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BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

IN THE MATTER OF THE CONTINUED
COSTING AND PRICING OF UNBUNDLED
NETWORK ELEMENTS AND TRANSPORT

Docket No. UT-003013

**SUPPLEMENTAL RESPONSE TESTIMONY OF
RICHARD CABE
ON BEHALF OF
COVAD COMMUNICATIONS COMPANY AND
RHYTHMS LINKS INC.**

December 20, 2000

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Richard Cabe. My business address is 219 I Street, Salida, Colorado.

4 **Q. ARE YOU THE SAME RICHARD CABE WHO SUBMITTED TESTIMONY
5 EARLIER IN THIS PROCEEDING?**

6 A. Yes I am.

7 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR SUPPLEMENTAL RESPONSE
8 TESTIMONY.**

9 A. The Third Supplemental Order in this proceeding set out “costing and pricing of line
10 sharing on fiber loops/DLC systems” as an issue to be addressed in Part B. The purpose
11 of my testimony is to respond to the ILECs' failure to provide cost data for line sharing
12 on fiber loops in their direct filings in August. Information required for costing and
13 pricing line sharing on fiber loops resides with the ILECs, and was not presented in their
14 direct testimony. However, that omission does not prevent the Commission from
15 considering the issue in this proceeding. Indeed, the ILECs’ neglect of the issue may
16 presage a tactic of delay which works to the advantage of the incumbent or its data
17 affiliate and discriminates against entrants. My testimony in response to the ILECs'
18 troublesome omission describes the issue of line sharing over fiber fed Digital Loop
19 Carrier (DLC) and recommends an action that this Commission can take without waiting
20 for the ILECs to produce cost information. Simply because the ILECs overlooked or
21 neglected this important issue in their direct case does not mean it should not be
22 addressed in this part of this docket.¹ My recommendations are necessary to ensure there
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24 ¹ Verizon witness Bykerk states that Verizon is not providing cost estimates at this time, and that
25 Verizon’s deployment of line sharing over fiber would probably not occur prior to the fourth
26 quarter of 2000. Mr. Bykerk cites my testimony filed in May, 2000 in Part A of this proceeding,
where I concluded that the issue was not, at that time, ripe for the Commission’s consideration.
Mr. Bykerk relies on my May testimony as justification for the proposition that the issue should
not be addressed in Part B. Mr. Bykerk’s recommendation would delay even the filing of

1 will be competitive parity as the ILECs are expanding their own retail DSL offerings over
2 fiber loops.

3 **Q. WHAT IS YOUR RECOMMENDATION FOR THE COMMISSION?**

4 A. I recommend that the Commission order that Washington ILECs must put into effect
5 TELRIC-based Unbundled Network Element (UNE) rates, approved by this Commission,
6 prior to offering their own retail Digital Subscriber Line (DSL) service on loops served
7 by DLC systems. To allow new entrants non-discriminatory access to this UNE-based
8 avenue of entry in the provision of DSL services to customers served by DLC systems,
9 the Commission should also require the ILECs to disclose technical characteristics and
10 geographic availability of line sharing arrangements on DLC systems with sufficient lead
11 time to allow entrants a meaningful opportunity to offer service in competition with the
12 ILECs at the same time that the ILECs make their own retail offerings available.

13 **Q. PLEASE EXPLAIN THE ISSUE OF LINE SHARING OVER FIBER OPTIC**
14 **CABLE.**

15 A. Line sharing is the practice of providing xDSL service to a customer of analog voice
16 service without requiring the customer to order a second line, dedicated to the xDSL
17 service. When the customer's voice service is provided by a DLC system the customer's
18 loop is provided partly over fiber optic cable and partly over copper. In this instance line
19 sharing is accomplished by exactly the same technology for the copper portion of the
20 customer's line – a Digital Subscriber Line Access Modem (DSLAM) and splitter are
21 installed at the termination of the copper portion of the loop. When line sharing is
22 undertaken in the presence of a DLC system the DSLAM and splitter are installed
23 between the copper portion of the loop and the fiber portion, and different arrangements
24 must be provided to for line sharing on the fiber portion of the loop. Several different

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26 testimony on the topic until after Verizon deployment of the technology, which, by his estimate
may have already occurred as this testimony is filed at the end of the fourth quarter of 2000.

