W. Scott Randolph
Director – Regulatory Affairs

Verizon Communications
1300 I Street
Suite 500E
Washington, DC 20005

Phone: 202 515-2530
Fax: 202 336-7922
srandolph@verizon.com

September 3, 2003

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Ex Parte: CC Dockets No. 02-33, 95-20, 98-10, and 01-337

Dear Ms. Dortch:

Attached for inclusion in the records of the above-captioned proceedings is a Supplemental Declaration of Dennis W. Carlton, Professor of Economics at the University of Chicago and Hal S. Sider, Senior Economist and Senior Vice-President of Lexecon, Inc. This declaration supplements material originally submitted with Verizon's Comments and Reply Comments In CC Docket 01-337.

Professor Carlton and Mr. Sider conclude that ILECs cannot be considered "monopolists" in the provision of broadband transport services sold to independent ISPs in that competition from other retail providers of broadband Internet services would prevent ILECs from exercising market power by raising the price of wholesale DSL transport services if common carrier regulation of those services were eliminated. Further, the Declaration observes that common carrier regulation imposes costs on consumers by impeding an ILEC's ability to respond to changes in technology and to specialized customer requests for service in a timely manner.

Please associate this notification with the record in the proceedings indicated above. If you have any questions regarding this matter, please call me at (202) 515-2530.

Sincerely,

W. Scott Randolph

Attachment

cc: Michelle Carey
Brent Olson
William Kehoe
Harry Wingo
Michael Carowitz
Darryl Cooper
Gail Cohen
Robert Pepper
Simon Wilkie
Barbara Esbin

SUPPLEMENTAL DECLARATION OF
DENNIS W. CARLTON AND HAL S. SIDER

September 3, 2003

I. OVERVIEW AND CONCLUSIONS

1. We previously submitted a declaration in this proceeding on March 1, 2002 and a reply declaration (with Gustavo Bamberger) on April 22, 2002.[1] Among other things, those reports provided the basis for our conclusion that ILECs could not exercise market power in the provision of broadband services in the sense that elimination of common carrier regulation would not be expected to result in higher retail broadband Internet prices.

2. We have now been asked by Verizon to respond to suggestions that ILECs would exercise market power following elimination of common carrier regulation by raising the price of digital subscriber line (DSL) transport services provided on a wholesale basis to independent Internet Service Providers (ISPs). We conclude that ILECs cannot be considered "monopolists" in the provision of broadband transport services to independent ISPs and that competition from other retail providers of broadband Internet services would prevent ILECs from exercising market power by raising the price of wholesale DSL transport services following the elimination of common carrier regulation faced by ILECs. The principal reason for this is that it is the presence of competition from cable companies and other technologies, not competition

[1] Our March 1, 2002, declaration summarizes our credentials and contains copies of our curriculum vita.

from ISPs that resell ILECs' wholesale DSL transport services, that constrain the pricing of ILECs' retail DSL services and wholesale DSL transport services.

3. We also conclude that common carrier regulation imposes costs on consumers by discouraging innovative forms of contracts between ILECs and a variety of other parties, including ISPs, with the likely effect of slowing the deployment of broadband Internet services and discouraging investment in new technologies. In particular, these regulatory obligations impede ILECs' ability to invest in new technology by limiting the scope of contracts they can enter into with content providers and ISPs. The regulatory obligations faced by ILECs impede their ability to respond to changes in technology and to specialized customer requests in a timely manner.

4. In the absence of common carrier regulation, ILECs would continue to face strong incentives to provide DSL services on a wholesale basis to efficient independent ISPs. However, in the absence of regulation the scope of such arrangements would be determined by considerations of economic efficiency, with all mass market broadband platforms competing on an equal footing.

II. ILECS ARE NOT "MONOPOLISTS" OF WHOLESALE BROADBAND TRANSPORT SERVICES.

5. We understand that some commenters in these proceedings have suggested that ILECs are the only providers of wholesale broadband transport services to independent ISPs and are, therefore, properly considered "monopolists" in that "market." This characterization is wrong for two reasons.

