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 (Part A)

REPLY BRIEF OF WORLDCOM, INC.

*****REDACTED VERSION*****

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I. INTRODUCTION

Two things become clear on reading the Initial Brief of Verizon Massachusetts ("Verizon's Brief" or "Verizon Br."). First, it confirms beyond doubt that Verizon does not "interpret" the FCC's TELRIC rules with its self-styled "economically correct" approach to developing its cost studies, it violates the FCC's rules outright. Indeed, the very foundation of Verizon's approach – "not having to start from scratch" in developing its network construct (Verizon Br. at 19) – is directly at odds with the FCC's rules, as recently reaffirmed by its explicit instruction that "TELRIC pricing" *requires* the "assumption of a forward-looking network built from scratch". *Rhode Island §271 Order* at ¶34.

Second, Verizon's Brief reveals Verizon's true motivation for pressing its contorted view of TELRIC. Verizon seeks to position itself as engaging in the public service of promoting "efficient" competition, which we are told involves the "investment in alternative facilities." Verizon Br. at 2. Verizon suggests that "[i]n order to encourage the development of

efficient competition, the Department must provide accurate signals about the real economic costs of UNE-based competition." Verizon Br. at 1. But shorn of Verizon's interpretive gloss, the clear import of its message is that the Department should actively discourage UNE-based competition by adopting rates too high to support entry, thereby forcing potential competitors to invest in alternate facilities – investments that Verizon well knows cannot be made any time soon, even by the largest of Verizon's potential competitors. At core, this is a barely disguised call for the Department to punish – and ultimately exclude from the market – competitors who want to lease Verizon's facilities to serve their own customers. Were the Department to accede to Verizon's request, the practical effect would be the re-monopolization of telephone service in Massachusetts, as Verizon would remain the only major carrier capable of mass market offerings of bundled local and long distance products.

Although there is little that can be done to alter Verizon's monopolist motivation, there is something that can be done with respect to its fundamentally flawed approach to developing costs. If the Department recognizes, as it must, that Verizon has engaged in the wholesale rewrite of the FCC's pricing rules, then the Department must also (1) recognize that inputs and assumptions consistent with Verizon approach are necessarily *inconsistent* with the FCC's TELRIC pricing methodology, and (2) overhaul Verizon's cost studies by changing those inputs and assumptions to have them conform to the FCC's rules as written. It is therefore incumbent on the Department to correct the errors in Verizon's models and have the models re-run to produce annual costs, and ultimately rates, that are consistent with the FCC's TELRIC methodology and that allow competitors to offer statewide UNE-based local service to those who are now Verizon's captive customers.

II. VERIZON'S SELF-PROCLAIMED "ECONOMICALLY CORRECT" APPROACH VIOLATES THE FCC'S RULES AND IS INCONSISTENT WITH TELRIC

Verizon's cost studies and inputs are not consistent with fundamental TELRIC principles. It would be unlawful for the Department to rely on prices generated by Verizon's flawed studies. The FCC's TELRIC rules, which are codified at 47 C.F.R. § 51.505, require that a network be modeled from scratch, rather than modeled as short run, piece-meal, additions to an existing network.[1] The rules also contain a critical efficiency assumption, mandating that TELRIC "should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the ILECs' wire centers." 47 C.F.R. § 51.505(b)(1). The rules go on to specify that the ILECs' existing network, as reflected in "the costs that the incumbent LEC incurred in the past" shall not be considered in a calculation of the forward-looking economic cost of an element." *Id. §* 51.505(d)(1).

