COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Investigation by the Department on its own motion into the appropriate regulatory plan to succeed price cap regulation for Verizon New England, Inc. d/b/a Verizon Massachusetts' retail intrastate telecommunications services in the Commonwealth of Massachusetts	DTE 01-31 (Phase II)

REBUTTAL TESTIMONY OF JOHN W. MAYO

ON BEHALF OF AT&T COMMUNICATIONS OF NEW ENGLAND, INC.

(PHASE II, Track B)

September 18, 2002

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is John W. Mayo. My business address is Georgetown University, McDonough School of Business, 37th and O Streets, N.W., Washington, D.C. 20057

Q. ARE YOU THE SAME JOHN MAYO THAT PROVIDED TESTIMONY EARLIER IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR PRESENT TESTIMONY?

A. The purpose of my testimony is to offer comments and clarification on the testimony offered by Dr. David Gabel (testifying on behalf of the Attorney General).

Q. AVOIDING FOR THE MOMENT THE NUANCES OF THEIR TESTIMONIES, ARE THERE GENERAL DIFFERENCES IN THE APPROACHES ADOPTED BY DR. GABEL AND YOURSELF?

A. Yes. We both appear to be interested in the goal of furthering competition in the residential telecommunications markets in Massachusetts. The big question is what is the best way to proceed to accomplish that goal while either enhancing – or at least not sacrificing – other goals. My approach toward this issue is that the matter of residential rates must be considered as part of a larger effort, necessitated by the Telecommunications Act of 1996, to enable competition through policies that will ensure full, open, efficiently priced and nondiscriminatory access to inputs and compensatory retail prices. Although a bit

of a caricature, the spirit behind the testimony of Dr. Gabel's seems to be "business as usual."

Q. TURNING TO THE SPECIFICS OF DR. GABEL'S TESTIMONY, HE INDICATES ON PAGE 4 THAT "THE REASONABLENESS OF RATES FOR PUBLIC UTILITIES HAS ALWAYS BEEN JUDGED WITH REFERENCE TO COSTS." HE THEN GOES ON TO RECOMMEND THAT THE DEPARTMENT FREEZE BASIC RESIDENTIAL RATES PENDING A TRADITIONAL COST OF SERVICE STUDY. CAN YOU PLEASE COMMENT?

A. Yes. Only in the most nominal and somewhat surreal sense have basic residential rates ever been judged relative to costs. Rather, as I described in my initial testimony, mark-ups on non-basic services, on access and long-distance services have traditionally been set at rates to generate high contributions and then local residential rates have been set residually. Even when rates were found to be inefficiently low, adjustments to more efficient rates in Massachusetts were halted in 1994 as part of the introduction of the price cap plan for New England Telephone (now Verizon). In any event, performing another traditional cost of service study for the purpose of establishing local residential rates should be seen as having limited and questionable value, because the allocation methodologies of such an approach produce costs and rates that are inconsistent with cost-causation principles and, therefore, the development of competition.

Q. THERE SEEMS TO BE DISAGREEMENT ON WHETHER LOCAL RESIDENTIAL RATES ARE SUBSIDIZED IN MASSACHUSETTS. WHAT ARE THE IMPLICATIONS OF THAT DISAGREEMENT?

A. While the cost data previously analyzed by the Department demonstrate that local rates are not compensatory, Dr. Gabel suggests to the contrary that residential rates may cover at least the incremental cost of providing that service. My reading of the testimony suggests that reliance on either the earlier studies or Dr. Gabel's benchmarks are less than ideal. The cost-of-service data are, as pointed out by Dr. Gabel, at this point dated and with their age comes a naturally decaying rate of reliability in their applicability today. Although the clarity of these data in accurately pin-pointing the current cost of providing local residential telephone service in Massachusetts is in question, the fact that retail rates have been frozen in nominal (declining in real) term for eight years, at a rate that was considered well below cost when established, suggests that the general lesson – under-priced residential local exchange service - from the earlier cost analysis almost certainly continues to hold today.