6. First, these claims are based on the factually incorrect view that only ILECs offer broadband services on a wholesale basis to independent ISPs, as cable

companies have entered into a variety of wholesale agreements with independent ISPs.[2] Second, and more importantly, even if cable companies were not actively engaged in providing these wholesale services at all, it would be economically inappropriate to view "wholesale DSL transport services provided to independent ISPs" as an economic market or to view ILECs as "monopoly" suppliers of such services.

7. The first step in evaluating such a claim is to define the relevant market. This is because the exercise of defining relevant markets is undertaken in order to define the forces that influence price and to determine whether firms can exercise market power. A properly defined market, therefore, includes all firms whose participation in provision of a service significantly constrains the price under analysis. This means that in evaluating input markets, it is important to include vertically integrated firms in the market, even if these firms do not actively sell inputs to third parties.

8. More specifically, if a vertically integrated firm (that both supplies inputs to itself and sells directly to end users) competes with a non-integrated firm (that sells directly to end users and purchases inputs from another non-integrated firm), then it is essential to account for the role of the vertically integrated firm in analyzing the input market. For example, competition in sales to final customers constrains the price that the

[2] For example, AOL Time Warner agreed to provide transport services to a number of independent ISPs as a condition to approval of the firms' merger. AOL Time Warner has wholesale agreements with Earthlink, Juno, and Big Net as well as a number of ISPs operating in local areas. Other cable companies have entered into voluntary wholesale agreements with independent ISPs. For example, Comcast had entered into a wholesale contract with United Online (Juno, Netzero), Cox has entered into trials with AOL and Earthlink and that, prior to its acquisition by Comcast, AT&T Broadband had entered into contracts with Earthlink, AOL and other unaffiliated ISPs. A. Breznick, *More MSOs Join Multiple-ISP Access Movement*, Cable Datacom News (Oct. 1, 2002), http://www.cabledatacomnews.com/oct02/oct02-3.html.

non-integrated input supplier can charge due to the ability of customers to switch between the integrated and non-integrated firms.

9. This is the approach followed by federal antitrust authorities when they analyze markets to determine whether they are susceptible to the exercise of market power. The Merger Guidelines of the Department of Justice and the Federal Trade Commission recognize that the market includes "all firms that currently produce or sell in the relevant market. This includes vertically integrated firms …."[3]

10. Professor Areeda illustrates this principle with an example:[4]

> If iron ore is the relevant market and if shares are best measured there by sales, internally used ore– so-called captive output – is part of the ore market even though it is not sold as such.
>
> In measuring the market power of a defendant selling iron ore, the ore used internally by other firms constrains the defendant's ability to profit by raising ore prices to monopoly levels. The higher ore price may induce an integrated firm to expand its ore production – to supply others in direct competition with the alleged monopolist, to expand its own steel production and thereby reduce the demand of other steel makers for ore, or both. Hence, captive output constrains the defendant whether or not the integrated firms sell their ore to other steel makers previously purchasing from the defendant. In sum, the integrated firm's ore output belongs in the market.

11. Broadband Internet services encompass a variety of functions including: broadband transport and aggregation services (consolidating traffic between end users and the public Internet); routing traffic to and from Internet backbone transport networks; e-mail; and proprietary content services. Broadband Internet services are sold "at retail" to residential and small business customers by cable operators, ILEC affiliates, CLECs

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3 Horizontal Merger Guidelines of the Department of Justice and Federal Trade Commission, April 8, 1997, Section 1.31.