1 arrangements are possible for transporting a customer's xDSL data where a DLC is used
2 for the customer's voice service, and the choice of arrangement has implications for
3 costing and pricing, and very probably for the viability of DSL competition. If new
4 entrants do not have access to arrangements that share the incumbent's economies of
5 density, competition may not be viable. Because of the small number of customers
6 served at the Remote Terminal (RT) the prospect of competition in this market is
7 especially dependent on regulatory measures that compel the ILEC to offer UNE
8 arrangements that share economies of density with new entrants.

9 **Q. IS THIS SHARING OF ECONOMIES OF DENSITY IN THE PROVISION OF**
10 **UNES REQUIRED BY LAW?**

11 A. Yes. In its first major order implementing the local competition provisions of the
12 Telecommunications Act of 1996 the FCC found the following:

13 Congress addressed these problems in the 1996 Act by mandating that the
14 most significant economic impediments to efficient entry into the
15 monopolized local market must be removed. The incumbent LECs have
16 economies of density, connectivity, and scale; traditionally, these have
17 been viewed as creating a natural monopoly. As we pointed out in our
18 NPRM, the local competition provisions of the Act require that these
19 economies be shared with entrants.²

17 As a practical matter, regulatory measures must be adopted to compel incumbent
18 monopolists to share these economies with new entrants in order to enable the
19 development of competition within a reasonable time.

20 **Q. ARE ILECS REQUIRED TO PROVIDE ACCESS TO LINE SHARING**
21 **ARRANGEMENTS OVER FIBER?**

22 A. Yes. In November of 1999 the FCC found that "incumbent LECs are required to
23 unbundle the high frequency portion of the local loop even where the incumbent LEC's
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25 ² *First Report and Order, In the Matter of Implementation of the Local Competition Provisions*
26 *in the Telecommunications Act of 1996* (CC Docket No. 96-98), adopted August 1, 1996,
(hereinafter referred to as "*First Report and Order*") at ¶ 11

1 voice customer is served by DLC facilities.”³ At that time, the technology necessary to
2 accomplish line sharing over the DLC portion of the loop was new, so the FCC referred
3 to the technical feasibility of line sharing over fiber as a “rebuttable presumption,” and
4 provided that line sharing over the DLC portion of a loop would not be required if the
5 “incumbent carrier bears the burden of demonstrating to the relevant state commission, in
6 the course of a section 252 proceeding, that it is not technically feasible to unbundle the
7 subloop to provide access to the high frequency portion of the loop.”⁴ In the context of
8 this determination by the FCC and a variety of industry announcements, there can be no
9 doubt as to the technical feasibility of line sharing over fiber in general, and it should be
10 presumed to be technically feasible in specific instances unless an incumbent carrier
11 bears the burden of showing that it is not feasible in some particular instance.⁵

12 In this proceeding, Washington ILECs have neither argued that line sharing over
13 fiber is not technically feasible nor have they offered information on the cost of providing
14 this UNE. The ILECs should not be allowed to achieve delay by simply ignoring the
15 issue.

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21 ³ *Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket*
22 *No. 96-98*, FCC 99-355, adopted November 18, 1999, released December 9, 1999 (hereinafter
23 referred to as “*Line Sharing Order*”) at ¶ 91.

24 ⁴ *Id.* at ¶ 92.

25 ⁵ The most widely known industry announcements are those of SBC’s project pronto, first
26 announced in SBC’s Investor Briefing No. 211 dated October 11, 1999. SBC has subsequently
committed to providing CLECs with what amounts to line sharing over fiber. See SBC’s ex
parte submission of August 2, 2000 to the FCC in Docket 98-141. Questions will arise as to how
line sharing over fiber is to be provided in different network architectures, but technical
feasibility is not in doubt, and certainly should not rest on business decisions of ILECs as to how
to configure their networks.