In the *Local Competition Order,* the FCC explained that its adoption of the efficiency assumption, and its rejection of the existing network as a basis for costing, meant that it was *rejecting* the standard proposed by Verizon and its fellow incumbents, who had proposed that a TELRIC model should "measure the forward-looking economic costs of existing networks,

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[1] The FCC clearly reaffirmed the 'built from scratch' nature of TELRIC pricing in its *Rhode Island 271 Order,* noting that "[e]ven if some growth additions may be used in a forward-looking network***, the absence of any new switches is inconsistent with the assumption in TELRIC pricing of a forward-looking network built from scratch***, given the location of the existing wire centers." *Rhode Island 271 Order* at ¶34 (emphasis added). The significant gap between what TELRIC requires and what Verizon has modeled is illustrated in Verizon's Brief. Verizon actually criticizes the CLECs for accurately modeling a TELRIC network, that is, for re-populating its models with inputs and assumptions consistent with the assertion that "a long run study requires the incumbent to

not the costs of fictitious networks." *Local Competition Order* at ¶ 684 (quoting USTA Reply Brief at 19). *Compare* Verizon Br. at 24 (touting its cost model as "based on a forward-looking evolution of the real network"). As the FCC explained, Verizon's was essentially an embedded cost proposal, and so was inconsistent with its rules. *Local Competition Order* at ¶ 684. The FCC adopted its ground-up costing methodology after considering the ILECs' proposed alternatives because it believed that TELRIC best captured the economic costs of the network elements, and that alternatives based in any way on the ILEC's actual facilities would likely yield less accurate and overstated cost results that would frustrate competitive entry.[2]

In most respects, Verizon's studies do exactly what the FCC rejected when it adopted TELRIC over Verizon's objections: they take as a given Verizon's existing network in all of its particulars, and then model the changes and additions Verizon asserts it will make to that network over the next three years. In other respects, the models are not even forward-looking in this minimal sense. For example, loop lengths and copper feeder size are based on those that Verizon had in place in the mid-1990's, and the expenses modeled are based on Verizon's network expenses in 1999.

Because the models are grounded in Verizon's existing network they start with every particular of Verizon's network in place. And because they look forward only three years (a period in which Verizon will be powerfully constrained in what equipment it purchases by

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assume away its existing network and pretend it is building from scratch." Verizon Br. at 15. As noted, 'building from scratch' is precisely what TELRIC requires.

[2] Courts have similarly rejected Verizon's view of TELRIC. "Past practice alone, without some more tangible measurement relating it to an efficient, forward-looking system cannot be the basis for setting forward-looking rates as required by the Act." *AT&T Communications of New Jersey, Inc. v. Bell Atlantic-New Jersey, Inc.*, Civ. No. 97-5762 (KSH), Opinion dated June 2, 2000, slip op. at 34. The "current state of Bell's network is

equipment it has already deployed) the network design they end with also adopts many of the particulars of Verizon's existing network. The models and inputs are not intended to model an efficient network based on Verizon's existing wire centers, but Verizon's "actual expected costs," or the costs of how Verizon's network is "actually deployed." As such, Verizon's models include precisely what TELRIC excludes: embedded costs, short-run costs, and uneconomic costs. They do not measure costs "based on the use of the most efficient telecommunications technology currently available," but instead purportedly measure costs of elements most efficiently deployed *given* Verizon's current network.

The feature of Verizon's models that most obviously departs from TELRIC is that they are not long-run models. TELRIC regulations require that cost studies be based on "forward-looking costs over the long run." 47 C.F.R. § 51.505(b). In the *Local Competition Order*, the FCC defined "long run" to be "a period long enough so that all of a firm's costs become variable or avoidable," and cited to William Baumol's definition in *Economic Theory and Operations Analysis*, to the effect that the long run "is a period so long that all of a firm's present contracts will have run out, its present plant and equipment will have been worn out or rendered obsolete and will therefore need replacement." *Local Competition Order* at ¶ 677 & n. 1682 (quoting Baumol). As Baumol went on to say in the quoted text, "the long run is a period of sufficient duration for the company to become completely free in its decisions from its present policies, possessions and commitments." Baumol contrasts the long run with a shorter run

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irrelevant for purposes of a long-run cost analysis." *Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F. Supp. 2d. 218, 238 (D. Del. 2000).

period in which a firm "will find its options circumscribed to some extent by previous commitments." *Economic Theory and Operations Analysis* at 290.

