COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts	)	D.T.E. 01-20

VERIZON MASSACHUSETTS' BRIEF ON RECONSIDERATION ISSUES

[PUBLIC VERSION]

Dated: October 30, 2002

TABLE OF CONTENTS

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INTRODUCTION

By Order dated September 24, 2002, the Department found that Verizon MA and AT&T met "as a threshold matter" the Department's standard for reconsideration on four issues: (1) RTU fees; (2) the ratio of new to existing switches; (3) switch discounts; and (4) DC power distribution lengths. *September 24 Order*, at 13.[1] The Department invited additional testimony and evidence on these issues and established an expedited hearing schedule to supplement the record. *Id.*, at 13-14. This Brief is filed in accordance with the Department's procedural schedule.

For unbundled network element switching rates, it is necessary that the Department adopt assumptions that reasonably estimate forward-looking costs consistent with the requirements of TELRIC. In doing so, the Department must apply TELRIC consistently and it must adopt cost

[1] Reconsideration motions on other issues raised by Verizon MA and other parties were not considered in the September 24 Order, and are presently pending before the Department. *September 24 Order* at 1.

assumptions for the TELRIC construct that could be reasonably expected in the hypothesized TELRIC environment. For example, for switch equipment that the Department requires to be priced based upon "new" equipment discounts because of its "dropped in place" network assumption, it is necessary that the Department recognize that under such an assumption pre-paid software buyout arrangements would not exist. Accordingly, the Department must increase the costs for such "new" switching investment to reflect RTU fees that would be incurred in the absence of pre-existing software buyout arrangements.

Similarly, when evaluating the appropriate discount levels for "new" equipment, the Department must recognize that the wide-scale deployment of new switches assumed by a TELRIC construct differs considerably form the actual market in which recent "new" switch equipment has been sold. In fact, the vast majority of switch vendor revenue from Incumbent Local Exchange Companies is from "growth" equipment sales rather than higher discounted "new" equipment. Thus, the Department should recognize that certain prices that vendors may make available for the limited deployment of "new" equipment would not be available in a forward-looking environment where vendors could no longer realize the majority of their revenue from growth sales and demand for new equipment increases significantly.

Also, when evaluating the ratio of "new" to "growth" equipment for TELRIC, the Department should be informed by long-term actual data provided by Verizon MA that accurately reflects how digital-switching equipment is purchased and installed. That information reveals that a "snap shot" view, based upon a single, growth assumption applied uniformly over the life of the switch, such as that proposed by AT&T, does not reasonably estimate the likely mix of new and growth equipment over the long-run.

Likewise, the Department should accept the cable lengths Verizon MA has proposed to use in calculating Verizon MA's DC Power Distribution rate element. Verizon MA's power cable lengths are based on real data and reflect well-established engineering guidelines. AT&T and WorldCom do not challenge the accuracy of this data, nor do they credibly deny that Verizon MA's engineers properly applied these engineering guidelines in determining how to provision DC power to collocators. Rather, AT&T/WorldCom argue that the cable lengths Verizon MA proposes for use in its power study must be rejected because, they contend, the lengths of the DC power cables provisioned to collocators must be the *same as* power cable lengths provisioned to Verizon MA's own equipment.

AT&T and WorldCom are wrong. As Verizon MA demonstrated at the hearings and further demonstrate below, provisioning DC power to a collocation area is *not* the same as provisioning power to Verizon MA's own equipment, because CLECs have the right to make, and do make, demands that require Verizon MA to provision longer cables, including, for example, demands for massive amounts of floor space. Because the collocators' equipment typically is scattered throughout the collocation area, rather than in neat rows lined up next to each other, Verizon MA must provision longer power cables to collocators than it provisions to itself. This does not, as AT&T and WorldCom claim, constitute "discrimination"; it simply reflects the realities of provisioning power to collocators.

ARGUMENT

I. IN ORDER TO BE CONSISTENT WITH ITS "DROPPED IN PLACE" NETWORK ASSUMPTION THAT SWITCHING INVESTMENT BE PURCHASED AT THE "NEW" SWITCH DISCOUNT LEVEL, THE DEPARTMENT SHOULD INCREASE THE RIGHT TO USE FEES IN ITS TELRIC STUDY TO REFLECT APPROPRIATE INITIAL RTU FEES.

The Department must apply its interpretation of TELRIC consistently. Because the Department has modified Verizon MA's switching cost study to assume that 90 percent of Verizon MA's total forward-looking switching investment should be assumed to be purchased at the "new" switch discount level, the Department should also modify the level of right to use ("RTU") fees in the study to reflect the cost that would be incurred if 90 percent of Verizon MA's switching equipment were purchased as "new".[2] Exh. VZ-60, at 3-4. The Department's decision was based in part upon its determination that TELRIC requires a "dropped in place" network and that prices for switch equipment be based upon "new" switch discounts.[3] In order to establish an RTU fee cost consistent with the Department's assumption requiring 90 percent of all switching investment at the "new" discount level, the Department must increase the RTU fees in Verizon MA's cost study to reflect the amount of "initial" RTU fees that could be expected to be paid in connection with a "dropped in place" network purchased at "new" discount prices.

RTU fees are the monies paid to a switch vendor for the license to use software required to operate a digital switch, including the provision of switch related features. Exh. VZ-60, at 2. RTU fees — because of their substantial value — constitute a significant cost associated with the purchasing and ongoing operation of digital switching technology.

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[2] As discussed below, Verizon MA disagrees with the Department's determination that 90% of Verizon MA's forward-looking switching investment should be based upon the "new" discount rather than the discounts that Verizon MA actually expects to pay.

[3] D.T.E. 01-20, October 29, 2002 ("*Order*").

Verizon MA pays RTU fees to switch vendors at the time a switch is installed (an "initial" payment) and on an "on-going" basis to regularly upgrade software capabilities. Exh. VZ-60, at 2; Tr. 20, at 3697-3698, 3763-3764. RTU fees are purchased from vendors in a manner that differs from the purchase of hardware. Specifically, RTU fees are acquired through licensing buyouts and pooling arrangements, which enable Verizon to effectively "pre-pay" for the costs of acquiring software rights to be used for future switch purchases. Exh. VZ-60 at 5; Tr. 20, at 3696, 3709. Since the inception of digital switching technology, Verizon has paid RTU fees, both at initial deployment and through buyouts and pooling purchases.

