

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

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

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5 **Q. Is there a somewhat similar problem with estimates of switching costs?**

6 A. Yes. As seen in schedule 1, the Company's estimate of total installed switching investment is
7 roughly \$531.8 million, or \$669 per line. This is an extremely high per-line figure. While it is
8 true that the price paid for new switches can vary widely, depending upon the manufacturer,
9 model, and size of the switch, the Company's switching investment of \$669 per line is
10 completely inconsistent with the recent data for new switching purchases. In my experience,
11 when the total investment in a new switch (engineered, furnished, and installed) is divided by the
12 number of lines, the results (in recent years) are typically in the range of roughly \$100 to \$180
13 per line, although there are exceptions above and below this range.

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15 **Q. Would you please elaborate concerning the cost of new switches?**

16 A. Yes. I have seen a wide range of cost data for switches, involving various carriers and
17 manufacturers. In most cases the underlying data was labeled "proprietary," ruling out direct
18 comparisons across jurisdictions. However, a report was recently published by NRRI which
19 summarizes a wide array of public switch cost data: *Estimating the Cost of Switching and*
20 *Cables Based on Publicly Available Data*, by David Gabel, Ph.D., Queens College, and
21 Scott Kennedy (April 1998). In the NRRI study of large company switches, the per-line
22 investment in 1997 dollars is estimated at \$120.18 for host switches and \$129.22 for remotes.
23 [Table 3-12, p. 120.] These figures fall within the \$100-\$180 range I mentioned earlier, and
24 they are less than one-fourth the per-line switch investment included in the Company's cost
25 studies.
26

1 **Q. Have you been able to determine why the Company's switch investment estimates are**
2 **so high?**

3 A. I believe so. As described in Mr. Baker's testimony, "Investments were identified for three
4 density zones, using the latest available switch-vendor prices including current discounts." [p.
5 10.] However, what Mr. Baker failed to explain in his prefiled testimony is that he has used
6 the discounts which are applicable for purchases of line cards and other components used in
7 accommodating growth on an existing switch. A much deeper discount is available from switch
8 manufacturers when a new switch is being purchased, and he gave no consideration to this
9 deeper discount. The Gabel/Kennedy figures reflect the costs of new switches at the time of
10 acquisition, and thus primarily, if not entirely, reflect the deeper discount applicable to such
11 purchases.

12 While there are undoubtedly other differences as well (e.g., add-on costs of central
13 office investment, which the Company estimates at +1 3.6% [BA-NH supplemental reply to
14 PUC 2-11]), the high investment figures included in the Company's SCIS studies primarily
15 results from focusing exclusively on the discounts offered on changes in and expansions of
16 existing switches, giving no weight at all to the deep discounts typically available when a switch
17 is initially purchased. I have asked the Company to revise their SCIS studies to illustrate the
18 impact of using the deep discount applicable to initial purchases. While they have not yet
19 provided this information, I am confident that the per line cost will decline dramatically if
20 substantial weight is given to the initial purchase price.

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22 **Q. Is it appropriate to ignore the initial purchase price in a forward-looking, long-run**
23 **study?**

24 A. No. In a long-run cost study, the initial cost of acquiring a new switch is highly relevant and
25 should be given great weight. The assumptions of TELRIC are that the network is being built
26 from scratch, though at the existing wire center locations. Consistent with the basic tenets of a
27 long run planning horizon, a new switch can be acquired to optimally match the volume of
28 output. Furthermore, new switch transactions represent a substantial fraction of the total
29 volume of sales by switch manufacturers. To ignore the discounts available on new equipment,

1 as the Company does, is to seriously overestimate the relevant switching investment

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3 **Q. Should the switching investment in a long run cost study be based exclusively on the**
4 **deep discounts available on new switches?**

5 A. No. The lesser discounts (higher unit prices) associated with subsequent modifications and
6 expansions of the switch should not be totally ignored in a long-run cost study. Among other
7 reasons, this is appropriate in order to maintain consistency with the relatively high utilization
8 rate or fill factor which should be used in a long run switching cost study.

9 Modifications and growth can be quickly and easily accommodated by acquiring
10 additional components, thereby making it possible to maintain a high "fill" rate. Consistent with
11 the assumption of a high "fill" rate in a long run study, it is reasonable to assume that the carrier
12 does not maintain a large inventory of spare parts, but instead will depend on the switch
13 manufacturer for additional components as needed, in order to accommodate fluctuations in
14 demand as well as growth. The manufacturer has higher transaction costs, and achieves a
15 higher profit margin, on these smaller subsequent sales, and this is an expected part of the
16 overall profitability of any particular switch sale. In evaluating the long-run cost of switching
17 (reflecting a market equilibrium), it is necessary to give at least some consideration to the higher
18 prices associated with these smaller subsequent transactions. In the context of the Company's
19 SCIS model, this can be accomplished by using a weighted average of the discounts for new
20 and add-on equipment, with the greatest weight being given to the new purchase discounts.

21
22 **Q. Have you noticed any other aspects of the Company's studies which are not consistent**
23 **with a true long-run approach?**

24 A. Yes. In developing the cost of installing various components of the network (e.g., cable), the
25 Company has relied on its internal labor costs as reflected in its recent projects. [Baker Direct
26 Testimony, p. 28.] It may be acceptable to rely exclusively on BA-NH's own labor costs in
27 estimating the cost of maintaining, expanding and rearranging an existing network. However,
28 this inward focus doesn't necessarily provide an accurate view of the forward looking cost of
29 building a network in the long run, consistent with the scorched node concept. If outside

1 contractors can construct outside plant facilities more economically than the Company, this cost
2 savings should be reflected in the TELRIC calculations. A TELRIC study should appropriately
3 focus on the level towards which costs will trend in long run equilibrium, not the specific and
4 unique costs of a particular carrier operating under a specific union contract, or with a particular
5 level of overheads.

6 To be consistent with the basic premise of a long-run cost study, it is reasonable to use
7 labor costs that are representative of the lowest price that would be received from a qualified
8 contractor in a competitive bidding process. There is no reason to assume that the Company's
9 internal labor costs and overhead loadings would necessarily be equivalent to that minimum cost
10 level.

11 For instance, the Company has assumed that cable placing and splicing will cost
12 approximately \$57 to \$67 per hour, apparently based upon its internal labor cost structure
13 including various overhead loadings. The Company has provided no support for these installed
14 labor costs. Rather, they apparently are generated from BA-NH's "ECRIS" model, which was
15 used in developing its cost studies. In a competitive procurement, there is reason to believe
16 cable placing and splicing services could be obtained at a lower cost per hour. I suspect the
17 primary problem with these hourly rates are the loadings used by BA-NH in its ECRIS model.
18 Perhaps these hourly rates are recovering costs that are also being recovered through BA-
19 NH's common cost factors. In any event, these costs have not been adequately documented
20 or supported in the Company's filing. In my opinion they exceed the minimum level of labor
21 costs which could be achieved in a long run planning horizon, and thus they tend to be
22 inconsistent with the TELRIC concept.