as special access and the rules applicable to special access would apply to transiting.

C. A Reasonable Bill and Keep Policy Should be Applied to All Carriers, Networks and Technologies

If a reasonable bill and keep policy is developed, USTA believes that the transition should apply to all carriers, networks and technologies to avoid the creation of new uneconomic, arbitrage opportunities and unfair competitive advantages. Many of the problems with the CPNP

arise from disparate regulatory treatment of similar services. CMRS providers commented that they should be permitted to move to bill and keep immediately.²⁹ There is no evidence provided that fully discusses the potential impacts of such a proposal or what arbitrage opportunities would arise therefrom.

A new policy should avoid the mistakes of the past and be applied in a technologically and competitively neutral manner. Regulation asymmetrically applied to different carriers, technologies, service platforms and services will create new arbitrage opportunities. Regulation that creates artificial distinctions also creates false market signals, distorts investment incentives and leads to the misdirection of resources. Any benefits that may be obtained from bill and keep will necessarily be diluted if regulatory handicapping and platform discrimination are maintained in the FCC's rules. All of the suggestions by commenting parties to take this opportunity to impose new costing, pricing, interconnection and service obligations on ILECs must be rejected. It is neither advisable nor sustainable to perpetuate the disparities in regulatory control of market conduct as they now exist. As USTA pointed out in its comments, most of these differences are historical artifacts derived from dissimilar business origins and evolutionary paths. While the FCC has tended to refrain from regulating new entrants, services and platforms, it has been less successful in reducing regulation on incumbent firms in increasingly competitive markets.

Market forces will be much more likely to serve the public interest now than in the past as market rivalries intensify due to the availability of new technology platforms and expanded broadband telecommunications offerings. The growth of voice over Internet protocols and the increasing ability of providers to offer bandwidth to be used in different applications in ways fully at the discretion of the customers will fundamentally undermine the rationale for many of

²⁸ AT&T at 62, Nextel at ii.

²⁹ Sprint at 2.

the FCC's regulations governing the public switched telephone network. Unlike many of the commenters in this proceeding, the FCC must carefully weigh all the consequences of disparate regulatory policies.

IV. CONCLUSION

The importance of policies that will provide positive incentives for investment in network infrastructures cannot be overstated. The FCC must reject new regulatory schemes that will foster uncertainty and delay. Providing the correct signals for investment is the best way to encourage broadband deployment and local competition. Likewise, the FCC must eliminate uneconomic arbitrage opportunities that are used to escape paying originating carriers for costs that are incurred to use their facilities. New policies should also be focused on reducing regulation and reconciling the differences in regulation between wireline, cable and wireless networks, and rigorously avoid distorting the allocation of investment and favoring one technology over another.

Respectfully submitted,

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November 5, 2001

Statement of Larry F. Darby
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Accompanying Reply Comments
of the United States Telecom Association

in
CC Docket No. 01-92

Developing a Unified Inter-carrier Compensation Regime

November 5, 2001

I. Qualifications

1. I, Larry F. Darby, conduct a regulatory economics and financial consulting practice focused on the interfaces among regulation, services markets and financial markets in the information technology space. I received a Ph D in economics from Indiana University where I specialized in microeconomic theory, industrial organization and regulatory economics. I have been Assistant Professor of Economics at Temple University, Senior Economist in the Office of Telecommunications Policy (Executive Office of the President), Chief of the Economics Division and Chief of the FCC Common Carrier Bureau, Vice-President in Lehman Brothers Investment Banking Group and for the past decade have served as Lecturer in Telecommunications Finance at the George Washington University Graduate School. I have published several articles, reports and commentaries on the bridges among regulatory programs, capital formation and economic welfare in telecommunications.

II. Purpose and Summary of Statement

2. I have been asked by the United States Telecom Association to address the relationships between proposed FCC regulations, capital formation in telecommunications networks and economic welfare. In this statement I will address the importance and regulatory means for promoting investment and long term efficiency in telecommunications in the context of discussing how FCC regulations can be expected to influence the level, composition and timing of capital formation in the sector. I will identify linkages between regulations pertaining to rates and rate making standards and their impact on investment incentives and capital expenditure programs. I will focus on contentions respecting standards for determining access and transit rates raised by respondents in this proceeding. My conclusions follow:

- Investment is and has been a critical and discrete goal of national policy (Paras. 3-10);
- Broadband investment is a proper goal for this proceeding; dynamic efficiency -- getting signals correct for investment -- is more important than other shorter term notions of efficiency; and there are sound and compelling reasons for weighting investment heavily among Commission decision criteria (Paras. 11-18);
- Rate and service regulations like those under consideration here are critical components for financial investors and managers of regulated firms through their impact on incentives related to earnings, risk and growth. Alternative models of investment and empirical studies alike accord substantial weight to FCC regulations in capital formation decisions (Paras. 19-31);
- Uncertain capital markets are marked by considerable risk aversion, including aversion to risks from delays and uncertainties likely to accompany any new FCC rate prescription program. Investors perceive and are counting on continuation of trends toward less regulation and greater reliance on markets. Financial markets have shown no indication that current access regimes send the wrong signals or that they diminish incentives for capital formation (Paras. 32-41).

- Parties advocating use of TELRIC to prescribe access and transit charges provide no basis in principle or evidence from past or current pricing practices. Advocates have provided no evidence that expansion of TELRIC principles and ratemaking practices is needed to, or will in fact, encourage investment in local networks. (Paras. 42-64)

III. Argument

A. Background

3. Fostering investment in telecommunications networks is an important and discrete goal of the Telecommunications Act of 1996. Debate preceding the Act was marked by clear expressions of Congressional intention to stimulate investment and innovation as a means of furthering the public interest in telecommunications. Language from the Senate Report is direct and unequivocal:

The goal is to accelerate deployment of an advanced capability that will enable subscribers in all parts of the United States to send and receive information in all its forms...over a high-speed switched, interactive, broadband transmission capability.¹

4. When signing the new law President Clinton highlighted stimulation of investment as first among his Administration's policy goals for the telecommunications sector:

For the past three years, my Administration has promoted the enactment of a telecommunications reform bill to stimulate investment, promote competition, provide open access for all citizens to the Information Superhighway, strengthen and improve universal service.²

5. With that the President made clear that creating a regulatory environment to promote investment in telecommunications infrastructure enjoyed the same rank as increasing competition and improving universal service as fundamental goals of national telecommunications policy. Accordingly, the 1996 Act requires the Commission to pursue not only competition policy, but also infrastructure investment policy and regulatory reform.

