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

REBUTTAL TESTIMONY OF STEVEN E. TURNER ON RECONSIDERATION

ON BEHALF OF AT&T AND WORLDCOM

PUBLIC VERSION

October 16, 2002

I. INTRODUCTION AND SUMMARY.

Q. PLEASE STATE YOUR NAME, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Steven E. Turner. Currently, I head my own telecommunications and financial consulting firm, Kaleo Consulting. My business address is 2031 Gold Leaf Parkway, Canton, Georgia 30114.

Q. ARE YOU THE SAME STEVEN E. TURNER WHO FILED DIRECT TESTIMONY ON RECONSIDERATION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY AND PROVIDE A SUMMARY OF ITS CONCLUSIONS.

A. This testimony supplements my response to the Department's request for additional testimony regarding the cabling distance to be used in developing the Power Distribution collocation rate element.[1] Given that Verizon did not file direct testimony on this issue on October 2, 2002, my testimony responds to Verizon's discovery responses. Specifically, I will address three issues.

First, I discuss Verizon's response to ATT-VZ 30-1 regarding the terms and conditions under which the Power Distribution element will be charged. In short, I show that Verizon's response to this simple request has confused this rate application issue because Verizon's response contradicts the information contained in Verizon's cost study. Verizon continues to be unable to provide a succinct description of how and when Verizon will charge this rate element. As a result, Verizon's proposed tariff language for this rate element

[1] Order Granting Verizon and AT&T Motions for Reconsideration, In Part, and Requesting Additional Evidence ("First Order on Reconsideration"), at 14.

must reflect how the costs for distribution are computed in Verizon's cost study so that Verizon does not double recover.

Second, Verizon's response to ATT-VZ 30-4 makes clear that Verizon intends to charge the Power Distribution element regardless of whether the CLEC cables back to the BDFB or to the Verizon power plant directly (bypassing the BDFB). Given Verizon's response to ATT-VZ 30-4, Verizon's Power Distribution rate element needs to be adjusted to ensure that it does not duplicate cabling costs already included in the Power Consumption element. The specifics of this adjustment are outlined below.

Third, Verizon provided floor plans for three of its Massachusetts central offices in response to ATT-VZ 30-6. I reviewed these diagrams and found that they support the engineering analysis that I described in my Direct Testimony on Reconsideration.

II. VERIZON'S PROPOSED APPLICATION OF THE POWER DISTRIBUTION RATE ELEMENT IS INCONSISTENT WITH VERIZON'S COST STUDY.

Q. HAS VERIZON'S RESPONSE TO ATT-VZ 30-1 CLARIFIED THE APPLICATION OF THE DISTRIBUTION RATE ELEMENT?

A. No. To the contrary, Verizon's response actually contradicts information contained in Verizon's cost study. Specifically, ATT-VZ 30-1 asked Verizon to provide the terms and conditions upon which Verizon intends to apply the Power Distribution element. It appears from the response that no tariff language for this rate element presently exists and that Verizon currently does not have terms and conditions by which it intends to apply the Power Distribution rate element. Nonetheless, Verizon responded as follows:

> CLECs will be charged for Power Distribution on a monthly recurring basis. The element will be charged *per cable ordered*, based on the fused amperage requested by the CLEC on its collocation application.[2]

Q. WHAT IS THE PROBLEM WITH THIS RESPONSE?

A. Verizon stated in its response to ATT-VZ 30-1 that it intends to charge CLECs for power distribution *per cable ordered*. Each power feed between the BDFB or power plant itself is actually made up of two cables. One cable is commonly referred to as the battery cable and the other cable is referred to as the ground or return cable. You must have both cables to constitute a complete electrical circuit from the power source to the telecommunications equipment. Verizon states that it intends to apply its charge per cable, not per the battery and return.

This proposed rate application is inconsistent with Verizon's development of power distribution costs. Verizon's cost study notes that the Power Distribution rate element is the "cost per cable run … for each (A) or (B) feed requested."[3] The industry definition of a "feed" is the combination of the battery and return cables defined above. In other words, Verizon has already developed its Power Distribution rate element to include the cost of the two cables – the battery and return. If Verizon applies this rate element <u>*per cable,*</u> as it has indicated in response to ATT-VZ 30-1, it will double-recover the cost associated with providing these cables by recovering the cost of both cables each time it charges the CLEC

[2] ATT-VZ 30-1 (emphasis added).

[3] *See* Mass Part CA – Physical (05-04-01) Workbook, WP 5.0, PG-2 DC POWER CBL Worksheet, Cell B93 (the last line on the sheet and preceded by "*").

for the battery and recovering the cost of both cables each time it charges the CLEC for the return cable.