4. P. Areeda, H. Hovenkamp and J. Solow, Antitrust Law vol. IIA, 535e, at 225-26 (2002).

and ISPs. In addition to their retail offerings, cable operators and ILECs offer broadband transport services on a wholesale basis to unaffiliated ISPs, which then resell these services with other components of Internet service to retail customers.[5]

12. Given retail competition between DSL, cable modem service providers and other Internet access technologies, all firms that provide broadband transport (either to themselves or to others at wholesale), including telephone companies, cable operators, and satellite and wireless providers, are properly included as participants in the "market" for wholesale broadband Internet transport services. Thus, it is economically *inappropriate* to define a separate market that consists of "wholesale DSL transport services provided to independent ISPs" alone. Although ILECs provide DSL service on a wholesale basis, that service is not properly considered a separate market as the result of competition from other technologies which constrain the price of retail services. As a result, it is economically inappropriate to characterize ILECs as "monopolists" in the provision of wholesale ADSL service.

13. Finally, independent ISPs providing service by purchasing ADSL transport on a wholesale basis from ILECs account for a relatively small share of all ADSL lines. Data from Verizon indicate that independent ISPs currently buy roughly 22 percent of all Verizon ADSL lines. Thus, in Verizon's territory, independent ISPs

[5] ILECs and others also offer broadband transport directly to end users, who then independently contract with ISPs to obtain Internet access. ISPs, in turn, have developed "stand alone" Internet offerings, such as AOL for Broadband, to serve those users. (AOL for Broadband's "Bring Your Own Access" service is described at: http://www.aolbroadband.com/aolbb/nb/how/connect_byoa.adp)

account for roughly 6 percent of all mass market broadband lines. (This reflects 22 percent of ILECs' 31 percent of mass market broadband subscribers.[6])

14. While a firm's small market shares does not necessarily imply that it does not influence market price, ILECs face rivals that are far larger than themselves in the provision of mass market broadband services. Under these circumstances, it is highly unlikely that the prices that ILECs can charge for mass market broadband services is significantly constrained by independent ISPs, as opposed to cable modem suppliers.

15. Cable companies, of course, are by far the largest retail providers of broadband Internet services and compete directly with ILEC-provided retail DSL services. As discussed in detail in our prior declarations:

- Cable modem services account for roughly two-thirds of mass market broadband subscribers. As of December 2002, cable firms provided 65 percent of broadband Internet services to mass market consumers while ADSL services provided by ILECs accounted for only 32 percent of subscribers.[7]
- Cable modem services are more widely available than ILECs' ADSL services. As of year end 2002, cable modem services were available to an estimated 84

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[6] As of December 2002, 4.9 percent of the more than 6.5 million ADSL lines in service were provided by CLECs (that utilize ILEC UNEs in providing DSL services). This reflects less than 2 percent of residential broadband Internet subscribers. High Speed Services for Internet Access: Status as of December 31, 2002, Federal Communications Commission, Industry Analysis and Technology Division, Wireline Competition Bureau, June 2003, Table 5.

[7] FCC, Industry Analysis and Technology Division, Wireline Competition Bureau, "High Speed Services for Internet Access: Status as of December 31, 2002," (June 2003), Table 3.

percent of U.S. homes while ADSL services were available to only 61 percent of U.S. homes.[8]

- Although they now serve a relatively small number of customers, broadband services are also available from firms using satellite and fixed wireless technologies.

In addition, new technologies such as "wi-fi" and "broadband over power line" also hold promise as additional broadband Internet technologies.[9]

16. The role of competition from cable is further reflected in ILECs' decisions to reduce DSL prices in recent months. Verizon, for example, dropped the price of its (stand-alone) DSL service to $34.95, and lowered DSL prices to $29.95 for customers that purchase this service from Verizon along with local and long distance service. ILECs have dropped DSL prices in response to competition from cable firms. According to Merrill Lynch:

> US cablecos have sustained a material market share lead against the telcos for broadband subs both on a cumulative and still also on a run rate basis. The three large RBOCs have all attempted to gain share by a variety of measures – but primarily through lowering the price for DSL service.[10]

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8 Credit Suisse First Boston, "The Broadband Battle," April 3, 2003, p. 8.

9 "Broadband over Power Line has the potential to provide consumers with a ubiquitous third broadband pipe to the home." Statement of Chairman Michael K. Powell, Inquiry Regarding Carrier Current Systems, including Broadband over Power Line Systems; ET Docket No. 03-104, April 23, 2003.