Verizon MA engineer and cost expert, Joseph Gansert, explained at the hearing in this matter that although an "initial" RTU fee is sometimes paid at the time a switch is installed (either "new" or "replaced"), that fee generally does not reflect Verizon's total costs for making the switch operational because Verizon has already paid the vendor through pre-existing buyout arrangements for future switch purchases. Exh. VZ-60, at 3-4; Tr. 20, at 3697-3698, 3710-3711. Thus, Mr. Gansert testified that the "initial" RTU fee paid at the time a switch is purchased represents only the incremental cost of adding switch software, rather than the total cost incurred by Verizon to purchase the software rights to place the switch into service. Tr. 20, at 3720-3723.

In addition to having to pay necessary fees to make each switch operational through an "initial" payment and a pre-paid buyout arrangement, as a part of its on-going business operations, it is necessary for Verizon to incur additional RTU fees based upon the periodic need to update and upgrade switch software. Exh. VZ-60, at 2. On-going software updates generally provide enhanced functionality, including new services and increased operating administrative or maintenance efficiency. *Id.*

In its cost study, Verizon MA did not assume that the majority of its switching equipment investment would be based upon "new" switch discounts. Because Verizon MA has a 100 percent digital network and it does not expect to purchase switch equipment at "new" switch discount levels, the Verizon MA cost study assumed that forward-looking switching investment costs would be incurred primarily at the "growth" equipment discount levels.[4] Thus, in the interest of maintaining consistent assumptions, Verizon MA limited its forward-looking RTU fees to annual "on-going" RTU costs that Verizon MA would incur assuming that a full digital network was already in place.[5] Tr. 20, at 3710-3711, 3720-3722.

The Department's determination that 90 percent of Verizon MA's switching investment should be based upon the "new" switch discount is a hypothetical assumption premised upon its interpretation of the TELRIC "dropped in place" network assumption, *i.e.*, the need to replace all switching equipment starting from a "blank slate," with the exception of the existing wire center locations. As a matter of fundamental fairness, and logical consistency, if the Department intends to assume that switching equipment is purchased "new" because no existing equipment exists under a "dropped in place" scenario, it is also necessary for the Department to conclude that the "new" switch will require an initial software load and that there are no pre-existing

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[4] The switch discount level proposed by Verizon MA for Lucent equipment was based upon an analysis by Verizon MA of actual equipment purchases made by Verizon MA during 2000. The analysis developed an "effective" discount level for that period. Because Verizon's forward-looking switching equipment purchases are expected to be comparable to those made during 2000, the effective discount reasonably estimates the discount that Verizon could be expected to receive from Lucent based upon existing contracts. Exh. VZ-36, at 152-153. For Nortel equipment, Verizon assumed the discount level for new and growth equipment set forth in the current Verizon/Nortel switch equipment contract. *Id*.; Exh. VZ-38A, at 59-60.

[5] Verizon MA calculated its annual ongoing RTU fees based upon a four year analysis. See Exh. VZ-37, Exh. G-9. That analysis included three years of actual ongoing fees and one year of estimated data. Because Verizon replaced only a limited number of switches in the 1998 through 2002 period (*i.e.*, the four-year period used to develop an annual on-going maintenance cost), only a minor portion of the RTU fees and cost study could be considered "initial fees" associated with a new switch deployment. Exh. VZ-60 at 3.

buyout arrangements or prepaid software arrangements that reduce RTU fees associated with the software loaded at the time of an initial switch installation.

Throughout the reconsideration proceeding, considerable attention was given to the issue of determining the appropriate per switch "initial" RTU fees to be assumed in the Department's TELRIC construct.[6] The fact that a single, readily identifiable, "initial" RTU fee that the Department can isolate to show all average initial RTU fees for a particular switch is not available, should not deter the Department from developing a fair and reasonable initial RTU fee cost estimate. The very reason that a specific document containing a complete initial RTU fee does not exist is that Verizon MA has not incurred its past switching costs through a purchasing process that remotely resembles the "dropped in place" assumption. Instead, Verizon MA's actual new switching purchases occur in the context of its pre-existing buyout arrangements and ongoing relationships with its switch vendors. Tr. 20, at 3722, 3763-3764. It would be inconsistent with TELRIC and fundamentally unfair for the Department to assume a "hypothetical" purchasing construct (90 percent equipment new) and then exclude a proper percentage of RTU fees on the basis that there is no "actual" specific data from a recent switch contract showing the initial RTU fees that would be appropriate for a hypothetical switch purchasing assumption.

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[6] AT&T witness Pitts, however, alleges that no "initial" RTU fees should be included in Verizon MA's TELRIC cost study even though the Department has modified Verizon MA's cost study to assume that 90 percent of switching equipment should be purchased at "new" discount levels. Ms. Pitts bases her recommendation upon an apparent mis-understanding of the RTU fees set forth in Section G-9 of Verizon MA's cost study. Tr. 20, at 3813-3814. Ms. Pitts appears to believe that Section G-9 includes all of the RTU fee costs that Verizon has incurred to purchase software necessary to equip its entire network, including the complete buyout and upgrade costs for the numerous software updates that Verizon has purchased since the introduction of digital switching technology. *Id*. Verizon MA's RTU fee analysis in Section G-9 however does not attempt to capture the costs associated with acquiring all of the software necessary to make new switches operational. Instead, it provides an annual cost associated with the anticipated ongoing costs associated with future software upgrades and enhancements. Such costs are comparable to maintenance type expenses. Tr. 20, at 3711-3712.

Despite the absence of a specific document showing all actual "initial" RTU fees for a "new" switch, there is substantial evidence in the record to support a finding by the Department that Verizon MA's per switch investment for "new" switches should be increased by $1.88 million to reflect initial RTU fees. In the *Consolidated Arbitrations* proceedings, Verizon MA estimated conservatively that its initial RTU fees are approximately at $1.8 million per switch. Exh. VZ-60, at 4. Moreover, Verizon MA's initial RTU fee cost estimate in the *Consolidated Arbitrations* proceedings is substantiated by more recent data. As Mr. Gansert testified, recent bid submissions by Nortel have quantified initial RTU fees as follows:

[VERIZON MA PROPRIETARY BEGINS]

1. **********
2. **********
3. **********
4. **********

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[VERIZON MA PROPRIETARY ENDS]

Although Verizon did not award contracts to Nortel for Frederick or Moorestown, the initial RTU fees (which include all vendor discounts) in those bids are instructive because they reflect the price that the vendor determined would be appropriate for an initial RTU fee for a "new" switch sale.[7]

