

**Chapman Reply Affidavit – Attachment A**



Federal Communications Commission  
Washington, D.C. 20554

August 3, 2001

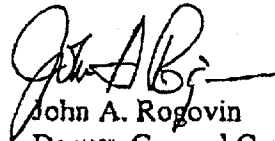
The Honorable W.J. ("Billy") Tauzin  
Chairman  
Committee on Energy and Commerce  
United States House of Representatives  
2125 Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairman Tauzin:

This letter transmits further elaboration on two questions you posed in a letter dated July 18, 2001. I understand that your staff spoke with Ms. Michelle Carey, Chief of the Common Carrier Bureau's Policy Division, and as a result of that conversation, we are providing this subsequent elaboration to our prior response to questions numbered 2 and 4.

We hope that you find this information useful. If you have any further questions, please do not hesitate to call me at 202-418-1700.

Sincerely,

  
John A. Rogovin  
Deputy General Counsel

-attachment

cc: The Honorable John D. Dingell  
The Honorable Fred Upton  
The Honorable Edward J. Markey

**1. Does the FCC currently require an ILEC to make all of its network elements deployed between a central office and a customer's premises available on an unbundled basis where an ILEC has installed a hybrid copper-fiber transmission system that utilizes packet-switching technology and includes a copper subloop, a fiber subloop and a digital subscriber line access multiplexer (DSLAM)?**

Only in limited circumstances. In addition to the network interface device, two network elements are involved in an architecture with a "hybrid copper-fiber transmission system that utilizes packet-switching technology and includes a copper subloop, a fiber subloop," and a DSLAM. First, this architecture involves the loop network element, which ILECs are obligated to unbundle under section 251(c)(3). See 47 C.F.R. § 51.319(a)(1). Second, this architecture involves the packet switching capability network element (including DSLAM functionality), which ILECs are not required to unbundle under section 251(c)(3) unless all four of the following conditions are present: "(i) [the ILEC] has deployed digital loop carrier systems . . . ; (ii) [t]here are no spare copper loops capable of supporting xDSL services the requesting carrier seeks to offer; (iii) [the ILEC] has not permitted a requesting carrier to deploy a [DSLAM] . . . and; (iv) [the ILEC] has deployed packet switching capability for its own use." See 47 C.F.R. § 51.319(c)(5). As a result, an ILEC is required to unbundle the loop network element (including the subloop network element, if requested) and, in limited circumstances, the packet switching capability network element. In the event that the four-part test for packet switching is not met, the ILEC is obligated to unbundle the loop network element but not any packet switching capability that may be present in the loop. Furthermore, the Commission's definition of the loop (and subloop) is technology neutral, as described below, and it therefore includes fiber as well as copper loops and subloops.

**2. Please clarify the FCC's definition of a loop. In particular, does the definition of a loop include a DSLAM? Does the definition of a loop include a remote terminal?**

No. As explained below, the Commission's definition of a loop does not include a DSLAM or remote terminal.

The Commission defines the loop network element as "a transmission facility between a distribution frame (or its equivalent) in an [ILEC] central office and the loop demarcation point at an end-user customer premises, including inside wire owned by the [ILEC]. The local loop network element includes all features, functions, and capabilities of such transmission facility. Those features, functions, and capabilities include, but are not limited to, dark fiber, attached electronics (except those electronics used for the provision of advanced services, such as [DSLAMs]), and line conditioning. The local loop includes, but is not limited to, DS1, DS3, fiber, and other high capacity loops." 47 C.F.R. § 51.319(a)(1). The definition of the loop, therefore, is technology neutral, and it includes both fiber and copper facilities. Note also that this definition expressly excludes electronics used for the provision of advanced services, including DSLAMs.

A remote terminal is an ILEC premise that is located between a distribution frame in an ILEC central office and the demarcation point at an end-user customer's premises. It therefore is placed in the middle of the loop, as the loop network element has been defined by the Commission. See 47 C.F.R. § 51.319(a)(1). The remote terminal may house various types of ILEC facilities, including packet switching capability. An ILEC, however, is not required to

unbundle the packet switching capability present in a remote terminal unless the Commission's four-part test for packet switching capability unbundling, described above, is met. *See* 47 C.F.R. § 51.319(c)(5).

Due to the complexity surrounding this issue, the Commission has sought comment on whether it is necessary to modify the definition of the loop and subloop network elements. *Next Generation Networks*, Further Notice of Proposed Rulemaking, 15 FCC Rcd 178506, 17857-60, paras. 119-128. *See also Line Sharing Reconsideration Order*, Further Notice of Proposed Rulemaking, 16 FCC Rcd 2101, 2129-30, paras. 62-64.