1 **Q. VERIZON WITNESS TRIMBLE’S DIRECT TESTIMONY AT 29 MENTIONS**
2 **DSLAMS AT A REMOTE TERMINAL FOR A DLC SYSTEM AND PACKET**
3 **SWITCHING SERVICE. IS THIS RELATED TO LINE SHARING OVER**
4 **FIBER?**

5 A. It’s not clear whether Mr. Trimble intended this discussion to apply to line sharing over
6 fiber or not. He relied on the FCC’s UNE Remand Order, which was adopted two
7 months prior to the FCC’s Line Sharing Order, and which didn’t consider or rule on line
8 sharing, over copper or fiber. If Mr. Trimble’s discussion paraphrasing the FCC’s UNE
9 Remand Order were applied to line sharing over fiber, it would be seriously misleading.

10 The paragraph of the UNE Remand Order on which Mr. Trimble relied provides a
11 limited exception to the FCC’s decision “to decline to unbundle packet switching” and
12 describes the rationale for that exception as follows:

13 When an incumbent has deployed DLC systems, requesting carriers must
14 install DSLAMs at the remote terminal instead of at the central office in
15 order to provide advanced services. We agree that, if a requesting carrier
16 is unable to install its DSLAM at the remote terminal or obtain spare
17 copper loops necessary to offer the same level of quality for advanced
18 services, the incumbent LEC can effectively deny competitors entry into
19 the packet switching market.⁶

20 The paragraph goes on to elaborate on the conditions under which ILECs are required to
21 unbundle packet switching. Mr. Trimble’s paraphrase of these conditions makes two
22 serious omissions: Mr. Trimble’s condition (2) is that “the ILEC does not permit the
23 CLEC to collocate its DSLAM in that remote terminal.” In its discussion of that
24 condition, the FCC goes on to require that the ILEC’s provision for collocation of
25 DSLAMs must be “on the same terms and conditions that apply to its own DSLAM.” If
26 the requirement of line sharing over fiber hadn’t been clearly stated in a subsequent
order, and this earlier “limited exception” were read as a requirement of line sharing over
fiber, the part of the condition omitted by Mr. Trimble would be very important. The

⁶ *Third Report and Order and Fourth Further Notice of Proposed Rulemaking* in CC Docket 96-98 (hereinafter “UNE Remand Order”) at ¶ 313.

1 implications of collocation “on the same terms and conditions that apply to its own
2 DSLAM” would depend on the specific architecture deployed by an ILEC, but would be
3 important in every instance.

4 In referring to the availability of spare copper loops, Mr. Trimble’s condition (4),
5 his paraphrase of the FCC’s conditions neglects the FCC’s clearly stated requirement that
6 these spare copper loops afford the CLEC an opportunity to “offer the same level of
7 quality for advanced services.”⁷ Again, neglecting the fact that a more recent order than
8 the one on which Mr. Trimble relies clearly required ILECs to allow line sharing over
9 fiber except where it can be shown to be technically infeasible, it is important not to omit
10 this reservation. In fact, if applied to line shared xDSL services, the option of obtaining
11 spare copper will not enable competitors to obtain the “same level of quality for advanced
12 services” as an ILEC would enjoy using a fiber-fed loop. One of the advantages of line
13 sharing over fiber is to enable service to customers at distances from a central office at
14 which the available copper loops cannot reliably support xDSL services. Even when loop
15 length is not an issue, a CLEC attempting to send xDSL data over the entire copper loop
16 may experience degraded quality due to interference from ILEC xDSL service with the
17 ILEC DSLAM located at the RT. In that case, ILEC data originating at the RT and
18 CLEC data originating at the central office would both be transmitted in the same
19 distribution Cable, but the ILEC data traverses only the shorter span from the RT to the
20 customer’s premises. If CLECs were denied access to line sharing over fiber fed loops,
21 including the fiber portion of the loop, this problem would only get worse over time, as
22 more ILEC xDSL data originating at the RT is sent over the copper distribution cable. I
23 understand that this issue is now under consideration at the ANSI T1E1 committee.