[7] AT&T's assertion that the Nortel bid information is not useful for estimating switch costs because Verizon did not accept the bids is baseless and inconsistent with AT&T's prior assertions, made during discovery, that all bid information is relevant. Indeed, in her own analysis, Ms. Pitts mixed data from bids won and lost by Nortel. Ms. Pitts' assertion that Nortel was not interested in winning these bids is without support – indeed, inexplicable. Nortel would not have submitted a bid if it did not have an interest in being awarded a contract. In addition to providing a reasonable cost estimate for initial RTU fees, the Nortel bids are

Because recent "new" switch purchases from Lucent assume that generic 5E14 software has been prepaid in prior buyouts, the purchase documents from Lucent do not identify the initial RTU fees. Exh. VZ-60, at 4-5. In order to estimate complete initial RTU fees that would be incurred to install "new" switches based upon the assumption that pre-existing buyout arrangements do not exist – the "dropped in place" construct that the Department has assumed for switch investment – Verizon MA requested that Lucent prepare an initial RTU fee estimate. Exh. VZ-60, at 4-7. Verizon MA advised Lucent the analysis should be based upon: (1) the contract discounts that Verizon MA has in place with Lucent; and (2) a competitive bidding situation. Exh. VZ-60, at 5; Tr. 20, at 3765-3766. Verizon specifically requested that Lucent provide a cost estimate for the software packages installed with the recently purchased Franklin Street switch, assuming "no buyouts were in place." *Id*. Lucent provided the cost estimate and, based upon its best price in a competitive bidding situation, estimated that an initial RTU fee cost is **[VERIZON MA PROPRIETARY]** ******** **[VERIZON MA PROPRIETARY]** per switch. Exh. VZ-60, at 5. The Lucent cost estimate and the proposed Nortel prices demonstrate that the RTU fees are substantial and a "dropped in placed network" assumption requires their inclusion.

Additional compelling evidence in this proceeding regarding initial RTU fees is a recent contract between Lucent and AT&T for 5ESS switching equipment. *See* Exh. VZ-ATT/WC-3-1. That contract represents AT&T's and Lucent's agreement for the purchase of 5ESS switch products, software and services. The scope of the contract reaches far beyond a single state, and reflects AT&T's considerable purchasing power and leverage.

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instructive because they demonstrate, contrary to Ms. Pitts' claims, that vendors cannot, and will not, always make their equipment available at the same discount levels. Vendor pricing is clearly influenced by a number of factors and considerations that are unique to the circumstances associated with each bid.

The AT&T and Lucent agreement provides that AT&T has agreed to pay substantial RTU fees for each switch. For example, the agreement provides, among other things, that: **[AT&T PROPRIETARY BEGINS]** ********** ********** ********** ********** ********** **[AT&T PROPRIETARY ENDS]** Exh. VZ-ATT/WC-3-1, Exhibit 1-Attachment A; *see also* Exhibits 4 and 5.

Based on the Nortel bid information, the Lucent cost estimate, and the Lucent/AT&T contract, there is substantial evidence in the record to substantiate Verizon MA's assertion that $1.88 million initial RTU fee per switch is reasonable, and indeed conservative, and should be added to the RTU costs already determined by the Department.

II. THE DEPARTMENT SHOULD REVISE ITS ASSUMPTION REGARDING THE RATIO OF NEW AND GROWTH EQUIPMENT TO BETTER REFLECT THE LONG RUN COSTS OF SWITCHING EQUIPMENT

The Department determined properly that it should reconsider its decision concerning the ratio of "new" switch discounts and "growth" discount purchases in order to determine the discount assumption "most correct under TELRIC."[8]

The Department found that TELRIC mandates that an attempt must be made "to estimate the costs of a new network 'dropped in place' to serve current demand and reasonably foreseeable capacity requirements." *Order* at 300. The dispositive question on reconsideration therefore is how most accurately to estimate the cost of switches in such a 'dropped in place' network. The answer to this question determines whether the Department was "correct" in the

[8] *September 24 Order* at 5-6.

Order in holding that TELRIC requires an assumption of 90 percent new switch purchases at fixed discounts, or whether a study of anticipated actual future discounts, or, alternatively, a life-cycle-type analysis would provide a more accurate picture of long-term forward looking costs. The "effective" discount proposal based upon anticipated purchases and the life cycle type analyses presented by Verizon MA more accurately reflect long run "dropped in place" costs than AT&T's arbitrary snapshot of the switching network based upon a speculative growth assumption.

AT&T has extended the "dropped in place" requirement from a useful technological assumption to a simplistic method for determining costs: assume 90 percent new switches at the lowest cost for new switches and 10 percent growth switches at the lowest cost for growth switches. But the assumption of a purchasing regime in which all switching equipment is procured in a single transaction with a supplier at the lowest historical cost is inappropriate in a TELRIC study because it defeats the study's purpose of attempting to establish costs that would be expected to be incurred over the long-run.

AT&T's assumption that 90 percent of switching investment could be expected to be purchased at the "new" discount applicable to "new" or replacement switches does not reflect how the average price of switching can reasonably be experienced in the long run. Exh. VZ-60, at 11-12. . AT&T's approach is based upon a single assumption (1.5 percent growth per year) that it applies mechanically over the 12-year life of the switch This methodology ignores relevant information regarding how digital switching equipment has been purchased and priced over the long-term. Most crucially, it ignores the fact that new switch prices experienced in the past were offered in the context of much larger purchases of growth equipment at much lower discounts. These growth purchases provided suppliers the profit margin that allowed them to economically

sustain the new switch discount structure. The AT&T assumption, by largely eliminating growth purchases, eliminates this margin. It is economically irrational to assume that the suppliers could remain viable without raising new switch prices to replace the lost contribution of their growth business.

In contrast to the AT&T methodology, Verizon MA has submitted a "life-cycle" type approach that realistically captures the mix of growth and new purchase discounts that have been experienced over a long-run period. The analysis that Verizon MA set forth in RR-DTE-66 demonstrates the mix of the new and growth switch capacity purchases (50/50) that one could expect to experience for the switches in a network over a significant portion of the technological life of those switches.[9] *Id*. at 9. The net discount created by this purchase mix provides a reasonable estimate of the price structure that a supplier can realistically maintain over the life cycle of a switch technology, whether the equipment is predominantly purchased at the beginning of the life cycle or more evenly spread over the period.