6. Given the Commission's relative emphasis on the Act's different goals, it is important for purposes of this declaration to make clear at the outset my strong view that competition policy and investment infrastructure policy are not congruent. The set of rules that advances any particular version of competition policy -- and there are many such versions -- need not, and most likely will not suffice to fulfill the requirement of fashioning a coherent set of rules and regulations designed to promote investment.³

¹ Senate. Report 104-23, 104th Congress., 1st Session 50 (1995), p. 51.

² President Clinton's remarks at the signing ceremony are available online at: <http://www.whitehouse.gov>.

³ The details of this argument are set forth in Larry F. Darby and Joseph Fuhr, "Investment Incentives and Local Competition at the FCC", Media Law & Policy, Vol. IX, Number 1, Fall 2000, pp. 1-18, especially 10-13.

7. The Commission has labored hard to fashion rules fostering its particular version of competition in markets for local telecommunications services. However, any and all rules enabling easier entry and promoting the health of competitors do not constitute in principle or in fact a policy to “accelerate deployment of an advanced [high speed, broadband] capability” in the local marketplace.⁴ Those rules have mixed effects on an array of incentives that motivate different firms, using different technologies, to take the risks associated with investment in local infrastructure. The Commission has heretofore made no identifiable, sustained effort to fashion rules explicitly designed to encourage investment. As I will elaborate below, rules promulgated in the name of advancing the Commission’s particular version of “competition” will, in fact, under a wide range of prevailing circumstances, discourage investment by both incumbents and entrants.⁵ It is notable in this regard that steady, sustainable investment has grown very rapidly in those areas least constrained and minimally distorted by detailed regulation – wireless, backbone broadband links and to an important extent in the cable television sector. Thus, optimal investment policy may be linked to deregulation more tightly than to the Commission’s local competition policies to date.

8. Investment in infrastructure has long been a goal of regulation, but has ironically enjoyed less favor recently. The desire to promote investment has historically been a driving force in the development of national telecommunications policy under the 1934 Communications Act. For five decades after its passage, until approximately the time of the divestiture of AT&T, the goal of promoting capital formation in order to expand the geographic reach of the voice telephone network was paramount. The evolution of telecommunications policy under the mandate of the 1934 Act “...to make available...to all of the people...a rapid, efficient communication service with adequate facilities...” was harnessed to promoting investment as a means of achieving that goal. Both the structure of the industry and the conduct of its participants were constrained to promote investment in an expanding, public switched, common user network.

9. Nearly all major rulemakings during the period -- irrespective of their principal focus -- considered the likely impact of proposed rules on investment incentives and plans as they related to broadening the reach of the public switched network. The Commission consistently exercised great care to make certain that its rules assured levels of expected earnings, anticipated growth and risk sufficient to induce high levels of investment in network facilities.

10. Some service rates were held below cost, but others were priced so as to generate surpluses to assure a compensatory return on investment sufficient to bring about continuous capital renewal, plant modernization and growth. Steady and predictable growth was assured by

⁴ Preamble to House Conference Report 104-458, 104 Cong., 2nd session.

⁵ I emphasize here the important but infrequently recognized fact that the structure, processes, opportunities and constraints established by the Commission in its Local Competition Order under the term “competition” are by no means unique. The version of competition implied by the Commission’s construction in that order constitutes one of countless subsets of circumstances that might have been prescribed under the broad rubric of competition. The major distinction for present purposes relates to facilities based competition versus resale or UNE based competition. For a full appreciation of the richness and vagueness of the notion of competition, without qualification, see the standard on the matter, John Maurice Clark, Competition as a Dynamic Process, The Brookings Institution, Washington DC, 1961.

regulatory barriers to entry that protected incumbents from most competition. Risk was minimized by those same entry restrictions, but also by adoption of a) rules to assure opportunities to garner rates of return commensurate with weighted average market costs of capital, b) depreciation rules that insulated companies and consumers from the risks of technological change and c) assorted complementary cost accounting conventions. The result was a private/public compact that assured a steady stream of investment in the sector sufficient to wire over ninety-five percent of the nation's households. There is no consistently applied national policy for encouraging investment in new technologies or for expanding local networks today. The new, and laudable, emphasis on competition has not been accompanied by companion measures designed to contribute to assuring stable, high levels of investment in an increasingly risky and dynamic market environment.

B. Primacy of Dynamic Efficiency and “Correct” Investment Incentives

11. The Commission expressly solicited views regarding the impact of alternative intercarrier compensation regimes on different kinds of efficiency -- including investment in the deployment of broadband network infrastructures.

...we seek comment on the appropriate goals for intercarrier compensation schemes...[and] whether efficiency should be the sole or paramount goal of intercarrier compensation policy. We also seek comment on how we would evaluate whether a particular intercarrier compensation regime encourages efficiency [and] ...whether a particular pricing regime encourages the efficient use of the network? Should we also consider whether a particular pricing regime encourages the efficient investment in, and deployment of, network infrastructure, including investment in broadband infrastructure...[and] whether a particular intercarrier compensation regime is technologically and competitively neutral?⁶

12. Thus, the Commission has invited responses to a broad range of questions about the effects of its policies respecting intercarrier compensation regimes on both economic efficiency in general and investment in particular. This recognition of the importance of investment and the impact of its rules is a very encouraging development and stands in sharp contrast to the Commission's focus following the 1996 Act. While the NPRM does not explicitly categorize different kinds of efficiency, it does recognize in a general way some distinctions. The NPRM distinguishes between a) efficiency in use, what economists call allocative or static efficiency resulting from “getting prices right” and b) efficiency in terms of encouraging the right level, composition and timing of investment in different platforms and technologies. The first is static and oriented toward the short run, while the latter is long run and dynamic in its focus on allocation of capital and the composition of investment.

