

1 **7. Other Deficiencies in BA-Del's Statement**

2
3 **Q. BA-Del's State ment limits unbundled offe rings to seven basic functional categories**
4 **(se e Eiche nlaub testimony, p. 8). Should the Commission require BA-Del to unbundle**
5 **further than the Statement provides?**

6 A. Not as a condition of approval of the Statement. BA-Del has included a provision indicating
7 that further unbundling is negotiable, and that appears to be sufficient at this time. However,
8 further unbundling will undoubtedly become an important issue in the not too distant future. If
9 BA-Del refused to negotiate in good faith, or appears to drag its feet, the Commission could
10 step in at that time.

11
12 **Q. Has the FCC spoken to this issue?**

13 A. Yes. In Section V.J. of its Implementation Order, the FCC has spelled out the required
14 minimum extent of unbundling. It is my understanding that the paragraphs of 47 C.F.R. Part 51
15 that embody these requirements have not been stayed by the court order, and remain in force.
16 The FCC describes its overall unbundling approach as follows:

17
18 We adopt the concept of unbundled elements as physical facilities of the network,
19 together with the features, functions, and capabilities associated with those
20 facilities. ... [Implementation Order, ¶ 258]

21
22 We conclude that we should identify a particular facility or capability, for
23 example, as a single network element, but allow ourselves and the states (where
24 appropriate) the discretion to further identify, within that single facility or
25 capability, additional required network elements. Thus, for example, in this
26 proceeding, we identify the local loop as a single network element. We also ask
27 the states to evaluate, on a case-by-case basis, whether to require access to
28 subloop elements, which can be facilities or capabilities within the local loop. ...
29 [Id., ¶ 259]

30
31 We conclude that the definition of the term "network element" broadly includes all "facilit[ies] or
32 equipment used in the provision of a telecommunications service," and all "features, functions, and
33 capabilities that are provided by means of such facility or equipment, including subscriber numbers,

1 databases, signaling systems, and information sufficient for billing and collection or used in the
2 transmission, routing, or other provision of a telecommunications service." This definition thus
3 includes, but is not limited to, transport trunks, call-related databases, software used in such databases,
4 and all other unbundled elements that we identify in this proceeding. The definition also includes
5 information that incumbent LECs use to provide telecommunications services commercially, such as
6 information required for pre-ordering, ordering, provisioning, billing, and maintenance and repair
7 services. ... [Id., ¶ 262]
8

9 The FCC has initially required a relatively limited amount of network unbundling:

10
11 Having interpreted the standards set forth in the 1996 Act for the unbundling of network elements, we
12 now apply those standards to incumbent LECs' networks. Based on the information developed in this
13 proceeding, we require incumbent LECs to provide unbundled access to local loops, network interface
14 devices, local and tandem switching capability, interoffice transmission facilities, signaling and call-
15 related databases, operations support systems functions, and operator services and directory assistance
16 facilities, as described below. These network elements represent a minimum set of elements that must
17 be unbundled by incumbent LECs. State commissions, as previously noted, are free to prescribe
18 additional elements, and parties may agree on additional network elements in the voluntary negotiation
19 process. [Id., ¶ 366]
20

21 ...we decline at this time to identify the feeder, feeder/distribution interface (FDI), and distribution
22 components of the loop as individual network elements. ... [Id., ¶ 391]
23

24 We require incumbent LECs to offer unbundled access to the network interface device (NID), as a
25 network element, as described below. ... a requesting carrier is entitled to connect its loops, via its own
26 NID, to the incumbent LEC's NID. [Id., ¶ 392]
27

28 In ¶412, the FCC requires incumbent carriers to provide all identifiable switching functions,
29 including vertical features, but it allows all of these different functions to be bundled together in a
30 single network element called "local switching." Furthermore, the FCC does not even require
31 the calculation of separate rates for each switching function:
32

33 We define the local switching element to encompass line-side and trunk-side facilities plus the features,
34 functions, and capabilities of the switch. [note deleted] The line-side facilities include the connection
35 between a loop termination at, for example, a main distribution frame (MDF), and a switch line card.
36 [note deleted] Trunk-side facilities include the connection between, for example, trunk termination at a
37 trunk-side cross-connect panel and a trunk card. The "features, functions, and capabilities" of the local
38 switch include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines,
39 trunks to trunks. It also includes the same basic capabilities that are available to the incumbent LEC's
40 customers, such as a telephone number, directory listing, dial tone, signaling, and access to 911,
41 operator services, and directory assistance.[note deleted] In addition, the local switching element
42 includes all vertical features that the switch is capable of providing, including custom calling CLASS