Moreover, in response to the Department's September 24 Order, Verizon MA expanded the five-year analysis in RR-DTE-66 to include an additional six years. Exh. VZ-60, at 12. This more comprehensive analysis has resulted in the ratio of 64.07 percent new purchase and 34.93 percent growth purchases. Although the Department could continue to assume that the latest technology is "dropped in place" in the Verizon MA network, using the long-run information captured in Verizon MA's life-cycle-type analysis would enable the Department to more realistically replicate the long-run costs of switching investment. *Id*. Accordingly, the Department should reconsider its 90/10 snapshot assumption and, assuming that it continues to

[9] The analysis in RR-DTE-66 weights the switch discounts using the actual mix percentage of new and growth line additions that were purchased in a five year period during which approximately 11 million lines of capacity were added to the Verizon network. Exh. VZ-60, at 12.

believe a mix of "new" and "growth" is appropriate, should adopt one of the long-term analyses submitted by Verizon MA to determine the appropriate overall discount rate to be used in SCIS cost model.

III. THE DEPARTMENT SHOULD REJECT AT&T'S ASSERTION THAT DISCOUNTS FROM LIMITED BIDS SHOULD BE USED AS A BASIS TO DETERMINE VERIZON MA'S TOTAL FORWARD-LOOKING SWITCH INVESTMENT

AT&T asserts that the Department should assume that all of Verizon MA's forward-looking switch investment could be purchased at extreme discount levels that may have been available in certain competitive bidding situations. Its assertion is unreasonable and would result in a substantial understatement of the forward-looking switching investment necessary to serve Verizon MA's current demand. *See* Exh. VZ-60, at 12-13; Exh. VZ-61, at 8-9. Consistent with its approach to RTU fees, AT&T's recommendation is based upon a selective combination of a hypothetical construct (*i.e.*, all new switches), and "actual" vendor bid submissions provided under circumstances completely at odds with AT&T's hypothesis. AT&T's contention that in the "forward-looking" environment Verizon MA's entire digital switch network could be purchased for fractions of Verizon MA's actual investment flies in the face of reality. It ignores the fact that "new" switch bid discounts are available only because: (1) the vendor pricing strategy enables vendors to recover most of their costs and goods sold through "growth" sales; (2) digital switching is a mature technology that is towards the end of its life-cycle; (3) only a limited number of "new" switches are being purchased each year; and (4) investment in "new" switches constitute an extremely small portion of Verizon's annual switch equipment expenditures. *See* Exh. VZ-60, at 7-15; Exh. VZ-61, at 2-10.

Ms. Pitts' recommendation that Verizon MA's entire switch investment be based exclusively on discounts in specific bids totally ignores the vendor pricing strategies that are half

of the equation of any purchase and would likely result in insufficient revenues for vendors to cover their cost of goods sold.[10] Vendors simply would not, and could not, make available substantial "new" switch discounts if all of their equipment were to be sold at the discount levels reflected in "new" bids. *See* Exh. VZ-61, at 6-9. Ms. Pitts, however, did not even consider the potential impact of assuming away vendor revenue streams, commenting that the vendors' pricing strategies are irrelevant. Tr. 20, at 3819.

TELRIC is intended to estimate efficient forward-looking cost levels; it is not intended to produce a ridiculous result. Indeed, TELRIC is intended to measure the forward looking costs that an ILEC is actually expected to incur in connection with its provision of unbundled network elements.[11] AT&T's recommendation, which would result in total digital switch investment of approximately $76.5 million,[12] has no basis in reality. This is revealed by a comparison to Verizon MA's actual digital switching equipment investment, which is $1.9 billion. Exh. VZ-58, at 27-28.

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[10] Ms. Pitts' suggestion that a **[Verizon MA Proprietary Begins]** ******** **[Verizon MA Proprietary Ends]** discount is not as high as its seems is baseless. Ms. Pitts asserts vendors have increased list prices. Tr. 20, at 3809. First, there is no evidence that vendors have increased or otherwise changed their list prices. Moreover, the suggestion that a discount as high as **[Verizon MA Proprietary Begins]** ****** **[Verizon MA Proprietary Ends]** could somehow be offset by changing list prices defies basic mathematics. For example, a discount of 90 percent from $10 would result in a price $1. A **[Verizon MA Proprietary Begins]** ******** **[Verizon MA Proprietary Ends]** discount from $10 would require payment of **[Verizon MA Proprietary Begins]** ******* **[Verizon MA Proprietary Ends]**. Thus, a change in a discount from 90 percent to **[Verizon MA Proprietary Begins]** ******* **[Verizon MA Proprietary Ends]** would require vendor to increase its list price **[Verizon MA Proprietary Begins]** ** **[Verizon MA Proprietary Ends]** times. There is no evidence the vendors have increased their list price at all, much less substantially enough to offset the economic impact of extraordinary discounts that AT&T recommends. Indeed, Ms. Pitts' insistence upon such an extreme discount is evidence of the tendentious nature of her testimony throughout these proceedings.

[11] *Local Competition Order*, at par. 685

[12] At the hearings Ms. Pitts recommended that the bid discount in the Fredrick, MD and Eastwick, PA, bids be used as the basis for determining Verizon MA's switching investment. AT&T had alleged previously that these bids resulted in a per line cost of approximately **[Verizon MA Proprietary Begins]** ******* **[Verizon MA Proprietary Ends]**. Applying the "per line rate" to the approximate number of lines in the Commonwealth results in total investment of approximately $76.5 million.

Although Ms. Pitts contends that a comparison of "actual" investment to forward-looking investment is "irrelevant" (Tr. 20, at 3772), common sense dictates that such a comparison is meaningful. This is particularly so where – as here – the actual technology in Verizon MA's network (digital switching equipment) is generally the same technology in the forward-looking cost study. Although one might expect forward-looking investment to be less than embedded investment, it defies common sense and logic to suggest that the entire network could be replaced for a mere 4 percent of actual costs.[13] Indeed, even the Hatfield Model, which substantially understates forward-looking costs, estimates that the "forward-looking" costs for switching equipment would be approximately $492 million. Exh. VZ-58, at 27.

Verizon's current contracts with switch vendors also show the lack of a rational relationship between AT&T's recommendation and realistic levels of investment for an efficient provider. For example, Verizon's contract with Nortel anticipates that Verizon will expend approximately **[VERIZON MA PROPRIETARY BEGINS]** ********** ********** **[VERIZON MA PROPRIETARY ENDS]** million of that commitment could be assumed to apply to the Nortel switches in Massachusetts. Exh. VZ 61-P, at 9-10. Ms. Pitts, however, assumes that the entire forward-looking Verizon MA Nortel investment, with sufficient growth for three years, can be purchased at $33 million. *Id*. If the prices that Ms. Pitts alleges were available on a wide-scale basis, Verizon MA would never have negotiated a contract to "add-on" switching equipment when it could have replaced all of its equipment, including sufficient equipment to accommodate three years of growth, for less than half the cost of adding three years of growth equipment.

[13] AT&T's recommended total switch investment of $76.5 million, divided by actual switching equipment investment, which is $1.9 billion, equals approximately 4 percent.