13. Dr. Joseph Farrell and Dr. Benjamin E. Hermalin in their declaration supporting Time Warner Telecom support the Commission's view. Farrell and Hermalin make repeated reference

⁶ *In the Matter of Developing a Unified Intercarrier Compensation Regime*, FCC, CC Docket No. 01-92, Notice of Proposed Rulemaking, Adopted April 19, 2001, para. 33. (Hereinafter, “Notice”).

to the requirements of efficiency in the rate making process. They point out that termination charges “may effect many economic incentives” and thereby have different influences on different kinds of efficiency.⁷ In that context, they distinguish three types of efficiency, each related to incentives for different economic decisions over different time periods. Retail rates may effect users’ decisions in the short run -- the immediate period -- as to whether to make or receive calls [from their carrier of choice]; a longer run decision relates to carrier choice of rates for competitive purposes which will impact consumers’ choice of carriers; and, still longer, rates [and their relation to costs] will affect carriers’ choice of network architecture [that is, the fundamental decision of whether or not to invest and, if so, in what types of technologies and platforms].⁸

14. Farrell and Hermalin observe that each of these three classes of economic efficiency in their taxonomy is potentially important. They correctly point out that much of the economic analysis in the record (especially the papers of Dr. DeGraba for WorldCom and Hermalin-Katz for Time Warner Telecom) focuses mainly on short run efficiency incentives driven by user decisions about whether or not to make calls. They argue from there that: “...the NPRM is less than crystal clear” in its analysis of longer run rate impacts with respect to users’ choice of carriers, especially with respect to choosing ISPs. They go on to observe that “...the effect on carriers’ choice of network architecture does not appear to have been thoroughly addressed [in the NPRM]. They conclude: “...while retail pricing efficiencies have long been important...it is by no means clear that this should be the main, let alone the only, focus of termination charge policy going forward...[A]ttention should be given to other [kinds of efficiency] concerns.”⁹

15. Consistent with the Farrell and Hermalin chain of reasoning, I also conclude that the impact of the proposed rules and proposed alternatives on innovation and investment -- its level, composition and timing -- has been overlooked, or substantially underemphasized, by respondents to the NPRM.

16. While all forms of efficiency are important, as Farrell and Hermalin recognize, they are clearly not equally so in the determination of the Commission’s obligations under the 1996 Act. The Commission does well to encourage efficiencies of all kinds, but when there are conflicts borne of the recognition that some rules favor one kind of efficiency over another kind, the Commission should give great weight to dynamic, long term considerations and thereby evaluate its rules carefully and fully with respect to their impact on investment and innovation.

17. This is not to say that short run, static, allocative efficiency concerns should be ignored, or that such concerns are necessarily inconsistent with longer term, dynamic, investment efficiency considerations. It is to say that fostering investment efficiency, and “correct” investment signals, is important in its own right and that, if and when there is conflict, the effect of the Commission’s rules on investment should be accorded considerable weight, more so than in

⁷ Joseph Farrell and Benjamin E. Hermalin, “Analysis of Central Office Bill and Keep (‘COBAK’)”, August 2001, p. 2, (Emphasis supplied).

⁸ Farrell and Hermalin, p. 2.

⁹ Farrell and Hermalin, p. 5.

the recent past, in determining the public interest.¹⁰ Doing so will assure more diligent pursuit of Congress' goal of fostering development of modern telecommunications infrastructure.

18. There are sound reasons for emphasizing investment and according it substantial weight in determining the overall public interest:

- The next generation of local networks will be very capital intensive with high ratios of sunk costs of investment relative to variable operating costs;
- Success of the Commission's competition policies require concurrent development of multiple paths from end users to national networks;
- Capital markets are increasingly wary of underwriting these costs (as discussed further below);
- Investment in the sector and particularly spending leading to deployment of advanced services has slowed dramatically in recent months; and,

¹⁰ A noted antitrust scholar stated this point more succinctly. "We know that many discussions of antitrust policy and efficiency have violated the New Testament injunction against beholding the mote and ignoring the beam. X-efficiency is much more important than allocative efficiency and dynamic efficiency is almost surely even more important. F.M. Scherer, "Antitrust, Efficiency and Progress", New York University Law Review, vol. 2, November 1987, p. 1018.

Dynamic efficiency is critical; even more so than more conventional static measures, if Scherer is right. Kamien and Schwartz expressed pretty much the same sentiment in their review of the literature addressing connections between market structure and innovation.

Thus, technical advance appears to require the sacrifice of some allocative efficiency at each moment of time for the purpose of greater efficiency in the long run. Morton I. Kamien and Nancy L. Schwartz, Innovation and Market Structure, Cambridge University Press, 1982, p. 217.

In a well known review of market structure and innovation -- including investment in advanced technologies and introduction of new goods/services -- William Cohen and Richard Levin report a wide range of estimates and considerable uncertainty about the importance of losses from static inefficiency from misallocation of resources. Germane here, they conclude:

Even the largest of these estimated costs might be worth incurring in return for modest improvements in the rate of technological progress. The potential trade off between static and dynamic efficiency is therefore central to evaluating alternative modes of firm and market organization. William Cohen and Richard C. Levin, "Innovation and Market Structure, in Richard Schmalensee and Robert D. Willig, eds. Handbook of Industrial Organization, p. 1060.

Thus, short run static efficiency is important, as are efforts by regulators to achieve it. But, the longer run performance of the economy depends most on investment and innovation -- activities that are not necessarily, or even probably, optimized by singleminded pursuit of policies requiring arbitrary costing and pricing standards -- especially if those are pursued, as they have been, without regard to dynamic considerations.

- It is now commonplace to link the performance of the overall economy to performance of the information technology sector which increasingly relies for its growth on upgrading the broadband capability of local networks via more rapid capital formation.

C. Investment in Local Networks Is Linked to Rate Regulation

19. Regulation is a central element in most investment decisions. Federal regulations and those in state jurisdictions derived from them influence the level, composition and timing of new capital formation through their impacts on security prices in financial markets and through their effects on managements' capital budgeting and investment decisions.