10. Merrill Lynch, "The Telecommunicator" RBOC DSL Strategy Update – It's (mostly) all about the price…", July 10, 2003, p. 1.

II. ELIMINATION OF COMMON CARRIER REGULATION WOULD BENEFIT CONSUMERS.

17. While common carrier regulations do not benefit consumers by lowering prices for broadband Internet services, these rules actually harm consumers by impeding the ability of ILECs to promote utilization of their networks and to offer innovative services, and thus ILECs' ability to compete effectively with cable modem suppliers and others. More specifically, the rules (i) limit the type of contractual agreements that ILECs can enter into with third parties and thus discourage investments in which non-standard contracting terms are required to induce participation and (ii) discourage ILECs from developing innovative methods of technical coordination and interconnection with content providers and ISPs.

A. COMMON CARRIER RULES INHIBIT DEVELOPMENT OF CONTRACTS THAT RESPOND TO RISKS INHERENT IN EMERGING INDUSTRIES.

18. The provision of broadband Internet services is growing very rapidly, with the number of high speed lines in service increasing from less than three million to roughly 20 million between December 1999 and December 2002.[11] The industry's technology and business conditions are still emerging with ILECs, their potential partners and others competing to develop efficient service offerings. ILECs and others face complex decisions and significant risks regarding, among other things, how quickly to deploy and upgrade services, the extent to which they should vertically integrate or partner with others in providing various broadband Internet services, and how and where in the network to interconnect with ISPs and content providers.

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[11] High Speed Services for Internet Access: Status as of December 31, 2002, Federal Communications Commission, Industry Analysis and Technology Division, Wireline Competition Bureau, June 2003, Table 1.

19. The provision of broadband Internet service requires close coordination between firms that supply various inputs (such as transport and ISP functions). Coordination between the various activities can be accomplished through vertical integration and/or through contracting. In industries characterized by technological change and risk, such as telecommunications, these contracts can be quite complex and idiosyncratic.

20. For example, studies of contracts between Internet portals and Internet content providers have found widespread use of complex, non-standard contracts. These contracts may include various forms of revenue sharing or risk sharing, and may establish performance standards and other contingency-specific considerations. Common carrier regulations, however, limit the ability of ILECs to tailor services for individual customers, and impede ILECs' ability to develop non-standard contracts with unaffiliated ISPs and content providers.

21. As noted above, it is widely recognized that firms in industries characterized by technological change and risk enter into a variety of non-standardized contracts. For example, a recent paper by Dan Elfenbein and Josh Lerner analyzes contracts entered into by Internet portals with providers of Internet content.[12] They find that portals typically enter into contracts that contain revenue shares or performance measures. They find that contracts between portals and content providers:

- Typically involve revenue sharing, typically based on product sales and less often on the number of new customers acquired.

[12] Dan Elfenbein and Josh Lerner, "Designing Alliance Contracts: Exclusivity and Contingencies in Internet Portal Alliances," unpublished manuscript, Harvard University, January 14, 2003.

- Often specify provisions relating to technical performance such as the speed with which pages are loaded, the percentage of time a web site was available, etc.;
- Often specify a minimum amount of commercial activity generated at a site through the portal (based on revenue, customers generated, the number of "click throughs", etc.).

22. The prevalence of these types of provisions in contracts indicates that they play an important role in inducing investment and innovation in Internet industries, in which the success of any new venture is highly uncertain. Thus, impediments to these types of contracting forms, such as those resulting from common carrier regulations, will likely slow the formation of new alliances and deployment of new services. For example, as discussed above, common carrier regulation requires that contracts and terms offered to one customer be available to others and requires that price differences be justified on the basis of cost. These restrictions adversely affect ILECs' ability to compete with cable modem firms and others, which face no such regulation.