In a cost study where the majority of switching equipment is assumed to be purchased at "new" discount levels – *i.e.*, an assumption vastly different from the actual switch market – it should be assumed that vendor pricing strategies would have to change accordingly. For example, during 2000 Verizon expended approximately $930 million for switching equipment and software, yet only $14.5 million (1.7 percent) of that was attributable to equipment sold at "new" or "replacement" discount levels. Exh. VZ-61, at 9. Although AT&T attempts to create the impression that it has compiled bid data for several "recent" switch purchases, those purchases are over a four year period and are for a small percentage of Verizon's network. In fact, only one of the bids is for a switch purchase for Massachusetts. *See* Exh. ATT-33-P, at 10.

It is inconceivable that vendors could be expected to provide the substantial quantities of new switches contemplated by the TELRIC assumption at the "new" discount levels made available under bids that are solicited by Verizon for the replacement of as few as five to six switches per year out of over 1,200 switches in place throughout its entire region. Thus, it is impossible to interpret the predicted value of such limited bid information outside the context of the total purchasing environment. Indeed, even the bid information that AT&T discussed in its testimony reveals that vendors cannot consistently provide the isolated discounts that AT&T recommends be used to estimate the costs for Verizon MA's entire network. Tr. 20, at 3705-3706. Nortel's and Lucent's bids vary widely depending upon the particular job being bid, and presumably, the vendors' circumstances associated with the bid such as available capacity, the possibility of cancellation, etc. Tr. 20, at 3748-3749.

AT&T also ignores the fact that current switching equipment is approaching the end of its life cycle and that vendors have incentive to discount "new" switches due to the limited demand and existing wide-spread deployment. *See* Exh. VZ-60, at 12-13; Exh. VZ-61, at 4-9. Vendors

have already recovered much of their initial investment in the technology and they have available sufficient production capacity because of diminished demand. AT&T's attempt to connect these limited actual purchasing experiences into a conclusion that: (1) all switching investment could be acquired where demand increases substantially (*i.e.*, replacement of the entire network); and (2) a substantial portion of vendor revenue will be eliminated due to the elimination of sales at levels other than at extraordinary "new" discounts must be rejected. Such a forced conclusion will result in a substantial understatement of forward-looking switching investment.

Verizon MA has recommended that the discount level for Nortel equipment be the discount level that Nortel has agreed to in its switching equipment contract with Verizon. That agreement provides for a uniform contract discount whether the equipment is considered "growth" or "new". The Nortel contract discount level is more likely than an isolated bid submission to reflect accurately the discounts that a vendor would be willing to make available for the widespread deployment of new switching equipment. The contract is a superior estimate of switch costs (assuming widespread deployment) because the contract reflects an agreement by Nortel to make equipment available at a fixed discount, regardless of the particular circumstances of the purchase.[14] Tr. 20, at 3737-3738. In contrast, the circumstances associated with bids vary based upon each particular job and the vendors constraints. In fact, the current Nortel contracts most likely understate long-run costs because the very high growth discount rates are not representative of pricing behavior over the long run and certainly reflect supplier behavior very late in the digital-switching technology lifecycle.

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[14] In fact, the use of the Nortel contract discount for the wide-scale deployment of "new" switches contemplated by the Department's dropped in place assumption, is conservative. Tr. 20, at 3737-3738. It is unlikely that Nortel would agree to such a discount given the likely difficulties associated with serving such an increased level of demand for "new" equipment and the loss of profit on the three years' worth of growth that would be sold at a higher price as an addition to the existing switch if the "new" switch was not placed.

IV. THE DEPARTMENT SHOULD ADOPT VERIZON MA'S PROPOSED DC POWER DISTRIBUTION CABLE LENGTHS.

Verizon MA has produced extensive evidence regarding the appropriate, TELRIC-compliant, cable lengths to be used to calculate the DC Power Distribution rate element. AT&T and WorldCom have failed to introduce any credible data tending to undermine this evidence. The Department should adopt the DC power cable distribution lengths proposed by Verizon MA.

A. Verizon MA's Cable Length Survey Is the Only Credible Evidence in the Record.

The Department has already found that Verizon MA's cable length survey, which measures the cable lengths for 70 percent of the collocation jobs performed in 2000, is reliable.[15/] *Order* at 425-426; *see also* Exh. VZ-62 (explaining survey and development of cost points). In stark contrast, as the Department noted in its Order, AT&T "d[id] not present any specific evidence to support its recommendation" concerning cable lengths, "but merely point[ed] to a Texas PUC decision" based on an entirely different study and involving a different party (SBC). *Order* at 425. The only additional evidence presented by AT&T/WorldCom in this reconsideration proceeding ? Mr. Turner's testimony ? falls far short of discrediting Verizon MA's real world data.

Mr. Turner's primary argument is that "good engineering practice is to keep the cables from the BDFB to the telecommunications equipment as short as possible so that the cost of these cables is minimized." Exh. ATT-30-P; *see also* Tr. 19, at 3610-3612. To support his

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15/ From this study, Verizon MA determined that 10 different gauges of power cable were placed for CLECs' use in 2000. Verizon MA derived a cost per power cable gauge by multiplying the average total length per power cable for each type of gauge by the cost per foot for that particular gauge of cable; and then multiplying that figure by an installation factor and the appropriate investment, annual cost factors, common overhead, and gross revenue loading factors. Next, Verizon MA developed a cost structure based on amperage ordered by taking the cost per power cable placement (battery and return) for each gauge and multiplying it by the number of cable placements in the engineering study for each fuse group, and dividing by the total number of cables placed in each fuse group. Exh. VZ-62, at 15-17.

point, Mr. Turner provides a diagram showing equipment lined up close together, with a BDFB placed every third row. According to Mr. Turner, this diagram is how an ideal central office should be organized. Mr. Turner then argues that if Verizon MA applied these efficient design principles properly, the DC power cables provisioned to collocators would average only 40 feet, rather than 121 feet (Metro zone). Exh. ATT-30-P, at 10-12. Finally, Mr. Turner suggests not only that Verizon MA's longer cable lengths were the product of allegedly inefficient design, but that they actually were the result of *intentional* over-sizing by Verizon MA's engineers as part of an effort to increase CLEC costs (Tr. 19, at 3613) ? an entirely inappropriate and unfounded charge that should raise questions about the reliability of much of Mr. Turner's remaining testimony.[16/]