20. Managers of local exchange telecommunications companies are constrained by the force of government rules advancing national policy goals. They are also compelled by the economic, technological and financial forces driving markets in which they participate. These forces are reflected in competition with other service providers, as the Commission has noted on countless occasions, but also in capital markets to which professional managers are strictly accountable for the use of the assets they deploy and to their owners. This dual responsibility should be recognized by the Commission and reflected in its decisions. Managers are subject to the discipline imposed by the financial objectives and alternative investment opportunities of their creditors and shareholders.

21. Managers must be and are responsive to the investment alternatives and financial goals of investors in order to attract low cost capital. Managers have a fiduciary responsibility to shareholders and creditors. The penalty for neglecting investor requirements is a higher cost of capital and higher prices to end users. For example, suppose managers disregard the preferences and values of investors, say, by launching capital expenditure programs investors find "unworthy" on the basis of their assessment of the programs' risk/return/growth profile. The result will be higher cost of market supplied equity and debt occasioned by investors selling off those securities. Given the very capital intensive nature of broadband telecommunications networks, this will lead over time to higher costs (interest, depreciation and required return on equity) which will in turn translate through market processes into higher end user prices and/or lower service quality as firms attempt to offset higher capital costs by lowering operating costs. Notwithstanding management efforts to comply with assorted regulatory exhortations that cost shareholders, they must in all cases be aware of these longer term and costly implications of doing so.

22. Institutional and individual investors alike apportion funds to different financial instruments in accordance with their particular financial circumstances and investment objectives. These objectives take several different forms. In most cases, they can be expressed in terms of current income, future growth, security (risk aversion) and increasingly in terms of flexibility and options related to deployment of the underlying assets.

23. Investors' goals are transferred to firm managers of the real assets to which financial interests attach. Incumbent local exchange company managers, like others, are impelled by capital market pressures to create, deploy and manage assets and the utilization of cash in ways that tend to maximize shareholder value. Incentives from capital markets are conveyed to managers and require them to undertake different investment activities according to reasonable

and informed expectations about risk, return, growth and future opportunities. Regulation affects of each of these investment criteria in ways discussed further below.

24. The requirements of investors constrain professional managers of local exchange companies to make only those investments that can be reasonably expected to yield current and future returns commensurate with investor perceptions of the risks involved, including regulatory risk. Such investment must also be fully informed by awareness of its opportunity costs of the capital to be committed, as measured by the returns available in unregulated sectors.

25. All companies -- regulated or unregulated -- must budget scarce capital. A principal task of management is to allocate cash not required by current operations, interest payments, taxes or dividends among competing uses. Like investors in financial securities, those who determine capital expenditures within firms must distribute limited funds among a large array of alternative investment opportunities. They are constrained to a budget consisting of internally generated cash and external funds available in capital markets.

26. It is important for the Commission to reflect in its rules the fact that the build out of broadband networks by incumbent firms depends critically on the views of external investors as expressed by their dollar votes in capital markets. Internally generated cash flow has been and is being eroded by competition for high margin, high volume accounts. The threat of further erosion is real as other technologies develop and new firms improve their ability to vie for other basic voice-related revenue streams. The development of broadband networks by incumbents will become increasingly more sensitive to the availability of external capital and the preferences being expressed in securities markets where managers' plans are daily, carefully and critically reviewed by investors. The inescapable reality of cash budget constraints forces managers to make choices based on the signals they get from capital markets indicating the expected value to shareholders of different allocations.

27. This foregoing conclusions follow from a view of investment contained in a traditional discounted cash flow or net present value framework. Constraints and opportunities created by government -- policies, rules, regulations and orders -- influence each of the inputs into standard investment models. Indeed, it is difficult to conceive of an important regulatory decision made under the 1996 Law that does not have investment implications for incumbents, their business customers, their suppliers and their competitors.

28. Regulated rates directly impact revenues, cash flows, earnings expectations and growth. The cost basis for such rates are equally instrumental since changes in cost bases will lead to rate changes and consequent changes on revenues, cash flow and earnings. Interconnection requirements, while dramatically different for incumbents and entrants, change the cost basis for rates, revenues and earnings, for both and thereby distort investment incentives from their free market benchmarks. Ratemaking processes give rise to regulatory lag and uncertainty, which are of considerable concern to investors in facilities based firms -- entrants or incumbents. Rules addressing entry conditions, pricing flexibility and subsidiary regulatory programs have significant implications for market risks, technological risks and other uncertainty to which investors are sensitive.

29. Considered in a discounted cash flow framework, regulation clearly and substantially matters to investors and alters values associated with alternative investment decisions. The same conclusion emerges from consideration of older and newer frameworks for understanding and predicting investment. Traditional microeconomic models treat the investment decision in the context of demand for an input -- capital goods -- into the production process. Thus, in the neoclassical theory of the firm investment is positively related to output price and negatively related to the risk adjusted cost of capital. Regulations that lower rates and increase capital costs will tend to reduce the rate of investment. Regulatory delay and uncertainty create risk and increase the cost of capital. Regulatory handicapping that redistributes value among firms will change the level, composition and pace of investment.¹¹

30. A more recent development in the theory of investment considers the scope of various “real” options and their effects on the incentive to invest.¹² Real options in an investment context involve the ability, or lack thereof, to change the scale, scope, timing, composition or level of investment once an initial decision has been made. Options to defer, learn, bail out, shrink or expand in connection with investment decisions lessen risk and create value. It follows that regulations that create or destroy such options will impact the value and incentive of various kinds of investment. Regulations routinely discriminate among firms in the creation/destruction of such options and thereby redistribute investment incentives.

31. I have considered alternative intercarrier compensation schemes in the context of different views of the determinants of investment and concluded that:

- Irrespective of the investment framework used for evaluation, the choice of regulatory framework -- be it bill and keep or CPNP -- and the details of implementation are predicted to have substantial impact on the level, composition and timing of investment;
- Rate levels and structures are particularly important, since they are drivers of earnings, growth and risk; and,
- The cost bases for rates will influence investment incentives through their implications for cost recovery, risk, expected earnings and future real options.