1 features, and Centrex, as well as any technically feasible customized routing functions. Thus, when a
2 requesting carrier purchases the unbundled local switching element, it obtains all switching features in a
3 single element on a per-line basis. A requesting carrier will deploy individual vertical features on its
4 customers' lines by designating, via an electronic ordering interface, which features the incumbent LEC
5 is to activate for particular customer lines.
6

7
8 **Q. Although the minimum unbundling ordered by the FCC is not very extensive, do you**
9 **believe a greater degree of unbundling would eventually be warranted?**

10 A. Yes. Specifically, I believe some additional unbundling of the loop would be desirable, even
11 though it is not mandated by the FCC. I agree with the FCC's comments about the advantages
12 of sub-loop unbundling:

13
14 390. As a general matter, we believe that subloop unbundling could give competitors flexibility in
15 deploying some portions of loop facilities, while relying on the incumbent LEC's facilities where
16 convenient. For example, a competitor may seek to minimize its reliance on the LEC's facilities by
17 combining its own feeder plant with the incumbent LEC's distribution plant.[note deleted] In addition,
18 some high bandwidth services, such as ADSL, cannot be provided over long loop lengths. ITIC,
19 Compaq, and Intel assert that subloop unbundling would lead to innovative new data services. [note
20 deleted] In these situations, carriers would need access at points along the loop closer to the customer
21 premises. ...
22

23 However, the FCC has declined to order the disaggregation of the loop itself,
24 leaving this responsibility to the states:

25
26 [W]e believe that, at this stage, based on the current record evidence, the technical feasibility of subloop
27 unbundling is best addressed at the state level on a case-by-case basis at this time.[note deleted]...
28

29 In my opinion, the public interest will best be served by eventually unbundling the loop
30 into separate elements. This will provide competitors with a wider variety of options, and may
31 help attract and retain a wider variety of different competitors in the market. Also, a reasonable
32 degree of sub-loop unbundling will encourage carriers to build new facilities where it is
33 economically efficient to do so, without forcing them to build facilities where it is not practical or

1 cost effective to do so. For example, a carrier could build a network of fiber optic feeder
2 cables to each section of a city, while relying upon the incumbent LEC's existing copper cabling
3 to complete the circuit from its remote fiber terminals to the customer's premises.

4 Similarly, in my opinion, co-carriers should have the right to rent twisted copper pairs
5 connecting the end user to BA-Del's wire center, without being forced to use the incumbent's
6 circuit (pair gain) electronics. Along most routes, copper pairs exist in ample quantities. In fact,
7 where BA-Del is in the process of converting to optical fiber (thereby causing circuit electronics
8 to become necessary) the existing copper cable may soon become surplus. In those situations,
9 copper cabling should be offered on an unbundled basis, without requiring the purchaser to
10 acquire any unwanted facilities or services, like circuit electronics. Stated differently,
11 competitors should not be limited to a generic "a-loop-is-a-loop" style offering where they
12 can't control the type or quality of facilities they receive. Carriers that want to rent or lease
13 ordinary twisted pairs should be allowed to do so. Competitive flexibility is best achieved when
14 the incumbent offers its copper pairs as an unbundled element, not bundled with fiber optic or
15 electronic pair gain facilities.

16 Consistent with this philosophy, the cost of copper feeder/distribution cable should be
17 calculated separately from other items, particularly fiber cable and electronics that are
18 occasionally used to derive voice equivalent circuits. In turn, competing carriers should be
19 allowed to specify whether they want to rent physical cable pairs, rather than an electronically
20 derived loop. This will ensure compatibility between the carrier's own equipment and the rented
21 loop, and it will provide the carrier with the option of installing their own pair gain electronics, if
22 they choose.

23 Aside from allowing carriers to specify if they want ordinary copper pairs, I do not
24 believe the Commission need mandate any additional sub-loop unbundling at this time.
25 However, if a carrier requests further unbundling of loop facilities (e.g., separating feeder from

1 distribution cable), the incumbent carrier should be required to accomplish this as expeditiously
2 as possible, with the terms and conditions to be negotiated (and subject to arbitration).

3 I recommend an “as needed” approach to further sub-loop unbundling, because I don’t
4 believe there is sufficient demand for sub-loop unbundling at this time to justify the delay and
5 expense which would be required in order to price out all the different items that could
6 potentially be unbundled. Certain items may be wanted in only a few specific locations (e.g.,
7 downtown Wilmington). If so, the required unbundling can best be handled through carrier
8 negotiations, and if necessary, arbitration. This approach will encourage the carriers to negotiate
9 the technical complications (e.g., co-location procedures and rules to apply in situations where
10 carrier facilities connect at remote locations away from the wire center) and allow the
11 Commission to analyze these complexities on a case-by-case basis.