Verizon's studies do not look at the long-term. Instead, they look at the mix of facilities Verizon expects to purchase over the next three years – a period of time in which its choices are constrained by existing network facilities. Verizon constructs an entire hypothetical network based on the mix of equipment it will purchase for its real network over that three year period. *See* Verizon Br. at 9 ("Verizon MA bases its recurring cost estimates not on the network configuration that *will* be in place at the end of the foreseeable planning period [i.e., three years], but the technology mix that *would* be in place if its forward-looking engineering guidelines for the deployment of new facilities had been fully implemented networkwide.").[3]

Thus, while Verizon is absolutely correct that a TELRIC model must be built "without any regard to the existing loop plant in Verizon MA's network" (Verizon Br. at 9), it is absolutely wrong when it asserts this is what it has done here. To the contrary, to pick just one example of many, the kind of digital loop carrier technology – IDLC or UDLC – Verizon will deploy in its network over the next three years is entirely dependent upon the mix of switching equipment it has *currently* in place, since specific kinds of digital loop carrier work only with specific kinds of switches. A very different mix of loop carrier would be used if Verizon's cost models started from scratch and modeled switches efficiently configured to make use of the most

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[3] Verizon's claims to the contrary notwithstanding, its models are not the least bit "tethered to reality" and if built would not be "capable of providing all UNEs and services." Verizon Br. at 3. There is no reason to believe that the particular mix of items Verizon intends to purchase over the next three years to augment its existing network, if multiplied to a scale designed to serve total Massachusetts demand, considered discretely and without considering the embedded network the facilities will augment, would constitute a coherent network at all. Unlike a

up-to-date loop carrier technology. And constraints upon digital loop carrier technology in turn affect the loop plant Verizon models.

Because purchases made over the next three years are constrained by the specific equipment currently in Verizon's network, in making purchases over that time frame, Verizon will "find its options circumscribed to some extent by previous commitments." Verizon's models do not consider a period in which "its present plant and equipment will have been worn out or rendered obsolete." It is, in sum, not a long-run model. The result of this methodological choice is that Verizon has not modeled the most efficient technology available. The fundamental purpose of TELRIC – to value assets by modeling the most efficient technology available – is fatally compromised.

Verizon nevertheless argues that it has really modeled the long-run, since "all costs are avoidable" in the sense that Verizon could have chosen to model a world in which it replaced all its switches, if that had been the efficient thing for Verizon to do over the next three years, given where it is starting from today. As it says in its brief, "so long as continued use of an existing facility is efficient, the cost of using the facility . . . are forward looking, not embedded." Verizon Br. at 12.

This argument is make-weight. Efficient changes to the *existing* network have nothing at all to do with TELRIC. Such changes are only efficient *if the existing network is taken as a given,* and, of course, the whole point of TELRIC as defined by the FCC is that States may *not* take the existing network as a given, apart from the location of the wire centers. To

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TELRIC study, or, for that matter, an embedded cost study, Verizon's study does not actually model anything rational or coherent.

consider whether changes to an *existing* network would be efficient is to be constrained by the existing network. The very point of a long-run model is to eliminate such "real world constraints." Verizon Br. at 12. In a long-run study, all costs are variable, and there is no embedded network to constrain future decision-making. Verizon insists it is wrong "to ignore completely existing facilities" (Verizon Br. at 14), but the FCC expressly required just that. If the existence of sunk existing investment influences the outcome of the analysis, the study is not a long-run study. *Local Competition Order* at ¶ 677. TELRIC's "fundamental premise" is not as Verizon asserts "that if a facility or network characteristic is the same as in the existing network, it necessarily represents an embedded approach." Verizon Br. at 12. Its premise is that if a facility or network characteristic is chosen only because it is most compatible with Verizon's embedded network, that is an embedded approach. *See Local Competition Order* at ¶ 684 (rejecting "forward-looking cost of existing networks" as standard). Verizon's claim that its study is consistent with TELRIC's long-run requirement is just word play.