¹¹ See Donald A. Hay and Derek J. Morris, Industrial Economics and Organization: Theory and Evidence, especially chapter 12, “Investment Expenditures”, Oxford University Press, New York, 1991. Note especially p. 445 and the list there of determinants of the optimal capital stock and investment. Inspection leads inevitably to the conclusion that regulation is a factor in every one of those determinants and a major factor in most.

¹² The literature on real options in the theory of investment is relative new and not fully developed. A good starting point is the collection of essays in The New Investment Theory of Real Options and Its Implications for Telecommunications Economics, James Alleman and Eli Noam, eds., Kluwer Academic Publishers, 1999. The essays there range from a primer to discussions of applications in other sectors to a spirited debate by academics who frequently are on opposing sides in 1996 Telecom Act policy skirmishes. The summary chapter by Eli Noam is especially valuable in evaluating the contribution of the new theory to our understanding of both investment and to the impact of regulation on its level, composition and timing. Summarizing the essays Noam observed that: “Even several of the most forceful critics of the [real options approach to investment] largely concede its basic theoretical validity and argue against a specific application....”, p. 258.

D. Investors Recognize Links between Regulation and Facilities Investment

32. The investment models reviewed above make clear that financial investors and firm managers who plan and execute capital expenditure programs are sensitive to risk and uncertainty -- both of which contribute to the cost of capital and tend, other things equal, to discourage investment. While recent financial market developments and current circumstances are not a failsafe predictor of attitudes that will prevail when the rules in this proceeding are actually adopted and their impacts realized, some current market views appear to be relatively permanent and likely to endure.

33. The competitive environment fostered by the Commission has increased competitive pressure, as anticipated, but the flip side of that coin is an increase in market risk and technology risk combined with pressure on earnings and growth rates for all marketplace rivals. Competition is a two edged sword from an investment incentive standpoint and the net effect of any particular set of rules must be carefully weighed. The enormous capital expenditures implied by the goal of creating several alternative broadband paths for users to compare are a sobering fact of life for potential underwriters of all technology platforms. Competitive market risks have been compounded recently by longer term questions about the breadth and intensity of demand for broader bandwidth capacity loops. While some continue to believe that in the long run demand sufficient to assure capital cost recovery will materialize, there is strong and lingering uncertainty about the fact and timing of that outcome.

34. Just as they consider financial, market and technological risks in their investment decisions, investors and managers are increasingly sensitive to regulatory risk and uncertainty in their valuations. Investors are well aware and particularly sensitive to the effects of government regulations on returns to the securities of various firms and this sensitivity conveys to capital budgeting and expenditure decisions within firms.

35. Investors averse to regulatory risk tend to prefer non prescriptive to prescriptive approaches to rate determination. They understand market processes and are able better to reflect them in valuations than they are regulatory processes in which the FCC and dozens of state regulators independently can bring about significant and sudden changes in revenue streams. Given the limited ability of regulators to capture, quantify and bring accurately and consistently to bear complex market information, investors are faced with enormous uncertainty and delay when new bases for regulated rates are established by changes in policy, which themselves are mere predicates to a long and uncertain process of implementation.

36. Investors perceive a long term trend toward greater reliance on markets, development of new regulatory tools, peeling away selectively layers of regulation in some markets and generally less reliance on purely prescriptive approaches that characterized the monopoly era. They would not respond positively to adoption by the Commission of any new rate regulation program that involves more detailed prescription of rates that are now constrained by price caps and market forces. Substitution of regulation for markets in this instance cannot be regarded as an investment positive for facilities based network investors, either incumbents or entrants.

37. Financial markets have responded positively to trends toward more competition and less regulation. Investors have funded creation and expansion of numerous CLECs; they have

expressed reservations about the large capital expenditures required to build out competitive broadband systems; and they have expressed changing views about the overall success of the Commission's prescriptive approach to fostering new entrants. Specific market responses have been keyed to the details of implementation of particular regulatory programs.

38. Capital markets have underwritten the growth of competition over the last five years. However, there is still substantial uncertainty among investors about a) the wisdom of the very prescriptive approach adopted by the Commission with regard to network interconnections of incumbents and entrants, b) the extent to which that approach can in the long term foster sustainable competition and, indeed, c) the rate levels that will eventually emerge from the Commission's local competition initiatives five years ago. Capital markets greeted the appearance of dozens of CLECs with exuberance, some of which in retrospect was excessive, if not irrational.¹³ While the root cause of the subsequent correction is still being debated in policy arenas, the verdict of financial markets pretty clearly comes down on the side of facilities based entry as the long term sustainable competitive strategy for local entrants. Analysts cite a variety of factors contributing to the uncertainty and churn in financial valuations. No single explanation stands out. But, at the same time, there are no kudos, and considerable disdain, expressed by analysts and markets for the very prescriptive approach of the FCC in attempting to create and nurture competition via various forms of regulatory arbitrage.¹⁴ I find no support in market reports or among financial analysts for the proposition that more regulation, more prescriptive approaches or less reliance on markets is necessary or desirable to foster broadband investment in the sector.¹⁵

39. The Local Competition Order has tended in important ways to reduce incentives for investors to underwrite construction of broadband facilities networks for either incumbents or entrants. However, an even stronger proposition is that nothing in market experience over the past five years supports extending that prescriptive approach to other services -- access and transit services in particular. While new regulatory tools were established by the Act as transitional devices to help open markets, it was clearly not Congress' intent or the expectations of capital markets that regulators would prescribe a new set of prices for all telecom services.

¹³ For a brief chronicle of the CLEC roller coaster see Larry F. Darby, Communications Business and Finance, "FCC Decisions Fatten Bull Market By Boosting CLEC Stock Value" (January 17, 2000) and Communications Business and Finance "The Moral of the CLEC Story" (April 2, 2001). Both were written before the collapse of the stocks this year.

¹⁴ A candid, complete and fair accounting of the reasons for the CLEC roller coaster is rendered by Bear Stearns analyst James Henry, "CLEC 2001 Investment Outlook", Bear Stearns, New York, (undated). There is something there to support most theories of the meltdown, since many factors were at play. However, the unavoidable conclusion is that the FCC's prescriptive approach in the local competition order contributed to both the expansion and the contraction. It did so by raising expectations and virtually eliminating capital barriers to entry by a) creating platforms requiring little investment and b) providing regulatory arbitrage opportunities to entrants.

