

1 **2. Bell Atlantic -New Hampshire's UNE Cost Studies**

2
3 *Problems with BA-NH's Approach*

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5 **Q. Would you please discuss the second way that Bell's cost studies fall short of a long-**
6 **run approach--their underutilization of plant (low fill factors)?**

7 A. The Company has misinterpreted the long-run cost concept in a way that creates a mismatch
8 between the level of demand used in sizing the network and the level of demand used in
9 developing per-unit cost estimates. According to Mr. Baker, when estimating the cost of UNE
10 components,

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12 [e]ach of these components is sized to provision the demand as of December,
13 1997 as well as an estimate of growth that will be experienced over the following
14 10 years. The associated investments, including the capitalized costs of
15 installation, are expressed on a per unit of demand basis and summed over all
16 element components to arrive at a total unit investment. [Baker Testimony, p. 4.]
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18 The Company explains that this sizing of components is necessary to allow for expected growth:

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20 Because it is necessary to accommodate future growth, Mr. Bradley estimated
21 the growth in demand that would occur over 10 years which is one-half of the
22 economic life of the outside plant investment. It was this demand that was used
23 to size the investments. [Id., p. 8.]
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25 One-half of the economic life was chosen for the growth period, Mr. Baker said, because

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27 [t]he utilization or fill ratios supplied by Mr. Bradley that are used in the TELRIC
28 study model average conditions which conceptually occur midway between relief
29 when fills are the lowest, and just prior to relief when fills are the highest. [Id, p.
30 9.]
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32 As I understand this reasoning, "Just prior to relief" is the year 2017. In effect, BA-NH
33 is modeling a network that 10 years down the road will still be capable of accommodating
34 another 10 years' worth of expected growth with little risk of needing to expand the facilities

1 prior to the end of this 20-year period.

2 For example, consider how the Company modeled distribution cable sizes for its rural
3 wire center. In Carrier Serving Area number one, it estimated current demand amounted to 133
4 lines on each distribution route. In 10 years, it estimated this will grow to 188 lines. In turn, it
5 selected a 300 pair cable size, to minimize the risk that the cable would reach exhaust before
6 being fully depreciated. While Mr. Baker emphasizes the fill factor at the 10-year point in his
7 description of the Company's study, this is not the most relevant measure of fill to consider in
8 evaluating the Company's methodology. To the contrary, when converting the investments into
9 per-link amounts for use in pricing the link UNEs, the Company uses the current level of
10 demand. Hence, the effective level of fill in this case is 44%, corresponding to the 133 lines
11 currently present divided by the 300 pair cable which is included in the study. Stated another
12 way, when the capitalized cost of this 300 pair cable is figured on a per-line basis, using the
13 current number of working lines as the denominator, the result is substantial overstatement of
14 per-line costs relative to an appropriate long-run cost estimate.

15 The example just given is not an isolated one. To the contrary, the overall effective level
16 of aerial distribution cable fill assumed in the Company's study is just 35% in the rural wire
17 center, 48% in the suburban wire center and 36% in the urban wire center.

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19 **Q. Does a similar problem exist with feeder fill factors?**

20 A. Yes. Continuing with the example just given, BA-NH deployed a ribbon of 12 fiber strands (6
21 pair) to the Remote Terminal serving this CSA, and just 4 strands are lit (2 active, 2 backup).
22 Of itself, this would not be an unreasonable approach, since it is convenient and cost effective
23 to deploy fiber in uniformly sized ribbons of 12 strands, and it provides 8 "dark" fibers as spare
24 capacity to accommodate potential future growth, or to generate rental revenues. However, the
25 Company proceeds to divide the cost of this ribbon by an assumed fill factor of .6, nearly
26 doubling the cost. The effect of doubling the investment in this manner is to increase the fiber
27 investment to a level which would be adequate to deploy 24 or more strands to this location.
28 The entire cost of this large number of strands is then spread over the currently existing lines,
29 despite the fact that current customers could easily be accommodated on just 4 lit strands.

1 This approach is completely inconsistent with the long-run concept. It translates into a
2 lower ratio of lit to dark fibers than is actually present in the network, despite the fact that in a
3 long-run study one can potentially achieve relatively high fill factors, by carefully matching the
4 size of the network to the level of demand.

5 The effect of this problem is to overstate the cost of cable per link. BA-NH has priced
6 out relatively large cables, then taken the resulting costs and spread them over a much smaller
7 quantity of links, thereby inflating the estimated cost per link. In the context of its TELRIC
8 study, this overestimation would effectively force BA-NH's competitors to pay for capacity that
9 the competitors will not be using, and which will actually be used and paid for by future
10 customers. The potential exists for a "double dip" with the cost of this excess capacity being
11 paid for once through higher than necessary unbundled link rates and again through revenue
12 increases which will occur as the spare capacity is absorbed through growth in the number of
13 telephone lines over time, as well as potential revenue growth from rental of dark fiber and from
14 video dial tone or other advanced services that could potentially utilize the spare capacity.

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16 **Q. Are there other problems with the Company's approach to fill factors?**

17 A. Yes. The Company has assumed substantial growth in its network over the next 20 years. But
18 this is not necessarily a valid assumption. The entire thrust of the 1996 Telecom Act was to
19 break down barriers to entry, to encourage the established local exchange carriers to enter the
20 interLATA long distance market, to encourage the established IXCs and other NECs to enter
21 the local exchange markets, and to generally encourage a competitive free-for-all. While it is
22 exceedingly difficult to predict how this will all play out, if the intent of Congress is to be
23 achieved, it seems apparent that the incumbent LECs like BA-NH will have to lose market
24 share. To the extent BA-NH loses market share to other facilities-based carriers, some of the
25 projected 3.5% annual growth may not materialize on its network, and thus these vast amounts
26 of spare capacity may never be needed or used.

27 Clearly, the potential for lost market share is not adequately captured in BA-NH's
28 approach, since it includes far more cable pairs than it needs to serve the entire existing market.
29 It is implausible to assume that every business and household will continue to be served by BA-

1 NH for the next 20 years. Surely some facilities-based entry will occur somewhere in New
2 Hampshire during the next decade or two. This will siphon off some portion of the overall
3 growth. Even if the overall market for links continues expanding by 4-4.5% per year, growth
4 on the Company's network could be just a fraction of that assumed in its cost studies. The
5 prospect of market-share losses makes the low fill factors proposed by the Company even less
6 appropriate, since they require CLECs to pay for a level of spare capacity that may never be
7 needed, and which certainly won't benefit them.

8 BA-NH's fill factors for link plant are apparently based on historical growth rates that
9 reflect quasi-monopoly market conditions. Given the strong interest in the development of
10 competition on the part of both state and federal governments, it is unrealistic of the Company
11 to model a network with enough spare capacity to serve the entire existing market several times
12 over. If this approach is accepted by the Commission, the Company's competitors will be
13 forced to pay for large amounts of cable which they will never use and which may never be
14 used by anyone. By no stretch of language can this aspect of the Company's modeling
15 approach be termed optimally efficient. A more reasonable approach would use much higher
16 "fill" rates, corresponding to a more modest level of spare capacity, consistent with the high
17 degree of optimization which is possible in a long run planning horizon.