Verizon MA's witness Mr. Gushue, who unlike Mr. Turner actually provisions DC power cables to collocators, explained the fundamental flaws in Mr. Turner's reasoning. As Mr. Gushue testified, Mr. Turner is correct that proper engineering principles require that engineers attempt, wherever possible, to minimize cable lengths, but Mr. Turner is incorrect to suggest that minimizing cable lengths is the only factor to consider in determining how to provision power to collocators. Mr. Turner disregards the fact that reducing overall power costs involves balancing the costs associated with cable lengths and other costs, all of which must be considered in the engineering process to produce the optimal result. Thus, as Mr. Gushue explained, proper engineering principles require Verizon MA's engineers to minimize *total* costs:

> Good engineering practice demands that *total costs* be minimized. While Mr. Turner's assumption that cable lengths should be

16/ Mr. Turner's reliability is also called into doubt by his repeated misstatements of fact. For example, in his direct testimony on reconsideration, Mr. Turner asserts: "In virtually every state in the country, DC Power is comprised of two main elements: DC Power Distribution and DC Power Consumption." Exh. ATT-30-P, at 5. But, as Mr. Turner was forced to admit at the reconsideration hearing, at least 23 jurisdictions (14 Verizon and nine BellSouth) *do not* have a separate DC Power Distribution rate element. *See* Tr. 19, at 3615-3620.

> minimized might reduce cable costs, it would necessarily result in higher overall costs because shorter cable lengths would require the deployment of more BDFBs than would in many cases be cost effective or operationally appropriate. There are considerable costs associated with purchasing and installing BDFBs, and with running large-gauge power cables from each of the BDFBs to the power plant. And BDFBs also take up valuable central office space. Most important, each BDFB placed increases back-up capacity requirements, which may require additional costly rectifiers and batteries.

Exh. VZ-62, at 4-5.

Importantly, as Mr. Gushue confirmed, Verizon MA applies the same engineering judgment and considers the same factors whether it is provisioning power to the collocators or to its own equipment. Tr. 19, at 3605-3606. Thus, Verizon MA's proposed cable lengths reflect the best judgment of Verizon MA's engineers, weighing all factors, on how to provision power to particular collocation arrangements. Mr. Turner offers no evidence whatsoever to demonstrate that Verizon MA's engineers have made the wrong choices. In fact, Mr. Turner fails to grapple at all with the countervailing *increase* in costs that his proposed design would produce, instead insisting on a myopic focus on cable lengths alone, a practice that would be entirely inefficient, not to mention unrealistic and irresponsible, in planning a real-world network.

Mr. Turner's proposed cable lengths, moreover, are inconsistent with the cable length assumptions he has made in other collocation proceedings. Mr. Turner argues here that cable lengths from collocators' equipment to BDFBs should average 55 feet, and cable lengths from collocators' equipment directly to the power plant should average 165 feet. Exh. ATT-31-P, at 8-10. But Mr. Turner has testified in other proceedings that cable lengths from *BDFBs* to the power plant should also average 165 feet (Tr. 19, at 3624-3627), and agreed at the hearing that such a distance would be appropriate in Massachusetts, too. *Id.* He insisted, however, that a 165-foot length from end equipment to the power plant was not inconsistent with a 55-foot

length from end equipment to the BDFB *and* a 165-foot length from the BDFB to the power plant because "you can't add the two distances together; you have to look at them separately." *Id.*, at 3626.

Mr. Turner is wrong. He assumes, incorrectly, that the cabling distance from a collocator directly to the power plant will be the *same as* the distance between the BDFB and the power plant. But, even assuming that Mr. Turner is correct that it would be inappropriate to add the 55 feet and 165 feet together to arrive at a distance of 220 feet, it is inescapable that the distance from a CLEC directly to the power plant is, on average, *longer* than the distance from the BDFB to the power plant, particularly given that, in most cases, the cable racking will not run directly from the CLEC's equipment to the power plant and may in fact be run near or on the cable racking serving the BDFB. Mr. Turner's proposed cable lengths are thus understated. Indeed, using Mr. Turner's assumptions of 165 feet cabling distance from the BDFB to the power plant and 55 feet cabling distance from end equipment to the BDFB, the "far half" of the end equipment, at least, would require an average of 205 feet to cable back to the power plant ? 165 feet plus 55 feet minus 15 feet (because the cable would have to reach up into the racks and drop back down only once).

Mr. Turner's claim that Verizon MA's reliance on cable lengths from its network should be rejected because Verizon MA's engineers have intentionally provisioned longer power cables to collocators than necessary is even more absurd than his design proposals. To begin with, the allegation, as noted above, is entirely unsupported, and the Department should reject such biased speculation outright. In any event, the witnesses in this proceeding that would have relevant knowledge provided record testimony entirely refuting Mr. Turner's contention: Mr. Gushue flatly denied Mr. Turner's allegation, while Ms. Clark also explained that Verizon MA's

engineers have no incentive to provision unnecessarily long power cables. Tr. 19, at 3606-3607. In 2000, when the cable length study was conducted, Verizon MA did not even have a separate power distribution element (and had no intention at that time of creating one), nor did it charge the CLECs on a per-foot basis for power cables under any other rate element. *Id*. Verizon MA, on the other hand, *does* have to pay its vendors for power cable on a per foot basis, and thus had (and continues to have) every incentive to minimize these cable lengths.

Finally, the notion that Verizon MA's engineers intentionally provisioned longer cable lengths because they knew they would be recovering these costs from the CLECs is ridiculous: the very existence of this intensely disputed proceeding demonstrates that it would never be rational for Verizon MA to incur unnecessary costs in serving CLECs based on quixotic belief that its recovery of irrational and excessive costs will be assured. The only certainty Verizon MA *does* have is that its costs will be closely scrutinized. In addition, as the Department knows, many CLECs have gone out of business, leaving Verizon MA with many millions of dollars in unpaid collocation charges. Finally, Mr. Turner has offered no evidence of a single specific instance in which Verizon MA provisioned a DC power cable to a CLECs that was longer than otherwise required. Mr. Turner's baseless attacks should be disregarded.

B. Verizon MA's Power Cable Lengths Are Not Discriminatory.

Mr. Turner also alleges that, because the distances between the BDFB/power plant to Verizon MA's own equipment are generally shorter than the distances from the BDFB/power plant to the CLECs' equipment, Verizon MA is engaging in discriminatory behavior. Tr. 19, at 3612. But AT&T/WorldCom ignore that provisioning power to a collocation arrangement is fundamentally different from provisioning power to Verizon MA's own equipment, largely because of the CLECs' demands for floor space and for extra cable to reach any location within their collocation cages.