B. COMMON CARRIER RULES INHIBIT DEVELOPMENT OF NEW FORMS OF TECHNICAL COORDINATION BETWEEN ILECS AND THEIR PARTNERS.

23. ILECs can establish interconnections with content providers or ISPs, at a variety of points in the local telephone network, and ILECs can provide varying levels of service to these providers. Different ISPs and content providers may have different preferences with respect to the nature of the service they obtain from ILECs and/or may prefer different points of interconnection with the ILEC. In addition, changes in

technology over time also result in changes in the nature of services provided by ILECs and ISPs and content providers.

24. Common carrier regulation can impose significant costs on ILECs that attempt to establish new innovative forms of interconnection and services to ISPs and content providers. For example, we understand that under common carrier regulation, if an ILEC offers a new "enhanced" service in its network, it is obligated to offer on a tariffed basis (i) any basic transport telecommunication service used to access the enhanced service; and (ii) interconnection (comparable to that the ILEC provides to itself) that would enable rival suppliers of the enhanced service to connect with the ILEC's network.[13] For example, as discussed in more detail below, if an ILEC and ISP devise a way to have the ILEC verify an ISP subscriber's password (a function previously performed by the ISP itself), then the ILEC needs to define interconnection standards that enable rivals to perform this function and may further be required to establish new tariffs for transport to and from the point in the ILECs' network where this verification function takes place.

25. ILECs face these regulatory requirements even if only one customer would like the ILEC to perform such an enhanced services. We understand that compliance with these rules is costly and reduces the ability of ILECs to respond in a timely way with changes in technology and marketplace. In addition, such rules can interfere with the ability of the ISP or content provider and the ILEC from capturing the benefits of developing new forms of technical coordination.

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[13] These are typically referred to as the "comparably efficient interconnection" (CEI) and "open network access" (ONA) requirements imposed by common carrier regulation.

26. The following section shows that concerns that common carrier regulations have hampered innovation are not merely theoretical but instead have affected Verizon's ability to introduce new services.

C. COMMON CARRIER REGULATION HAS INTERFERED WITH VERIZON'S ABILITY TO OFFER NEW SERVICES.

27. Common carrier regulations obligate ILECs to provide wholesale DSL services on a tariffed non-discriminatory basis to unaffiliated ISPs. Verizon's experience indicates that these regulations are an impediment to formation of such agreements and the deployment of innovative services. More specifically, common carrier regulations limit the ability of ILECs to: establish revenue sharing contracts with unaffiliated ISPs or content providers; and limit ILECs' ability to enter into contracts with ISPs and content providers that establish special contract terms. In addition, the CEI and ONA aspects of common carrier regulation discourage ILECs from introducing innovative forms of technical interconnection and service with content providers and ISPs.

28. This is not just a matter of economic theory. Common carrier regulation has, in fact, adversely affected the deployment of new services and ILECs' ability to enter into a variety of ventures that would be beneficial to consumers. For example, regulation caused Verizon not to pursue the following opportunities:[14]

- Several universities and colleges requested that Verizon provide DSL capabilities to their students and offices, and the schools would market these services to their students. As this arrangement would provide Verizon with additional customers at lower customer acquisition costs, the academic

[14] These examples are described in more detail in ex parte letter from W. Scott Randolph of Verizon to the FCC dated June 26, 2003 (relating to CC Dockets No. 02-33, 95-20, 98-10, and 01-337.

institutions expected a reduced price. As the provision of such a service would likely require Verizon to establish new tariffs for each such offering (since there were differences in the precise nature of the arrangements desired by each institution), Verizon was concerned that filing such tariffs would obligate it to provide services in locations in which it would otherwise choose not to do so.