**3. Is a remote terminal a network element that has to be made available by an ILEC on an unbundled basis to CLECs in accordance with section 251(c)(3) of the Act?**

No. The Commission's list of unbundled network elements that must be made available pursuant to section 251(c)(3) is as follows: the loop and subloop; the network interface device; switching capability; interoffice transmission facilities; signaling networks and call-related databases; operator services and directory assistance; operations support systems; and the high frequency portion of the loop. *See* 47 C.F.R. § 51.319. A remote terminal is an ILEC premise that is located between a distribution frame in an ILEC central office and the demarcation point at an end-user customer's premises. It is therefore placed in the middle of the loop, as the loop network element has been defined by the Commission. *See* 47 C.F.R. § 51.319(a)(1). The remote terminal may house various types of ILEC facilities that are required to be unbundled. Nonetheless, the remote terminal is not considered an unbundled network element under the Commission's rules.

**4. Does the FCC currently require an ILEC to provide line sharing on the fiber portion of a local loop facility that utilizes packet switching?**

As a technical matter, the high frequency portion of the loop only exists on a copper loop. As explained below, however, the Commission has determined that, as a legal matter, an ILEC is required to provide unbundled access to the entire loop, including any fiber facilities that may be used to transmit data traffic from the remote terminal to the central office. There is a tension between this requirement, however, and the Commission's packet switching unbundling rules, which the Commission has sought to clarify in a recent Further Notice of Proposed Rulemaking.

In the *Line Sharing Order*, the Commission specifically required that ILECs unbundle the high frequency portion of the loop, which the Commission defined as "the frequency range above the voiceband on a copper loop facility that is being used to carry analog circuit-switched voiceband transmissions." 47 C.F.R. § 51.319(h). In the *Line Sharing Reconsideration Order*, however, the Commission acknowledged that "although the high frequency portion of the loop network element is limited by technology, *i.e.*, is only available on a copper facility, access to that network element is not limited to the copper facility itself." 16 FCC Rcd at 2107, para. 10. Thus, the Commission clarified that "the requirement to provide line sharing applies to the entire loop, even where the incumbent has deployed fiber in the loop (*e.g.*, where the loop is served by a remote terminal as part of a digital loop carrier system.)" *Id.* at 2106, para. 10. In doing so, the Commission stated that the use of the word "copper" in its definition of the high frequency portion of the loop "was not intended to limit an [ILEC's] obligation to provide [CLECs] with

access to the fiber portion of a loop for the provision of line shared xDSL services." *Id.* (emphasis added).

Accordingly, pursuant to the Commission's rules, a CLEC seeking to line share when there is fiber deployed in the loop can access the high frequency portion of a copper loop by collocating a DSLAM at the ILEC's remote terminal and then leasing access to dark fiber or the subloop network element for the transmission of data traffic from the remote terminal to the central office. Some ILECs, however, take the position that the fiber subloop carrying data traffic between the remote terminal and central office is part of the ILEC's packet switching network and, therefore, not required to be unbundled unless the Commission's four-part test for packet switching capability unbundling is met. The Commission clarified in a subsequently released order that the *Line Sharing Reconsideration Order* in no way modified the Commission's four-part test for packet switching capability unbundling. 16 FCC Rcd at 4628, paras. 1-2.

Finally, in light of the technical complexity surrounding this issue, the Commission expressly sought comment on whether its existing packet switching rules are adequate to enable CLECs to line share when there is fiber deployed in the loop in the Further Notice of Proposed Rulemaking that accompanied the *Line Sharing Reconsideration Order*. *Id.* at 2127-30, paras. 55-64.

**5. Must an ILEC currently provide unbundled access to a fiber subloop that the ILEC is using to carry data traffic between an ILEC's DSLAM in its remote terminal and the ILEC's central office?**

An ILEC is required to unbundle the subloop network element, which the Commission has defined as "any portion of the loop that is technically feasible to access at terminals in the [ILEC's] outside plant. An accessible terminal is any point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. Such points may include, but are not limited to, the pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the feeder/distribution interface." 47 C.F.R. § 51.319(a)(2). An ILEC, however, is not required to unbundle packet switching capability that may be associated with a subloop unless the Commission's four-part test for packet switching capability unbundling, described above, is met. 47 C.F.R. § 51.319(c)(5).

As described in the line sharing context above, some ILECs take the position that the fiber subloop carrying data traffic between the remote terminal and central office is part of the ILEC's packet switching network and, therefore, not required to be unbundled unless the Commission's four-part test for packet switching unbundling is met. Some CLECs contend that, in this situation, the Commission's four-part test is met and that without access to the full loop network element, they lack an economic means to provide transmission from the remote terminal to the central office. This and other next generation network architecture issues are currently pending before the Commission in several rulemakings. See *Line Sharing Reconsideration Order*, Further Notice of Proposed Rulemaking, 16 FCC Rcd at 2127-30, paras. 55-64; *Next Generation Networks*, Further Notice of Proposed Rulemaking, 15 FCC Rcd at 17856-62, paras. 118-133.