The inconsistency of Verizon's models with TELRIC requirements is made clear in Verizon's arguments to the Supreme Court. Verizon has described the fundamentals of TELRIC in ways that make plain its violations of FCC rules. In its recent brief to the Supreme Court,[4] Verizon described in vivid (if pejorative) fashion the critical components of TELRIC, and did so in a way that starkly highlights the extent to which its models depart from TELRIC. Before the Department, Verizon defends a model that operates by estimating Verizon's costs of efficiently replacing and expanding its existing facilities over time, and asserts that proper

[4] Brief of Respondents BellSouth, SBC, Verizon and USTA, in *WorldCom, Inc. v. Verizon Communications, Inc.*, Nos. 00-555 et al. (filed June 8, 2001) ("ILEC Supreme Court Br.").

costing does not require Verizon "to ignore completely its existing facilities and instantaneously replace them all with today's least-cost technologies." Verizon Br. at 14; s*ee also id.* (study should model "incremental changes and investments, taking appropriate account of its existing facilities"). But at the Supreme Court, Verizon acknowledged that the FCC "explicitly rejected any measure tied to the incumbent's actual network and present or future cost structure" (ILEC Supreme Court Br. at 3), and that "TELRIC necessarily ignores the reality that the incumbent has an existing network whose future capital costs and operating expenses are in large part dictated by the network's current configuration" (*id.* at 11).

Here Verizon asserts that the "starting point of the investment analysis is an existing network rather than a blank slate." Verizon Br. at 14. But at the Supreme Court, Verizon acknowledged that the FCC's methodology "asked what particular elements would cost if the entire telephone network were rebuilt from scratch, as though writing on a blank slate." ILEC Supreme Court Br. at 5.

In sum, based even on Verizon's own understanding of TELRIC as set forth before the Supreme Court, it is clear that Verizon's models are not TELRIC models. They do not model the most efficient technology currently available, and do not allow the Department to value Verizon's network based on TELRIC principles.

Because Verizon's models and inputs so obviously violate TELRIC, it would be unlawful for the Department to set UNE prices based upon them. State Commissions are required to follow the FCC's rules in arbitrating disputes over proposed interconnection agreements. 47 C.F.R. § 51.505(e)(1). *See also* 47 U.S.C. § 252(e)(5). But lest the Department

think that there is merit to any of Verizon's criticisms of TELRIC, in what follows we demonstrate that Verizon's criticisms of the FCC's rules are wrong.

At the heart of Verizon's assault on TELRIC is its view that the FCC erred in calling for a long-run study assuming the deployment of the most efficient technology. In Verizon's view, such studies avoid any consideration of existing facilities, and those facilities represent sunk costs that constrain the choices of any "real world" carrier. In Verizon's view, it would be foolish to make the long-run assumption that TELRIC requires, because in the real world Verizon cannot wish away its existing network.

But these criticisms are based on an obvious misunderstanding of TELRIC. TELRIC is not based on the insane assumption "that you have to pull out" the network every three years, or that there is in the real world a large carrier using only the most up-to-date equipment. It is, instead, a hypothetical construct designed to value Verizon's real world network by modeling current developments in technology that cause the revaluation of real-world networks in competitive markets. The purpose of a long-run study is to construct a *hypothetical* carrier using the most up-to-date technology because modeling the cost of that up-to-date technology is the way to measure the value of the technology that a real world efficient carrier uses to serve the same demand. TELRIC is not designed to predict when companies will "incorporate new technology" into their network (Verizon Br. at 20), it is designed to value the equipment companies already have in place.

The assumption of "instantaneous replacement" that Verizon criticizes is merely a convenient shorthand for what the TELRIC standard actually models: the revaluation of the existing assets in response to advances in technology. TELRIC is based on the understanding

that the true economic value of an ILEC's equipment is not what it paid for it, but what it is worth in light of new technology available today.

Ignoring all of this, Verizon disputes the universally recognized fact that economic depreciation fully accounts for the value of old equipment as its value is lowered because of the presence of newer, more efficient equipment.[5] Verizon is wrong when it asserts that modeling new equipment therefore means "that the remaining economic value of the old plant can be assumed away." Verizon Br. at 18-19 (quoting Dr. Taylor). No economic value at all is assumed away. While it may be that efficient firms "add and replace network plant on an incremental basis" (Verizon Brief at 20), the value of its old, unreplaced plant declines as new technology enters the market, whether or not the carrier deploys that new technology "instantaneously," or indeed, ever.