Q. BUT DR. GABEL OFFERS SOME UPDATED COST ANALYSIS UPON WHICH HE BASES HIS CONCLUSIONS. DO THESE RECENT DATA PROVIDE COMPELLING EVIDENCE THAT RESIDENTIAL RATES ARE NOT UNDERPRICED?

A. No. Dr. Gabel offers several explanations about why local rates may not be overpriced. First, he believes that recent cost data suggest that residential rates exceed the incremental cost of providing the service. Second, he argues that the relevant cost against which residential rates should be benchmarked should not include the entire cost of the loop. And, third, he argues that the utilization of

Ramsey pricing principles do not support the recovery of more shared costs from residential local exchange service than other telecommunications services. My reading of Dr. Gabel's discussion, however, finds it wanting in each of these areas. It should, therefore, not be the basis for Departmental policymaking.

Q. TURNING TO THE FIRST OF THESE, HAS DR. GABEL SHOWN THAT THE PRICE OF LOCAL RESIDENTIAL SERVICE CLEARLY EXCEEDS ITS COST?

A. No. To generate a comparison of rates and costs, Dr. Gabel adds together the various charges for an unlimited local calling residential service option and compares that to his estimate of the corresponding UNE charges and retail costs for providing unlimited local calling in Massachusetts. His calculations for both UNE costs and retail costs are based on several assumptions, and are far too imprecise for the Department to base findings on whether the price of residential service exceeds its cost. For example, as acknowledged by Dr. Gabel, the level of switching costs "varies depending on usage, the date of the approved rate, and whether transport is included" (p. 8). He cites an estimate of $3.30 from the National Regulatory Research Institute. Then, alternatively he produces a number fully 1/3 higher ($4.63). Given the range of variation Dr. Gabel freely acknowledges, the possibility exists that even higher cost may be realized in Massachusetts. If such variations in costs are present, the robustness of Dr. Gabel's conclusion regarding the retail rate/cost relationship becomes highly suspect.

Q. **DO YOU HAVE ANY OTHER CONCERNS ABOUT DR. GABEL'S COST ANALYSIS?**

A. Yes. Dr. Gabel estimates the retail cost component of the provision of local exchange service in Massachusetts to be $1.73. But an alternative and quite different estimate of the retail-stage costs is readily available, and has been adopted by the Department in determining Verizon's costs for purposes of establishing price floors. In particular, an estimate of the retail-stage costs of providing residential service stems from the cost-based rates established in the determination of the applicable discounts for new entrants that choose to resell the retail-stage services of Verizon.[1] Specifically, the Department concluded that, based on its examination of the costs that would be avoided were Verizon to provide wholesale rather than retail service, a 29.47 percent discount from retail rates should apply.[2] Using the retail rates presently in effect, this means that, rather than the retail cost of $1.73 provided by Dr. Gabel, the relevant cost is $5.11 [(9.91 + 6.94 + .49 = 17.34) x .2947]. Thus, even if one were to accept Dr. Gabel's uncertain estimate of switching costs, current and proposed

[1] In its Phase I Order in this docket, the Department stated:

> "Consequently, the Department will require a UNE-based price floor for Verizon's business services that are contestable on a UNE basis (see Exh. DTE-ATT-2-5, at n.2). The price floor should be equal to the UNE rates for the elements that make up the retail service, plus a mark-up for Verizon's retailing costs as reflected in the wholesale discount. The price floors will be density-zone-specific."

Phase I Order, at 91. In footnote 55, the Department stated: "For this calculation, Verizon shall use the existing resale discount until a new discount level is approved by the Department."

[2] This assumes that the reseller provides its own operator services.

residential rates do not cover the cost of providing basic local exchange service when the Department's method for estimating retailing costs is used.[3]

I must emphasize here that my point is not to develop a complete and detailed picture of the costs of providing residential local exchange service in Massachusetts. Rather, I am simply suggesting that one cannot confidently conclude, as does Dr. Gabel, that residential service is no longer subsidized.

Q. HOW THEN DO YOU RESPOND TO THE CLAIM BY DR. GABEL (AT PP. 8-9) THAT VERIZON IS EITHER BREAKING EVEN OR EARNING A SURPLUS FROM RESIDENTIAL RATES?