This problem is further confirmed through Verizon's response to ATT-VZ 30-7. Verizon's response to ATT-VZ 30-7 provides the backup work papers where Verizon developed the cable investment for the Power Distribution rate element. Column E contains Verizon's identified cable length between power source and the collocation arrangement.[4] However, Column F then doubles this distance to calculate what Verizon defines as the "Loop Length," which is the cable for both the battery and return.[5] This description is documented in the title for this column ("LOOP LENGTH = BTRY & RTN"). In other words, Verizon explicitly developed the cost for the Power Distribution rate element by doubling the one-way cabling distance to account for two cables (the battery and return).

III. POWER DISTRIBUTION COST DEVELOPMENT WITH AND WITHOUT THE USE OF A BDFB.

Q. WHY IS THE PRESENCE OF A BDFB BETWEEN THE COLLOCATOR AND THE POWER PLANT IMPORTANT IN DEVELOPING THE COST FOR THE POWER DISTRIBUTION RATE ELEMENT?

A. In my Direct Testimony on Reconsideration, I showed that Verizon's Power Consumption rate element assumes that *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent of the time, the CLEC uses the Verizon BDFB.[6] The other

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4 ATT-VZ 30-7, Column E or Cell E3.

5 ATT-VZ 30-7, Column F or Cell F3.

6 *See* Mass Part CA – Physical (05-04-01) Workbook, WP 5.0, PG-1 DC POWER PER AMP Worksheet, Cells D63 and D92. You must look at the formulas in the cells to see that weighting that I describe. Cell D63 (Row 50 in the paper version) shows the weighting where no BDFB and no cabling cost is included. Cell D92 (Row 76 in the paper version) shows the weighting where BDFB and cabling cost is included.

*****BEGIN CONFIDENTIAL** XX **END CONFIDENTIAL***** percent of the time, the CLEC cables directly back to the Verizon power distribution panel, thereby bypassing the Verizon BDFB. Verizon's development of its proposed DC Power Consumption cost uses the weightings above to compute a cost for DC Power Consumption that therefore includes the cable costs between the Verizon DC power plant and the Verizon BDFB *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent of the time.

The important point here is that the Power Consumption rate element already includes the cable cost between the power plant and the BDFB weighted at a *****BEGIN CONFIDENTIAL** XX **END CONFIDENTIAL***** percent probability. This cabling distance represents the majority of the total distance between the power plant and the telecommunications equipment. Therefore, Verizon must develop the Power Distribution element consistent with this assumption or else it will recover cabling costs from the power plant to the BDFB twice, in both the Power Consumption and Power Distribution rate elements.

Q. HOW DO YOU KNOW THAT THE COST OF CABLING BETWEEN THE POWER PLANT AND THE BDFB MAY BE RECOVERED IN BOTH THE CONSUMPTION AND DISTRIBUTION RATE ELEMENTS?

A. Verizon states in response to ATT-VZ 30-4 (emphasis added):

> The Power Distribution rate element recovers the cost of distribution power cables between the Verizon BDFB and the collocation arrangement, *as well as the cost of distribution cables between the power plant and the collocation arrangement*.[7]

[7] ATT-VZ 30-4 (emphasis added).

This response indicates that the Power Distribution element recovers the cost for power distribution cables between the Verizon BDFB and the collocation arrangement and between the power plant and the collocation arrangement. These two different situations are weighted at respective probabilities in developing the Power Consumption rate element in such a way that the rate is heavily skewed towards the use of the Verizon BDFB. As such, when a CLEC uses its own BDFB (instead of Verizon's) and cables back to the power plant, the CLEC is already paying the cost of the cable between the power source and the BDFB in the Power Consumption element because of the *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent weighting of the BDFB. Verizon is charging the CLEC for that same cost in the Distribution Rate element because Verizon does not use weights consistent with the Consumption Rate element. In order to reduce (though not completely eliminate) this double recovery problem, the Department can apply the same weightings used in the Power Consumption cost study to the Distribution rate element for the cabling distances between the collocation arrangement and the Verizon BDFB (which should be relatively short) and cabling distances between the collocation arrangement and the power plant (which should be relatively longer). This approach would address to some extent the double recovery of the cabling cost included in the Power Consumption element, but CLECs that provide their own BDFB would still pay for Verizon's BDFB with a *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** probability even though that CLEC is providing the BDFB itself.

In the alternative, the Department could disaggregate the Power Consumption element between when a CLEC uses the Verizon BDFB and when the CLEC does not use

the Verizon BDFB. In this way, CLECs that provide their own BDFBs (bypassing the Verizon BDFB) will not pay for an element that they do not use.