As an initial matter, AT&T/WorldCom's claim that the lengths of the cable to Verizon MA's own equipment are one-third of the average cable lengths in Verizon MA's cost study is incorrect. The information regarding cabling distances to Verizon MA's equipment provided in Exhibit DTE-VZ 3-8 shows an average cable length, across all cable gauges, of 68 feet, which is 56 percent of the average cable length, as calculated by Mr. Turner, in Verizon MA's study. *See* Exh. DTE-VZ 3-8, Attachment 1; Tr. 19, at 3610-3611. Moreover, that 68-foot figure does *not* even reflect the longer cable lengths that run from Verizon MA's end equipment directly to the power plant ? lengths that are properly included in Verizon MA's cost study. This demonstrates that the cables to Verizon MA's equipment are most certainly even more than 56 percent as long as those assumed in Verizon MA's DC Power study.

There are at least two unavoidable and non-discriminatory reasons that Verizon MA's power cables are generally (not always) shorter than the cables provisioned to collocators, even though Verizon MA applies the same engineering principles to both. First, unlike Verizon MA's own equipment, which is efficiently lined up in bays close together to the extent possible, the CLECs' equipment is scattered throughout the collocation room. This is caused by the CLECs' demands for large amounts of floor space, which is typically underutilized. Even Mr. Turner admitted that AT&T's cages contain large amounts of empty space. Tr. 19, at 3628. And as Mr. Turner further conceded, the fact that Verizon MA's own equipment areas are more densely populated than CLEC collocation areas *does* result in Verizon MA having shorter cable lengths than those needed to serve CLECs.[17/] Tr. 19, at 3634.

17/ His claim, however, that this should only affect cable lengths by "20 to 25 percent" is wholly unsupported by record evidence and was plucked from thin air. Tr. 19, at 3633-3635.

This unutilized space increases the length of *every cable* that must pass over it. For example, if AT&T has a large, underutilized cage next to a BDFB; WorldCom has a large, underutilized cage behind AT&T's cage; and Covad likewise has a large underutilized cage behind WorldCom, the length of the power cables to Covad's equipment will reflect not only the inefficiencies within Covad's cage, but inefficiencies within AT&T's and WorldCom's cages. If Verizon MA were permitted to deny the CLECs' request for this floor space, and to line up the CLECs' equipment into efficient rows as it does for its own equipment, then the CLECs' cable lengths would undoubtedly be shorter ? but Verizon MA is not permitted to do so.

Second, Verizon MA must provide extra cable "slack" to the collocators so they can terminate the power cables to *any* location within their collocation cage. Although Verizon MA asks the CLECs to disclose the precise termination location within their cage so Verizon MA can provide the correct length of cable (*see* Verizon CLEC Handbook, Vol. 3 (2001) at Section 4.2; *see also* Verizon Collocation Application (former Bell Atlantic and NYNEX regions) at Section V, 1), the CLECs typically refuse to provide this information. Exh. VZ-62, at 10, n.4. Even Mr. Turner recognizes that this CLEC conduct "is producing the maximum amount of inefficiency possible" and admitted that his analysis of cable lengths does not account for the CLECs' refusals to provide this information Tr. 19, at 3637-3638. As Mr. Gushue and Ms. Clark have explained, the CLECs' demand that Verizon MA provide this cable "slack" can add as much as 40 feet to the length of cable required to provision a standard, 20' x 20' CLEC cage. Exh. VZ-62, at 10-11.

Mr. Turner's claim that his proposed cable lengths sufficiently account for the problems identified above because he conservatively increased his estimate by 37.5 percent (from 40 feet to 55 feet) is wholly unsupported by any record evidence. In any event, if Mr. Turner's

37.5 percent "adjustment" were applied to the average cable length contained in Exhibit DTE-VZ 3-8 ? 68 feet ? the result would be 93.5 feet, which is within a reasonable range of Verizon MA's proposed cable lengths.

Finally, Department Staff asked at the hearing whether Verizon MA could shorten power cable lengths by placing several smaller BDFBs in the collocation areas rather than fewer large BDFBs. Tr. 19, at 3604-3605. As Mr. Gushue explained, placing additional BDFBs would increase labor costs and would likely necessitate additional costly batteries and rectifiers. Verizon MA's proposed cable lengths reflect the best judgment of Verizon MA's engineers on whether it was more efficient to place an additional BDFBs or to provision slightly longer cable lengths. There is nothing in the record to second-guess these decisions.

In short, provisioning power to collocators is fundamentally different than provisioning power to Verizon MA's own equipment, leading, in some cases, to longer cable lengths. As the courts and the FCC have held, that does not constitute discrimination. *See, e.g., AT&T Communications of the S. Cent. States, Inc. v. BellSouth Telecom., Inc.*, 20 F. Supp.2d 1097, 1104-05 (E.D. Ken. 1998) (noting that requiring CLECs to bear 100 percent of OSS interface costs was not discriminatory: "AT&T is the cost causer, and it should be the one bearing all the costs; there is absolutely nothing discriminatory about this concept."); Memorandum Opinion and Order, *In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services In Michigan*, 12 FCC Rcd 20543, ¶ 141 (1997) (noting that "the ordering and provisioning of unbundled network elements" have "no retail analogue," and that an ILEC thus "satisfies its duty of nondiscrimination" if it "offers an efficient competitor a meaningful opportunity to compete."). AT&T/WorldCom's discrimination claims should therefore be rejected.

C. Verizon MA's Cable Lengths Are Forward-Looking and Meet the Department's TELRIC Requirements.

Although Verizon MA does not agree with the Department's position that TELRIC requires a central office to have an interior redesigned with collocation in mind, Verizon MA's proposed cable lengths meet that standard. As Ms. Clark explained, any "interior remodeling" would not have a material impact on collocation cable lengths. Although completely remodeling Verizon MA's central offices could conceivably change the *locations* of collocation areas (though AT&T/WorldCom have presented no evidence on how this could be done),[18/] it would not affect the placement of CLEC equipment *within* those areas and therefore would not resolve the problems identified above ? scattered collocation equipment and CLEC demands for cable "slack." Thus, moving the entire collocation area closer to the power plant would likely have only a small effect, if any, on average power cable lengths.

D. Verizon MA's Power Distribution and Power Consumption Rate Elements Do Not Double Recover Cabling Costs.

Mr. Turner argues for the first time in his rebuttal testimony that Verizon MA double recovers cable costs by charging both a Power Distribution charge and a Power Consumption charge when a CLEC, like AT&T, cables directly to the power plant instead of to a BDFB. According to Mr. Turner, because the Power Consumption element recovers the costs for cabling between the BDFB and the power plant, a CLEC that cables directly to the power plant pays for this cabling again in the Power Distribution rate element. Exh. ATT-30-P, at 6-7.