24 Hence, the option of using whatever available copper facility remains is effectively no
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26 ⁷ *UNE Remand Order* at ¶ 313

1 option at all. Further, the trend in local exchange networks generally is for more and
2 more loops to be provided over DLC systems, and the decisions as to where DLC is
3 deployed rest with the ILECs. Thus, limiting CLECs' access to line sharing or other
4 access to loops provided over fiber-fed DLC systems allows ILECs to selectively impose
5 a disadvantage on CLECs through choices as to where and what type of DLC is
6 deployed.

7 **Q. WILL WASHINGTON ILECS BE PROVIDING DSL TO SUBSCRIBERS**
8 **SERVED BY DIGITAL LOOP CARRIER IN A LINE SHARING MODE?**

9 A. Yes, they will⁸. It appears that this is a natural and very cost effective evolutionary
10 change in the local exchange network. Provision of xDSL service through Next
11 Generation Digital Loop Carrier (NGDLC) equipment promises to make advanced
12 services available to a very large number of customers, disproportionately in rural areas,
13 to whom xDSL services are not currently available. On the presumption that this
14 development will proceed in Washington as it is in other geographic areas, competition
15 will only be possible if Washington ILECs are required to allow new entrants access to
16 the necessary UNEs at reasonable prices, terms and conditions, and with sufficient notice
17 of availability and technical characteristics to allow new entrants to offer service at the
18 same time as ILECs.

19 **Q. IF THE FCC HAS ORDERED ILECS TO OFFER LINE SHARING OVER**
20 **FIBER, WHAT ISSUES ARE BEFORE THIS COMMISSION?**

21 A. I understand that this Commission has jurisdiction over pricing and related terms and
22 conditions for UNEs generally, and for the UNE of line sharing over fiber in particular.
23 Further, the FCC's requirement of line sharing over fiber was conditioned on the
24 rebuttable presumption of technical feasibility, and the FCC deferred to the states any

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26 ⁸ Verizon witness Bykerk states Verizon's intention, and I understand that Qwest has expressed
a similar intention in different fora.

1 necessary rulings on attempts to overturn this presumption. If an ILEC argues that line
2 sharing over fiber is not technically feasible, and claims to have carried the burden of
3 proof in a Section 252 proceeding, then this Commission will be called on to reach a
4 determination. Since “costing and pricing of line sharing over fiber loops/DLC systems”
5 is scheduled for consideration in this docket, but consideration of costing and pricing is
6 frustrated by the ILECs’ failure to produce cost estimates, it would be appropriate for the
7 Commission to reach a determination that pricing and related terms and conditions, and
8 any issue of technical feasibility that may come before the Commission, must be resolved
9 in a manner that doesn’t allow delay to disadvantage new entrants who rely on the UNEs
10 at issue.

11 In the case of line sharing over all copper loops, ILECs disadvantaged new
12 entrants by initially refusing to allow access to line sharing arrangements while offering
13 their own retail DSL services based on line sharing arrangements. Qwest’s refusal to
14 offer line sharing to CLECs while using this arrangement for its own retail offerings
15 probably explains the fact that early this year Qwest had captured more than 80 percent
16 of the DSL market in Washington, despite having entered the market later than several of
17 its competitors.⁹ There can be no doubt that Qwest took advantage of the delay for
18 competitors created by its initial refusal to provide access to line sharing in the case of all
19 copper loops. The next opportunity for Qwest to use its monopoly over essential loop
20 facilities to give itself a competitive advantage will be when it decides to offer DSL over
21 line-shared fiber loops. While line sharing over fiber has not yet been widely deployed, I
22 urge the Commission not to allow ILECs to accomplish the same discriminatory
23 treatment of new entrants by using line sharing arrangements over fiber for ILEC DSL
24 offerings yet denying entrants non-discriminatory access to required UNEs until
25 compelled to do so after regulatory proceedings.

26 ⁹ Hearing transcript in WUTC docket UT-991358 at 899 – 902.