Q. COULD YOU EXPLICITLY IDENTIFY WHAT YOU BELIEVE THE DISTANCES AND WEIGHTINGS SHOULD BE?

A. Yes. In my Direct Testimony on Reconsideration, I presented analysis demonstrating that a distance of 55 feet should be used between the BDFB and the collocation arrangement. This distance would be doubled to 110 feet to account for both the battery and return cable and then used to compute the Power Distribution rate element. This 110 cabling distance and respective cost should be weighted at a *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent probability consistent with Verizon's assumption in the Power Consumption cost study that CLECs use the Verizon BDFB *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent of the time.

The cabling distance from the power plant to the collocation arrangement should be approximately 165 feet based on engineering analyses that I have conducted. This distance represents the average distance between the power plant and the collocation arrangement for an efficient, forward-looking large central office. This distance would be doubled to 330 feet to account for both the battery and return cable and then input into the Power Distribution cost study. This cabling distance and respective cost should be weighted at a *****BEGIN CONFIDENTIAL** XXX **END CONFIDENTIAL***** percent probability consistent with Verizon's assumption in the Power Consumption cost study that CLECs cable back to the Verizon power plant *****BEGIN CONFIDENTIAL** XX **END CONFIDENTIAL***** percent of the time.

In other words, Verizon would run its study twice to determine the Power Distribution costs – first using the 110 feet (for battery *and* return) between the BDFB and the collocation arrangement weighted at *****BEGIN CONFIDENTIAL** XX **END CONFIDENTIAL***** percent and, then, again using 330 feet (for battery *and* return) between the power plant and the collocation arrangement weighted at a *****BEGIN CONFIDENTIAL** XXXX **END CONFIDENTIAL***** percent probability.

IV. VERIZON'S MASSACHUSETTS CENTRAL OFFICE FLOOR PLANS CONFIRM THE CABLING DISTANCES I RECOMMENDED IN MY DIRECT TESTIMONY ON RECONSIDERATION.

Q. WHAT CENTRAL OFFICE FLOOR PLANS DID YOU REVIEW?

A. I reviewed floor plans of three Verizon central offices in Massachusetts: (1) Bent Street – Cambridge (CMBRMABE); (2) Ware Street – Cambridge (CMBRMAWA); and (3) Harrison Avenue – Boston (BSTNMAHA). The first two central offices had fairly complete floor plans that showed the placement of Verizon's BDFBs relative to its own equipment and the collocation areas. The last central office was clearly a nonstandard central office and Verizon did not provide diagrams of all of the floors in this central office layout. However, I was able to measure cabling distances on the floors which I was provided.

Q. DO THESE CENTRAL OFFICE DIAGRAMS SUPPORT THE ENGINEERING ASSUMPTIONS YOU PRESENTED IN YOUR DIRECT TESTIMONY ON RECONSIDERATION?

A. Yes. For each of the telecommunications areas in the three Massachusetts central offices, I identified the minimum and maximum cabling distances between the Verizon BDFB and its own equipment. Based on those minimum and maximum cabling distances, the average cabling distance that I observed in these three Verizon central offices was approximately 50

feet. This is slightly lower than the 55 foot cable distance I have recommended to the Department as the appropriate distance between BDFBs and telecommunications equipment and the 60.5 foot cable distance adopted by the Department in its Inputs Order.[8]

From an engineering standards perspective, Verizon's placement of its BDFBs is very similar to what I described in my Direct Testimony on Reconsideration. Verizon consistently places the BDFBs in a central location relative to the locations of its equipment. Verizon demonstrated that for its own equipment it has sought to minimize the cabling distance between the BDFB and telecommunications equipment, which efficient engineering dictates.

The bottom line is that the cabling distances that I developed and presented in my direct testimony and above, based on my general review of central offices across the country, are consistent with the Verizon cabling distances in the three Massachusetts central offices I reviewed. TELRIC costing principles require that ILECs use forward looking engineering principles to cost out the equipment and elements provided to CLECs, especially as in this case, where it has used those principles to design the network (cabling distances in this case) for itself. Certainly, TELRIC principles do not permit ILECs to use inefficient engineering designs for CLECs so as to impose costs on CLECs that are greater than the costs they incur for themselves. Thus, my recommended cable distances of 110 feet for the battery and return between the BDFB and the collocation arrangement, and 330 feet for the battery and return between the power plant and the collocation arrangement, weighted as

[8] D.T.E. 01-20 Inputs Order, at 425-426.

described above, should be utilized in Verizon's cost study so that CLECs pay nondiscriminatory cabling costs for Power Distribution.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.