¹⁵ For expression of the uncertainty about the impact of FCC and state rules on the value of investing in different carriers and platforms, but focused on the merits of facilities competition versus resale or UNE-based competition, see Adam Quinton, et. al, The Telecommunicator – Survivor II: The Continued Telecom Shakeout, Merrill Lynch, March 12, 2001, p.112. See also David Barden, "Sizing up the CLECs", JP Morgan, April 2, 2001, p. 3 for expression of uncertainty and reasons for concern about whether the policy course will be toward "incremental regulation, enforcement or liberalization".

40. I have seen no indications from capital markets to suggest that investors regard current revenue levels generated by access charges as a deterrent to investment for any category of carrier. Nor do markets reflect any indications that price caps as currently enforced are inadequate to assure that revenue streams reasonably reflect costs or must be changed as a means of encouraging investment. Most investors will recognize that if the FCC launches a new prescription for access, that process would last several more years and thereby occasion new sources of uncertainty -- for all carriers and users involved in related transactions -- in an already uncertain market. The result would unnecessarily add to risk and capital costs while diminishing the case for accelerating investment. Certainly a new prescription would diminish investment incentives for ILECs, but by lowering rates for fungible facilities, a Commission move toward prescription of access charges would discourage investment for all facilities based carriers.

41. In summary, any prescription at this time, using whatever standard, would tend to discourage investment. A more prescriptive approach would introduce new uncertainty and long delay as the details of the standard were being worked out and applied. The details of the rates that would emerge for incumbents and entrants would be instrumental in all capital budgeting plans. Uncertainty about their legal status, when and how and at what level they would go into effect, along with their impact on overall cost recovery would add to risk, capital costs and ultimately end user rates. There is no indication that current access rates, including scheduled changes, are discouraging investment or otherwise harming the public interest. The proposal put forth by AT&T, to which I turn next, would be especially disruptive because, in addition to being unnecessarily prescriptive, the standard it embodies has nothing to recommend it on investment or long term efficiency grounds.

E. Extension to Access of TELRIC Would Have Negative Investment Impacts

42. The NPRM solicited comment on how CPNP regimes might be reformed should the Commission decide not to adopt Bill and Keep. Specifically the Commission asked for comment on the appropriate methodology for establishing the cost basis for rates.¹⁶

43. A handful of respondents (AT&T, WorldCom, Comptel, Time Warner, Focal, et al, Office of Public Utility Counsel, NASUCA and others) responded by urging the Commission to expand application -- to one or more or all services -- of some notion of a forward looking economic costing methodology (FLEC, LRIC or TELRIC) similar to that used to fix rates for unbundled network elements. In addition to the concerns expressed above about the potential negative impact of any prescriptive approach, the Commission should take careful note also of a variety of specific problems with the recommendations that TELRIC, as defined in the Local Competition Order, should be extended.

44. Several features of respondents' recommendation that the Commission apply such methods for transit, access or other services merit careful attention and critical analysis.

¹⁶ Notice, para. 99.

45. First, most of the TELRIC-related recommendations are based vaguely and ambiguously on imprecisely specified terms – terms that have widely different meanings to different analysts and in different contexts. It is not possible to determine what is actually being asserted. The claimed impacts are neither concrete nor amenable to validation. The impact of basing access charges on cost concepts suggested by the terms FLEC, LRIC, TELRIC, LRMC cannot be determined in principle or without further definition. But, more importantly, as experience has amply shown, there is no way to predict from principled definitions what rates might actually be when the principles are applied by different regulatory bodies at different times.

46 Secondly, the Commission will find here no record adequate to justify extending the application of TELRIC, since proponents provide no principled or empirical basis for the long list of assertions about the merits of TELRIC. Most of the claims are so carefully and ambiguously phrased as to be meaningless. Time Warner, for example, supports “appropriate measures of forward looking costs”. Others make vague claims about efficiency properties, consistency properties, fairness properties, salutary impacts on entry, competition, universal service or other benefits. Several respond to the request for evidence in the NPRM by citing the Commission’s own statements made five years ago. CompTel simply declares that “TELRIC-based pricing will promote efficient pricing for all interconnection and unbundling purposes...”¹⁷ Given my focus on the relationship between investment incentives and prescription of TELRIC-based rates, this is not the place to critique these claims. However, the Commission certainly should weigh carefully their analytical content and evidentiary value before making them the basis of any change in current access rate making standards.

47. What clearly motivates the claims and presumed merits of adopting one of these notions as the basis for access and transit rates is the very clear expectation that doing so will lead to rate reductions for connecting carriers. Yet, there is not in them the basis for the Commission to reverse course and to undertake a more prescriptive approach to establishing those charges.

48. Finally, even though there is an occasional claim of nexus, there is nothing in these comments to support the proposition that investment incentives or new capital formation will be increased by moving to prescribe FLEC, LRIC or TELRIC or for that matter any other specific cost basis for access or transit rates.¹⁸

¹⁷ Comptel, p. 20.

¹⁸ Alfred E. Kahn and others offer an excellent analysis of why the current, non-prescriptive approach under price caps is preferable on economic welfare grounds to more prescriptive approaches in general and to prescription of TELRIC as the basis for [access and transit] rates in particular. Beginning with the fundamental proposition underlying their adoption by the Commission that price cap regulation leads to “efficient” rate structures and levels over time, Kahn calculates that flash cutting to a TELRIC prescription would lead to immediate rate reductions of an order of magnitude that would take over twenty years to achieve under price caps. The example brings sharply into focus the dramatic collapse in underlying investment incentives likely from adopting the AT&T suggestion. See Alfred E. Kahn, Timothy J. Tardiff and Dennis L. Weisman, “The Telecommunications Act at Three Years: An Economic Evaluation of Its Implementation by the Federal Communications Commission”, Information Economics and Policy 11 (1999), pp. 330-32.

49. The most spirited advocate of TELRIC is AT&T whose comments attempt to link TELRIC to investment and innovation. AT&T claims that: “Properly structured forward looking, cost-based prices encourage efficient investment” and that the Commission “...should require intercarrier transport and termination charges to be based on the TELRIC standard.”