Mr. Turner's claim is procedurally improper and should be stricken. The Department asked for additional evidence only on the issues of appropriate power cable lengths and three

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18/ Verizon MA does *not* concede that a central office interior redesigned to account for collocation would necessarily feature collocation areas closer to the power plant. Ideally redesigned central office interiors would still have collocation areas near ingress/egress points, where these areas are located today. This placement decreases security costs, among others, for the CLECs.

issues relating to switching costs. AT&T failed to raise this double recovery issue in the original proceeding or in its petition for reconsideration.

In any event, Mr. Turner is incorrect.[19/] At bottom, he is really complaining about Verizon MA's *rate design*, not double recovery. The Power Consumption rate element recovers the costs of, among other things, the BDFB and the cabling between the BDFB and the power plant. Mr. Turner is correct that the CLECs pay this rate even if they are not cabled to a Verizon MA BDFB. But, importantly, this rate reflects that assumption that CLECs use a Verizon MA BDFB only 95 percent of the time, and is therefore *lower* than otherwise appropriate for those CLECs that always cable back to the BDFB. Thus, while it is true that the CLECs that cable directly back to the power plant (which, under Verizon MA's assumption, occurs 5 percent of the time) are bearing a portion the costs of a BDFB that they do not use, it is not appropriate to conclude that Verizon MA is double recovering costs. These CLECs are simply, because of Verizon MA's blended rate design, paying a slightly higher rate than they would if the rate were not blended, while CLECs that do use the BDFB are paying a slightly lower rate. The Department has approved such a blended rate design in many other contexts.[20/]

If the Department decides in this instance, contrary to well-established practice, to reject a blended rate design, the solution is to require Verizon MA to have two different Power Consumption rate elements ? one for CLECs that order less than 60 amps of DC power (which

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19/ Mr. Turner makes other "double recovery" allegations. First, he argues that Verizon MA's proposed DC Power Distribution rate element double recovers costs because Verizon MA allegedly intends to charge "per cable" rather than "per feed." Exh. ATT-30-P, at 4-5. Mr. Turner is playing a game of semantics: It is clear that Verizon MA intends to charge once per power termination, with that charge covering both battery and return. Second, Mr. Turner argues in his direct testimony that Verizon MA may, though he did not know, be recovering cabling costs in another rate element. Verizon MA assumes that Ms. Clark and Mr. Gushue's rebuttal testimony on reconsideration ? which explains that this is not the case ? resolves this second claim. Exh. VZ-62, at 3-4.

20/ For example, the Department approved a blended loop rate which combines loops provided over IDLC equipment with loops provided over UDLC or copper. *Order* at 150-160.

typically are provisioned to a BDFB) and one for CLECs that order more than 60 amps of power (which typically are not provisioned to a BDFB). Even Mr. Turner acknowledges that this solution would be appropriate. Exh. ATT-31-P, at 7. In fact, Verizon MA has this rate structure in place today. In this proceeding, because the difference between these rates is no more than 84 cents,[21/] Verizon MA chose to blend the rates for administrative convenience.

Finally, contrary to Mr. Turner's claim, the solution to his alleged "problem" is not to "weight" the Power Distribution rate element to reflect the assumption that the CLECs cable back to a Verizon MA BDFB 95 percent of the time. Exh. ATT-31-P, at 6-7. When a CLEC requests more than 60 amps of power, Verizon MA's rate already reflects the fact the power cables do not terminate at a BDFB. Thus, no "weighting" is necessary. Nor would any be necessary if Verizon MA's current two-rate structure were preserved.

E. The Department Should Not Adopt One Average Cable Length, per Density Zone, for All Cable Gauges.

Verizon MA developed cable lengths for each gauge of cable typically ordered by the CLECs. Exh. VZ-62, at 15-18; *see also* n.1, *supra*. Mr. Turner, however, proposes that the Department adopt one cable length, per density zone, for all gauges of cable. *See, e.g.*, Exh. ATT-30, at 9-13. This approach would significantly understate Verizon MA's costs because the cost per foot of cable increases as the cable gauge gets thicker.

Ms. Clark and Mr. Gushue explained in their rebuttal testimony why averaging cable lengths across gauges would be inappropriate:

21/ Under the structure proposed by Verizon MA and filed in its cost study (Exh. WCOM-VZ 2-1S, Mass Part CA, Workpaper 5.0, Physical Collocation, Power Consumption (revised Mar. 20, 2002) at p. 1), all CLEC power orders would be charged a monthly recurring Power Consumption rate of $22.50 per amp. If that rate were broken out, orders of more than 60 amps of power would be charged at $21.70 per amp, and orders of 60 amps or less would be charged at $22.54 per amp. (Line 49: Statewide Greater Than 60 Amps = $21.70; Line 75: Statewide Less Than or Equal to 60 Amps = $22.54).

> Using average cable lengths without regard to gauge would significantly understate Verizon MA's costs. Longer cables tend to be of larger gauge, which makes them, as Mr. Turner notes, "exponentially more costly" (Turner Testimony at 9) per foot than the shorter cables. Indeed, there is a discernible difference between the average cable lengths for the smaller gauge cables and the average lengths for the larger gauge power cables (*See* Attachment 1, VZ-ATT 1-114, Mass Part CA, Workpaper 5.0, Page 2, Line 1). These lengths vary from a statewide average of 29 feet for an 8 gauge cable to a statewide average of 438 feet for a 750 MCM power cable. Thus, averaging together the lengths of all cable gauges would cause Verizon MA to underrecover the costs of the larger gauge cables, which are exponentially more expensive on a per foot basis.

Exh. VZ-62, at 16-17. Not surprisingly, averaging cable lengths across all gauges of cable, as Mr. Turner suggests, disproportionately benefits AT&T and WorldCom, which typically order DC power in amperage amounts requiring very large cables.

The Department should adopt cable lengths that distinguish between the gauges of cable ordered by the CLECs, not a one-size-fits-all approach that averages cable lengths across all cable gauges.

CONCLUSION

For the foregoing reasons, the Department should: (a) increase the amount of initial RTU fees to account for the percentage of equipment assumed by the Department to be purchased as "new"; (b) modify its assumption regarding the appropriate mix of "new" and "growth" equipment; (c) reject AT&T's assertion that certain bid discount level should be used to estimate forward looking investment costs for virtually all of Verizon MA's forward looking switching

investment; and (d) adopt the cable lengths used by Verizon MA to calculate Verizon MA's Power Distribution rate element.

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Dated: October 30, 2002