A. I think Dr. Gabel's conclusion overreaches the analysis. Moreover, quite apart from the mixed evidence on the issue of the price-cost relationship in local exchange service in Massachusetts, the marketplace itself seems to offer some (albeit imperfect) information that residential service is under-priced in Massachusetts. Specifically, in competitive markets firms are attracted to "surpluses" and repelled by "deficits". In this regard, it is certainly incontrovertible that the level of competitive interest (entry, marketing, and growth of competitors) in residential markets has been anemic to this point. This would seem to provide some amount of *prima facie* evidence that residential prices are too low.

My conclusion here, however, is tempered by the fact that the attractiveness of entry is driven not only by output prices but also by the ability of new entrants to secure inputs provided at efficient prices and under

[3] Compare estimated costs of $26.72 [14.98 (loop) + 2.00 (port) + 4.63 (switching) + 5.11 (retailing costs)] to current rates (including the subscriber line charge) of $23.34, and to proposed rate (including increased subscriber line charge) of $25.63. (See Gabel testimony, at page 7). .

nondiscriminatory terms. Because the emergence of competition-enabling policies toward the provision of inputs has been a "work in progress", it is not possible to simply lay the lack of competitive entry into residential markets solely at the doorstep of retail prices. Nonetheless, the market certainly has not been suggestive of 'surplus" as claimed by Dr. Gabel.

Q. REGARDING DR. GABEL'S SECOND ARGUMENT, WHAT SHOULD THE DEPARTMENT MAKE OF HIS CLAIM THAT THE COST OF THE LOOP SHOULD BE SHARED ACROSS MULTIPLE SERVICES RATHER THAN IMPOSED IN BASIC RESIDENTIAL RATES?

A. The Department should dismiss this claim, for it is based on a mistaken economic perspective. In particular, it violates fundamental tenets of efficient costing and pricing. For instance, it is well established in both economic theory and regulatory parlance that costs should be determined consistent with principles of cost causation to the maximum – not minimal – extent possible. In the case of telecommunications, this requires examining the bona fide demands and bona fide supply characteristics of services provided. In the specifics situation under consideration, consumers demand, and suppliers supply, access to the network, local usage, and long-distance usage. The fact that loops are used in the provision of a variety of telecommunications services does not alter the fact that these loops provide customer access to the network (*i.e.*, dial-tone) – the *sine qua non* of wireline telecommunication.

In this regard, as acknowledged by Dr. Gabel, "The defining characteristic of a service is that it is or would be demanded in its own right."[4] Dial tone access

[4] See footnote 17, p. 9.

is certainly "demanded in its own right" and the costs of providing that access, including the costs of the local loop, can readily be identified with the provision of such access.[5] Thus, the incremental cost associated with the provision of network access, including the costs of loops that enable that access, should be recovered in the monthly fixed charge.

Q. BUT WHAT SHOULD BE MADE OF DR. GABEL'S ARGUMENT (AT P.12) THAT THE TOTAL SERVICE INCREMENTAL COST (TSLRIC) OF DIAL-TONE IS EITHER ZERO OR VERY CLOSE TO ZERO?

A. Dr. Gabel's argument is incorrect. To see this, consider the foundation of Dr. Gabel's argument. Although couched in a specific anecdote involving the fictitious cities of Faraway and Evenfarther, Dr. Gabel's argument is easily depicted abstractly. Consider a situation where it is possible to supply three services, for the moment call them X, Y and Z. The incremental cost of X might be represented as C(X,Y,Z) – C(0,Y,Z). Similarly, the cost of Y and Z can be represented as C(X,Y,Z) – C(X,0,Z) and C(X,Y,Z) – C(X,Y,0), respectively. If one assumes absolutely no knowledge that this is a network industry with customer access to the network as the *sine qua non* service, then the incremental cost of – in the end - supplying only the last service may be seen as quite low. This appears to be where Dr. Gabel's analysis stops.