12 While I believe a case-by-case approach to sub-loop unbundling is sufficient at this
13 time, some additional mandatory statewide unbundling may be warranted in the future. For
14 instance, it may eventually be appropriate to unbundle feeder/distribution cable from the drop
15 and other facilities that connect this cable to the end user’s premises. The FCC has required
16 only the network interface device to be unbundled from the rest of the loop, but it might
17 ultimately prove helpful to unbundle other portions of the facilities at the customer’s premises as
18 well. Further disaggregation of these facilities would encourage more accurate pricing of these
19 elements, and better recognition of the fact that the associated costs can vary widely depending
20 upon specific circumstances at each end user’s location (e.g. size of the customer, distance
21 from the customer’s premises to the street). While I anticipate that further unbundling of these
22 facilities will eventually prove beneficial, I believe it is not imperative for this additional
23 unbundling to occur at this time. Instead, these requirement could be imposed by the
24 Commission at an appropriate point in the future, through an amendment to the Statement, or
25 through some other appropriate mechanism.

1 **Q. Should competing local exchange carriers like AT&T, MCI, and MFS be required by**
2 **the Commission to unbundle portions of their own networks as well?**

3 A. I don't think it is necessary to mandate unbundling by non-incumbent carriers at this time.
4 However, I recommend that the Commission reserve the option of imposing such a requirement
5 in the future. As AT&T, MCI, MFS, and others build or acquire local exchange facilities, or
6 convert existing facilities to this purpose, the market will become more competitive if these
7 carriers offer elements of their networks to other carriers on an unbundled basis. The FCC has
8 declined to impose mandatory unbundling, on the grounds that it is not required by the Act:

9
10 220. Finally, as discussed below, we reject Bell Atlantic's suggestion that we
11 impose reciprocal terms and conditions on incumbent LECs and requesting
12 carriers pursuant to section 251(c)(2). Section 251(c)(2) does not impose on
13 non-incumbent LECs the duty to provide interconnection. The obligations of
14 LECs that are not incumbent LECs are generally governed by sections 251(a)
15 and (b), not section 251(c). Also, the statute itself imposes different obligations
16 on incumbent LECs and other LECs (*i.e.*, section 251(b) imposes obligations on
17 all LECs while section 251(c) obligations are imposed only on incumbent LECs).
18 We do note, however, that 251(c)(1) imposes upon a requesting
19 telecommunications carrier a duty to negotiate the terms and conditions of
20 interconnection agreements in good faith.

21
22 Even so, there appears to be nothing in the Act or in the FCC's rules that would bar a
23 state commission from requiring a reasonable degree of reciprocal unbundling by competing
24 LECs. To the extent the Commission has the legal authority to do so, I believe it should at least
25 retain the option of imposing such a requirement if the new entrants do not offer some
26 reasonable degree of reciprocal unbundling on a voluntary basis. Admittedly, the circumstances
27 of the incumbent carriers and new carriers are quite different, and thus it may not be necessary
28 to impose identical unbundling requirements on each. However, it would not be in the public
29 interest to allow two or three facilities based carriers to dominate the market, to the detriment of
30 other carriers (resellers and mixed mode carriers). If a major carrier like AT&T were to install
31 loop facilities in Delaware, but refused to unbundle or offer access to these facilities to

1 competing carriers (e.g. MCI), the Commission should reserve the option of compelling it to do
2 so.

3 Appropriately implemented and limited, reciprocal unbundling requirements can help
4 encourage a more intensive level of competition, while ensuring that all carriers are treated
5 fairly. Unbundling requirements can be particularly useful in situations where only two facilities
6 based carriers are present in the market (e.g., the incumbent LEC and the cable TV carrier)
7 and both enjoy a significant degree of market power. While the 1996 Act mandates unbundling
8 requirements only for incumbent LECs, there can be public policy benefits to applying such a
9 requirement to other carriers as well, since this would expand the options available to carriers
10 that lack their own network facilities, thereby enhancing efficiency and discouraging any
11 tendency for the market to evolve into an shared monopoly or oligopoly consisting of a small
12 number of facilities-based carriers. At this time I am not suggesting any specific regulations.
13 Further study is called for, and the affected carriers should be given an opportunity to provide
14 evidence concerning any technical constraints or problems that would need to be considered in
15 crafting such a reciprocal unbundling requirement. I don't think it is necessary to implement
16 such a requirement in the context of this proceeding with its limited time frame.

17