- A local government hoped to accelerate deployment of DSL in its community by purchasing its own DSL equipment and contracting with Verizon to maintain and provide DSL service using that equipment. To do this, however, Verizon would have had to tariff this special arrangement, which could obligate Verizon to offer services in other circumstances.
- Verizon could provide "enhanced" capabilities that would allow ISPs to operate more efficiently. One example, noted above, was the request that Verizon provide wholesale DSL service that includes "enhanced" verification functions (e.g., user log in, password verification). Another example would be for Verizon network equipment to store video webcasts for redistribution to ISP customers, rather than the ISP making separate transmissions for each of its customers, as is done today.[15] However, to provide these enhanced services, Verizon would have to (i) file new tariffs for the basic transport service; (ii) create the ability for competitors to obtain comparably efficient

[15] This would be done at a Digital Subscriber Line Access Multiplexer (DSLAM), which is located in central offices and aggregates Internet traffic from individual end users and then forward the traffic to ATM hub switch, which in turn provides access to ISPs.

interconnection (CEI) to that equipment; and (iii) develop the necessary billing and support services for such interconnection. We understand that since the equipment has not been designed to accommodate multiple providers of such services, Verizon would also need to get the manufacturer to make changes in the equipment.

29. As these examples suggest, common carrier regulations impede Verizon's ability to modify services in response to unique circumstances as well as its ability to enter into contracts with unaffiliated ISPs or content providers that enable the parties to share risks through revenue sharing, specification of performance criteria and other contingencies. These circumstances are common in industries, such as the provision of Internet services, which are characterized by new and emerging technologies and highly uncertain investments.

IV. ILECs WILL CONTINUE TO FACE STRONG INCENTIVES TO OFFER WHOLESALE SERVICES TO INDEPENDENT ISPs AND TO PROVIDE CONSUMERS FULL ACCESS TO THE INTERNET EVEN IN THE ABSENCE OF COMMON CARRIER REGULATION.

30. Firms routinely face decisions about the extent to which they should vertically integrate or contract with others in producing a final product. They also routinely decide whether to use different distribution channels to deliver their products. For example, providers of broadband Internet transport services can choose to vertically integrate into the provision of retail ISP service, to contract with independent ISPs to provide retail services, or can pursue both strategies. Or they can decide to sell broadband transport to ISPs, to end users or to both. In the absence of regulation, ILECs providing broadband Internet transport services have strong business incentives to contract with efficient independent ISPs and other content providers.

31. If independent ISPs are more efficient as an ILEC, then an ILEC would benefit from providing them local broadband transport service on a wholesale basis. For example, independent ISPs that are efficient marketers can attract subscribers that otherwise would purchase cable modem services (or other broadband Internet access services). Likewise, it would be beneficial for the ILEC to provide content that attracts more subscribers. These customers generate wholesale revenue for ILECs that otherwise might be lost.

32. Some commenters have expressed concern that elimination of common carrier regulation could increase the likelihood that ILECs would pursue a strategy of impeding access to certain content providers. However, these commenters have provided no evidence to support this proposition.

33. As a preliminary matter, access to individual content providers is controlled by ISPs. Today, ISPs, including ISPs affiliated with ILECs, have no common carrier or other "access" obligation. Therefore, it is the marketplace itself, not any regulatory rule or requirement, that provides Internet users with full access to content providers on the Internet.

34. In addition, any attempt to restrict access to a given website degrades the overall quality of service received by subscribers and thus reduces the demand for the services. Broadband Internet service providers would benefit from engaging in this practice only by extracting payments from the firms that benefit from degraded access to certain sites. A broadband provider would engage in such a policy only if the profit it generates in doing so more than offsets the losses it incurs by making its service less

attractive, which reduces subscribers' willingness to pay for the service as well as the number of subscribers an ILEC can expect to attract at a given price level.

35. We are unaware of any claim that ILEC providers of DSL services or ILEC-affiliated ISPs have attempted to degrade access to any given website.[16] This is not surprising since doing so would reflect an important deviation from the kind of Internet access that consumers have come to expect. Attempts by DSL providers to impede access to certain websites in this way would lessen the attractiveness of DSL as an alternative to cable modem services.

[16] Commission officials have suggested that cable firms have engaged in related practices on a limited basis. However, we have no specific information regarding the nature or extent of such practices.

We declare under penalty of perjury that the above is true and correct to the best of our knowledge and belief.

Dennis Carlton

Dennis Carlton

Hal Sider

Hal Sider