50. The analysis of alternative rate standards and links to real investment provided by AT&T is loosely constructed, full of ambiguities and, for reasons developed below, not sufficient to warrant the dramatic change in policy it is promoting.

51. AT&T touts TELRIC as the standard for prices or rates in “effectively” or “workably” competitive industries. However, so far as I have been able to determine prices are not established anywhere else in the economy on the basis of TELRIC as defined by the FCC and interpreted by the States. Significantly, AT&T does not use TELRIC as the basis for its interLATA services in markets the Commission has found to be workably and effectively competitive.

52. Argument supporting the recommendation that intercarrier transport and termination charges be based on TELRIC is contained almost entirely in a single paragraph of AT&T’s comments. It is worthwhile to include here the argument in full:

...the Commission should simply apply its time-tested TELRIC rules...to the transport and termination of all telecommunications. As the Commission has consistently recognized, rates based upon those forward looking, long run incremental cost principles effectively promote both efficiency and competitive neutrality [citing the Local Competition Order to the effect that “economists generally agree that prices based on forward looking long-run incremental costs (LRIC) give appropriate signals to producers and consumers and ensure efficient entry and utilization of the telecommunications infrastructure.”]...the mechanisms and procedures that would be used to establish TELRIC-based rates for transport and termination are already in place. The relevant...costs must be determined...and regulators and carriers now have more than five years experience in estimating costs and designing rates under the TELRIC standard. AT&T therefore concurs with the Commission’s tentative conclusion [in the NPRM] that if it maintains CPNP -- as it should -- it should require intercarrier transport and termination charges to be based on the TELRIC standard.¹⁹

53. This is the AT&T case in full. Circular, vague and unverifiable, it is clearly insufficient to warrant charting the new regulatory course advocated by AT&T for pricing access and transport services. It reflects only casual discussion and serial representations blending different cost concepts -- forward looking economic cost, long run incremental costs and total element long run incremental costs -- while misconstruing economists’ general support for the

¹⁹ AT&T Comments, pp. 19-20.

principles of forward looking and incremental cost based rates as explicit support for practical application of TELRIC as we have witnessed it to date. It relies on the Commission's conjectures five years ago of the likely effect of TELRIC-based rates, while pointedly ignoring the enormous historical record available for analysis of the actual effects of regulatory implementation of those principles in the marketplace.

54. AT&T draws on a declaration provided by Professors Janusz A. Ordover and Robert D. Willig to support its recommendation that the Commission should base access charges on TELRIC.²⁰ However, Professors Ordover and Willig do not support TELRIC as the basis for transport and termination charges or even mention access. Indeed, they do not address or even mention TELRIC in their lengthy and detailed statement.

55. The very brief and general discussion (paragraphs 38-41) by Ordover and Willig of the efficiency effects of alternative cost standards for rates is largely unexceptionable -- not because of its rigor, but because of its general and loosely constructed nature. On the specific question on which I am focused -- the effect of TELRIC-based access charges on investment -- they declare: "...so long as intercarrier rates are appropriately set on the basis of forward looking, economic costs, [cost based CPNP] would promote efficient investment decisions." The statement of course begs all of the important policy questions in this proceeding. When are rates "appropriately set" and have they been appropriately set to date under the TELRIC standard? Would TELRIC-based rates for access in practice be consistent with FLEC or LRIC or TELRIC in principle? What effect has TELRIC to date had on efficiency and what lessons might be drawn from that to help understand the consequences of expansion to other services, particularly on the level, composition and timing of investment by incumbents and entrants? Both AT&T and the supporting declaration are silent on the issues raised by these fundamental questions.

56. Ordover and Willig respond to the Commission's request for analysis of the impact on investment by repeating back one of the Commission's own passing conjectures five years ago in the Local Competition Order: "As the Commission has recognized, the measure of costs to which prices converge in competitive markets -- whether wholesale markets or retail markets -- is forward-looking, economic cost and, specifically, long run, incremental cost."²¹

57. AT&T is correct in its admonition that: "At a minimum, the Commission should demand proof of substantial efficiency gains before embracing any B&K rule." However, the same test should be applied to the AT&T proposal that TELRIC be made the basis for access charges and rates for transport connecting carriers with each other. Specifically, it is reasonable and in the spirit of the AT&T suggestion to request that the Commission "demand proof of substantial [long run, dynamic investment efficiency] before embracing" TELRIC as the basis for access and transport rates. If the Commission is interested, as it should be, in the effect of its intercarrier compensation rules on investment in network infrastructure, it could quite reasonably require TELRIC proponents to show that TELRIC based access and transport charges will be sufficient to recover capital and earn required returns properly adjusted to reflect market,

²⁰ Declaration of Janusz A. Ordover and Robert D. Willig on Behalf of AT&T Corporation, *In the Matter of Developing a Unified Intercarrier Compensation Regime*, CC Docket 01-92.

²¹ Ordover and Willig, p. 19.

technological, and regulatory risks.

58. An alternative formulation, and a stronger test of the underlying policy proposition, would be to insist that AT&T and other proponents show how a reduction in cash flow from services provided to carriers of magnitudes suggested by conversion to TELRIC would translate into incentives and stimulate new capital formation by incumbents and facilities based entrants.

59. The Commission should note well the uncontested fact that no evidence has been presented in this docket to suggest that the current method for determining access charges, or the level derived therefrom, is discouraging investment and innovation in either local or interLATA networks. Thus, AT&T neither justifies the new TELRIC initiative, nor addresses flaws in the current arrangement. The Commission could reasonably insist on such a showing.