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[5] This conclusion is widely recognized. For example, in a symposium issue on "Telecommunications in Transition" in the Yale Journal on Regulation it was noted that "subscriber access is a service in its own right. …A customer who demands subscriber access with no intention of ever placing a call…causes the same loop costs as other customers that use the network frequently." See Steve G. Parsons, "Seven Years After Kahn and Shew: Lingering Myths on Costs and Pricing Telephone Service," Yale Journal on Regulation, Winter 1994, p. 153. See also, Alfred E. Kahn and William B. Shew "Current Issues in Telecommunications Regulation: Pricing," Yale Journal on Regulation, Vol. 4, 1987.

This is, however, not any industry; it is telecommunications, and one service – customer access to the network – is primary. We know that this is a network industry with a bona fide demand for access to the network and that there are identifiable and incremental costs – including the cost of loops – that are caused by the provision of that service. That is, the incremental cost of access in a network industry should be calculated first.[6] In this case, and unlike the near "zero" conclusion of Dr. Gabel, the incremental cost of access are properly identified on a cost-causative basis and are not shared among the other services.

Q. DOES THE DEPARTMENT'S METHODOLOGY FOR ESTABLISHING A PRICE FLOOR FOR RETAIL LOCAL EXCHANGE SERVICE FURTHER SUPPORT THE PROPOSITION THAT THE ENTIRE COST OF THE LOOP SHOULD BE REFLECTED IN BASIC RETAIL RATES?

A. Yes. My understanding is that the Department will calculate the retail price floor for local exchange services based upon "the UNE rates for the elements that make up the retail service, plus a mark-up for Verizon's retailing costs as reflected in the wholesale discount." Phase I Order, at 91. Clearly, new entrants into the local exchange arena do not have the option of purchasing part of the loop. Rather they purchase the entire loop, because their customers (as all customers) have a demand for access to the network and this demand causes certain network costs including the cost of the loop to be incurred. Any notion that loop costs would be shared (allocated) across multiple services for purposes of establishing retail rates but would be borne *in toto* in UNE loop rates by new competitors into the local exchange arena creates a significant incongruity in policymaking and

[6] Thus, the incremental cost of putting access in place is C(Access,0,0) – C(0,0,0).

would provide a significant impediment to the emergence of residential local exchange competition in Massachusetts.

Q. WHAT ABOUT THE THIRD POINT RAISED BY DR. GABEL – SPECIFICALLY, THAT RAMSEY PRINCIPLES NO LONGER SUPPORT A HIGHER MARK-UP ON LOCAL EXCHANGE THAN OTHER TELECOMMUNICATIONS SERVICES?

A. Here too, the Department cannot reliably base its forward-going policy toward Verizon on Dr. Gabel's analysis. To see this, first remember the fundamental point regarding the application of Ramsey pricing principles: if it is necessary to mark up prices above cost in order that a regulated natural monopoly remain financially viable, the efficient set of mark-ups should vary inversely with the price elasticity of demand for the firm's various service offerings. While suggesting that one may quibble with details, Dr. Gabel acknowledges the DTE's identification of Ramsey-based prices as a basis upon which to determine efficient pricing.

I too have quibbles with the idea that the Department would introduce a blanket application of Ramsey principles to the pricing of telecommunications services.[7] Nonetheless, I disagree with Dr. Gabel's fundamental challenge to the implication of applying Ramsey-based inverse elasticity guideposts to pricing for residential exchange service. Specifically, he argues that "it is no longer clear that the dial tone line charge is the non-elastic price element", that "the measure of elasticity could have changed significantly", and that "it is not clear that the

[7] Among other concerns, I pointed out that Ramsey pricing is not intended to apply to wholesale services, such as access. See my September 4, 2002, testimony in Phase II, at page 26. For a more detailed discussion, see my pre-filed testimony filed on August 24, 2001, in Phase I of this case, at pages 36-50.

dial-tone line service is the inelastic service." As a result of such assessments, he concludes that the mark-up over marginal cost for local exchange access should "not be too different" from the mark-up applied to other telecommunications services.