1 **Q. WOULD IT SUFFICE TO PROVIDE FOR INDIVIDUAL CASE BASIS (ICB)**
2 **PRICING OF THE UNE OF LINE SHARING OVER FIBER?**

3 A. No. ICB pricing prevents a new entrant from knowing its costs – a crucial component of
4 developing a business plan for entry into any market. Even if the entrant is willing to
5 bear the risk of not having stated prices for this crucial input, and proceeds to price and
6 market its competitive offering, ICB pricing raises the entrant’s cost of doing business by
7 requiring separate requests for quotes, separate examinations of prices offered, and
8 separate petitions to this Commission if prices initially offered are not proper, TELRIC-
9 based prices. Further, there is no reason not to use a stated UNE price, developed as all
10 other UNE prices are developed, on the basis of averages over the various circumstances
11 that are appropriately considered in the costing exercise.

12 **Q. HAVE OTHER STATE COMMISSIONS RULED ON THE ISSUE OF LINE**
13 **SHARING OVER FIBER?**

14 A. Yes, several commissions have required the provision of line sharing over fiber-fed DLC
15 systems at reasonable prices, terms and conditions or have initiated workshop processes
16 designed to resolve technical issues, with the presumption that the ILEC cannot deploy
17 DSL over fiber until it makes the same capability available to unaffiliated carriers. The
18 order of the New York Public Service Commission regarding Verizon’s wholesale
19 provision of DSL capabilities is particularly instructive. The New York Commission
20 observes that “Verizon’s remote terminals are not, for the most part, presently capable of
21 supporting ADSL,”¹⁰ just as Mr. Trimble alleges is the case in Washington. The New
22 York Commission goes on to reach the following determination:

23 Where and when technically feasible, customers served by digital loop
24 carrier must have access to xDSL services offered them by data local
25 exchange carriers. Therefore data competitors must have access to the
26 Verizon network to serve these customers on a commercially reasonable
basis. If and when Verizon’s data affiliate begins to serve customers using

¹⁰ Opinion No. 00-12 in Case 00-C-0127, issued October 31, 2000 at 25

1 digital loop carrier, all the opportunities afforded it by Verizon to serve
2 those customers must simultaneously be available to all competitors. To
3 ensure competitive parity at that starting gate, Verizon must inform the
4 Commission and data competitors as business decisions are made to
5 deploy next generation digital loop carrier capable of supporting DSL
6 services.

7 Further, Verizon cannot impair competitors' access to these customers
8 simply by choosing not to provide them DSL itself. Verizon must make
9 DSL services available to these customers where competitors choose to
10 serve them, by methods additional to those offered in its current tariffs.¹¹

11 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION TO THE COMMISSION.**

12 A. I recommend that the Commission should determine at this time that each Washington
13 ILEC must make available UNEs necessary for line sharing over fiber-fed DLC systems
14 before that ILEC, or its affiliate, offers services at retail based on these UNEs. These
15 UNEs must be available to new entrants as a practical matter, in time to allow entrants to
16 develop their services and actually offer them to the public at the same time as the ILEC.
17 This practical requirement means that UNE prices must be developed and approved by
18 this Commission, and technical information must be exchanged with CLECs, sufficiently
19 in advance of any retail offering, to avoid disadvantage to unaffiliated DSL providers.

20 The necessity of this action follows from the need to enforce the requirement that
21 ILECs allow access to unbundled network elements in their networks. The reason for
22 this access is to enable the development of efficient and effective competition as broadly
23 as possible throughout telecommunications markets. Failure to take the action that I
24 recommend will allow ILECs to gain a head start in yet another segment of the local
25 telecommunications market by exploiting the tactic of delay. By ignoring the
26 Commission's designation of costing and pricing of line sharing over fiber as an issue to
27 be considered in this proceeding, Washington ILECs delay the eventual availability of the
28 UNE of line sharing over fiber. By ILECs simply taking no action, new entrants are

29 ¹¹ Id.

1 forced to take the initiative in regulatory proceedings that will ultimately compel
2 compliance with the ILECs' statutory obligation to provide unbundled network elements,
3 and the ILECs can take competitive advantage of the delay.

4 **Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

5 A. Yes, it does

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