60. So far as I have been able to determine there are no empirical studies available of the impact of TELRIC-based rates on investment and innovation. Certainly, none have been cited in the first round of comments in this proceeding. That is not surprising, given that, notwithstanding contentions of TELRIC advocates to the contrary, rates in “effectively competitive markets” in other sectors of the US economy do not reflect TELRIC as the FCC has defined it. Significantly, there are no TELRIC rates to test for investment impacts. Rates and prices in unregulated, “effectively competitive” markets reflect a variety of cost bases for prices as well as assorted variations from costs, however defined, based on demand factors, expectations, and assorted random variables.²²

61. The rates now in effect under the TELRIC standard show high variation and apparently random differences. Even if TELRIC is the correct standard in theory, which few economists defend or accept, it is demonstrable that the implementation of TELRIC has resulted in rates with bases that defy generalization and do not reflect accurately the conceptual TELRIC framework set forth by the Commission’s Local Competition Order. Secondly, no workably competitive market has anything even remotely resembling the hodge-podge of state rates based on TELRIC. Thus, it is unlikely that prices generally in “effectively competitive markets” actually can or do reflect anything resembling what we have after five years under TELRIC.

62. Adoption of the AT&T plan would compound enormously the uncertainty now pervasive in capital markets and introduce an unnecessary and costly element of regulatory lag and delay. The result would tend to reduce total investment in access and transit facilities by

²² Dr. Joseph Farrell, FCC Chief Economist at the time the TELRIC standard was imposed on ILECs by the Local Competition Order, now subscribes -- with his co-author Dr. Hermalin -- to the view that not all telecommunications carriers subscribe to TELRIC based rates.

Moreover, different telecommunications carriers have different degrees of market power, are constrained by different degrees of regulation, and pursue different models of consumer pricing...Even within the moderately competitive domestic long distance industry, marginal call prices vary widely across carriers and across calling plans, and are evidently driven only in part by the fairly modest (albeit still above marginal cost) termination charges that the large incumbent LECs may levy. Farrell and Hermalin, p. 5.

undercutting the incentives for both incumbents and entrants to invest in facilities used in their networks. Investment programs of entrants would be subject to increased risk and reduced financial reward by adoption of the AT&T plan for two reasons. First, the reduction of incumbent access rates, which is surely the goal and expectation of AT&T in advancing the TELRIC proposal, would make it more difficult for facilities based entrants to win market share. Secondly, in view of the Commission's recent decision to push CLEC access rates over time toward ILEC access charges, the reduction in ILEC charges contemplated by AT&T would over time necessarily be mirrored by CLEC access charge reductions.²³ The clear cut impact on incumbent investment incentives of extending the TELRIC methodology to other services would convey as well to investment programs for entrants. The result would be to discourage facilities based entry, diminish real network competition in local markets and reduce consumer choice – all counter to the Commission's policy goals.

63. In the course of prescribing TELRIC for unbundled network elements to be provided new local entrants in the Local Competition Order, the Commission recognized the prospect that doing so would suppress investment by new entrants. It observed tersely:

This approach, however, may discourage facilities based competition by new entrants because new entrants can use the incumbent LECs existing network based on the cost of a hypothetical least-cost, most efficient network.²⁴

Events have shown this to be more than an idle academic concern. Both investors and managers of facilities based entrants have called attention to the apparent paradox of policies designed to help some competitors but wind up hurting those with facilities based business plans.²⁵

64. While not elaborated by the Commission at the time, the reasons for the paradox are clear cut. Options influence investment incentives.²⁶ The option to lease capacity on favorable terms -- including avoiding investment and technology risk, while finessing sunk costs and long term commitment -- reduces the attractiveness of building and owning capacity. Thus, the incentive of an entrant to take on the risks and uncertain prospects for cost recovery and returns of investing in very capital intensive, fixed plant subject to risk of technological obsolescence, market risk, financial risk and others, is substantially lessened and for many eliminated entirely, if

²³ Seventh Report and Order and Further Notice of Proposed Rulemaking, *In the Matter of Access Charge Reform: Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, CC Docket No. 96-262, (released April 27, 2001), p. 3, para. 4.

²⁴ Local Competition Order at para. 683.

²⁵ Alfred Kahn and others asked in a related context the fundamental question: if every non-incumbent provider "...can be a free rider, at prices explicitly intended to recover only the minimum cost of doing so, who is going to build the vehicle?" Were access and transit subjected to such rules, potential public investors in local telecommunications network facilities would answer that question simply: "Not us!" See Kahn, et. al., "The Telecommunications Act at Three Years", p. 349.

²⁶ See note 12 above.

the entrant is assured the option -- in a technologically dynamic environment in which capacity costs are falling and service quality therefrom is increasing -- of obtaining capital intensive facilities at rates reflecting, not the costs of extant plant, but at rates reflecting more efficient, lower cost facilities.

F. Summary and Conclusions

65. Though investment and infrastructure growth was carefully promoted as a goal of national telecommunications policy under the 1934 Act, it has been markedly less so under the Telecom Act of 1996, despite the clear statement of expectation and intent by both Congress and the Executive. There is no identifiable, consistently applied national policy for encouraging telecommunications network investment today. Broadband investment should be fostered as a means of assuring long run economic efficiency in the provision of network services and in the growth of output and productivity in sectors dependent on them. The power to regulate and its practice carry with them the power to stimulate or suppress; to make efficient or to distort; to expedite or to delay investment in network facilities. Given cash budget constraints, managers must make hard choices about the level, composition and timing of network investment. These choices are very sensitive to signals managers read from capital markets. Investors in financial markets and managers with capital budgeting responsibility are keenly aware of the effects of regulation on the payoff from different investment programs and strategies. Several events have combined recently to raise the level of uncertainty and perception of regulatory risk in capital markets. In that context investors are likely to be very averse to any new regulatory programs or prescriptions that promise uncertainty, contention, delay and ambiguity.

66. The proposal to extend TELRIC principles and application to access and transport charges as a part of reform of intercarrier settlement arrangements is just such a new regulatory initiative. Proponents of this more detailed regulatory and prescriptive approach offered in the first round of comments no evidence a) that current regimes are flawed or b) that the proposed TELRIC extension would encourage investment. In fact, analysis based on established principles and observations indicate the opposite. Expansion of TELRIC to access and transport charges would very likely create adverse investment incentives for incumbents and entrants alike.

67. Investors would not welcome adoption by the Commission of any new rate regulation program that involves more detailed prescription of rates that are now sufficiently and efficiently constrained by price caps and market forces. Substitution of regulation for markets in this instance will be regarded negatively by facilities based network investors.