This argument and conclusion is, however, fundamentally flawed. First, the testimony ignores a large and robust econometric literature that indicates that the demand elasticity for residential customer access is very low , indeed, very near zero.[8] Rather Dr. Gabel offers unsubstantiated opinions through phrases such as "it is no longer clear that" and that the elasticity "could have changed." But very few econometric results are as robust has the one which has, over the years, consistently found that the demand for residential customer access is highly inelastic both in an absolute sense and relative to other telecommunications services. Thus, if the Department wishes to apply the logic of Ramsey principles, it can confidently be assured that the elasticity of demand for customer access to the public switched network is very low – near zero -- and that the efficiency losses associated with price elevations in residential basic local exchange service are likely to be minimal.

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[8] Kaserman, Mayo and Flynn (Journal of Regulatory Economics, September , 1990, pp. 231-250.) find a price elasticity of the demand for access of -.068; Cain and MacDonald (Journal of Regulatory Economics, December 1991, pp. 293-308) find that "when measured service options are available, price changes for flat rate service have essentially no effect on access demand…These estimates suggest that universal service can be maintained and expanded, even while more of the NTS financial burden is shifted to local charges." (p. 303); Garbacz and Thompson (Journal of Regulatory Economics, January 1997, pp. 67-78) provide a series of estimates, including state-specific estimates of the price elasticity of demand. For Massachusetts, they find that the price elasticity is either -.002 or -.02. For six aggregate models they find that elasticities vary from -.001 to -.026. (See their Table 5). And Garbacz and Thompson (Journal of Regulatory Economics 2001) in a review of a telecommunications study by Crandall and Waverman (CW) note that CW "end up with a price elasticity for local telephones no different than zero (quite similar to our results)." They conclude, "The fact that studies using significantly different data sources …rarely find economically meaningful price elasticities strongly indicates that such an effect is very unlikely." (p.95)

Q. YOU SUGGEST THAT THE EFFICIENCY LOSSES ASSOCIATED WITH THE PRICE INCREASES FOR RESIDENTIAL DIAL TONE SERVICE, SHOULD THEY OCCUR, ARE LIKELY TO BE MINIMAL. ARE THER WAYS TO OFFEST EVEN THOSE MINIMAL LOSSES?

A. Yes. Virtually all the empirical studies that examine the demand for residential access and which account for variations in income levels find a significant effect of household income on subscription rates. If there is a group of residents that is likely to have higher drop off rates from a local rate increase it is those households whose incomes are particularly low. It is, however, possible to substantially, if not entirely, mitigate the effect of any increase in local rates through a complementary policy of targeting assistance to those households that are most likely to drop off the network when faced with a price increase. That is, targeted assistance programs such as Lifeline and Link-up have the prospect of virtually eliminating any harm to universal service that might stem from an increase in local residential rates.

Q. FINALLY, DO YOU AGREE WITH THE PHRASE QUOTED BY DR. GABEL THAT "RAISING RATES IS NOT AN APPROPRIATE METHOD FOR INCREASING COMPETITION" ?

A. Raising rates certainly is not in all circumstances a way for "increasing competition." For example, the deregulation of local cable rates in 1984 and the subsequent increases in rates did not lead to any meaningful increase in competition. The reason, at least in part, however, for this failure of rate increases to lead to increased competitiveness were the result of the failure by policymakers at the time to establish a broader set of competition-enabling policies. In that

case, while rates were deregulated, monopoly franchise authority continued. As such, it should certainly not be a surprise that rates rose and competition did not. Similarly, I must emphasize that absent the full development and implementation of a set of competition-enabling policies in Massachusetts, rate increases – or more accurately in the case of Verizon's proposal – potential rate increases – will not achieve the Department's goal of promoting competition. If, however, the Department does seek to enable competition in all of its dimensions, then it must be recognized that retaining retail residential rates that have been set based on residual pricing principles has the prospect itself of restraining the emergence of competition. Thus, as part of a larger strategy of enabling competition, allowing for the prospect of moderate rate increases may very well promote the goal of increasing competition in residential telecommunications in Massachusetts. The dynamic of competition will then drive costs to their lowest possible levels and over the long term ensure lower rates than would be produced from a regime of monopoly regulation or anemiccompetition.

Q. DOES THIS CONCLUDE YOR TESTIMONY?

A. Yes.