Similarly, Verizon's claim that TELRIC requires radically shortened depreciation lives also is based on an obvious confusion about the hypothetical nature of TELRIC. The FCC did not believe carriers entirely tore up their network every three years. Instead, the reassessment of asset values implied by the TELRIC model has no effect on asset lives, which are determined by the rate of technological change, not by the frequency with which technological change is measured.

In the FCC's view, TELRIC was the preferable modeling method because it best identified the value of plant in effectively competitive markets; because the TELRIC standard minimized reliance on information that was solely within the ILEC's control; because the FCC

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[5] *See* 1 Alfred Kahn, *Economics of Regulation* at 121 ("If the economic value were correctly stated on the books the addition of gross return on that net book value to the variable costs of operating the old plant would produce a cost of service exactly equal to that of a new plant.").

expressed doubts about claims that the ILEC's embedded costs were efficiently incurred; because of the difficulties inherent in allocating equipment costs based on ILEC books and records that do not allocate costs in this manner; and because of concerns that the risks of overstating costs as a result of reliance on ILEC books and records could lead to serious competitive harms. Verizon's criticisms of TELRIC fail to address any of these policy issues. At the end of the day, of course, it does not really matter if Verizon wrongly believes that the FCC's modeling assumptions are "extremely suspect." Verizon Br. at 29. The Department must follow those assumptions here whether Verizon believes they are suspect or not.

The Department should also recognize that use of unbundled network elements by new entrants is one of the principal entry methods made available by the Act. The Act would not have provided for unbundling if entry was to be limited to facilities based competition, as Verizon would have it. Unbundled network elements were included in the Act because Congress and the FCC understood that wide-scale residential competition would only be feasible through this method. The setting of excessive UNE rates will not induce facilities based competition, it will serve to prevent the only form of residential competition that is currently feasible.

Finally, the Department should not be swayed by Verizon's argument that UNE rates must reflect a high cost of capital to capture the 'regulatory risks created by TELRIC.' Verizon Br. at 37. This argument is addressed in detail in the cost of capital section of this brief, below. For now, the Department should bear in mind that one of the main purposes of TELRIC pricing is to enable new entrants to share in the incumbents' scale and scope economies. One of those economies is the reduced cost of capital enjoyed by Verizon as a result of its near-monopoly scale and scope in Massachusetts local markets. As the FCC has explained:

> The incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly. As we pointed out in our NPRM, the local competition provisions of the Act require that these economies be shared with entrants. We believe that they should be shared in a way that permits the incumbent LECs to maintain operating efficiency to further fair competition, and to enable the entrants to share the economic benefits of that efficiency in the form of cost-based prices.

Local Competition Order ¶ 11 (footnote omitted). Verizon's approach to TELRIC deprives new entrants of the economies of scale and scope that Verizon enjoys due to its ubiquitous statewide network. As a result, Verizon's models produce rates that will perpetuate its monopoly rather than encourage competitive entry as envisioned by the Act.

III. THE INPUTS AND ASSUMPTIONS TO THE VERIZON COST MODELS MUST BE CHANGED TO OBTAIN TELRIC-COMPLIANT RECURRING COSTS FOR UNBUNDLED NETWORK ELEMENTS

In its initial brief, WorldCom established that Verizon's recurring cost models have been developed with the specific goal of inflating its costs, thereby inflating the rates Verizon hopes to charge CLECs for UNEs. Verizon's Brief, while giving lip service to TELRIC, only confirms that Verizon's inputs and assumptions for its recurring cost models violate the FCC's TELRIC rules and must be changed.

A. Verizon Has Failed to Prove that its Depreciation Lives and Net Salvage Values are More Appropriate than the FCC Lives in Place Today

With respect to depreciation lives and net salvage values, Verizon's arguments come down to this: (1) because of the passage of time, the values adopted by the Department in 1996 must be inappropriate today because of "the development of local competition and the explosion in technological development facilitated by the 1996 Act" (Verizon Br. at 26), and; (2) Verizon's 1999 financial book lives are appropriate because they conform with GAAP. Yet because Verizon presents virtually no ***evidence*** to support its ***arguments***, both of Verizon's arguments fail. WorldCom submits that the depreciation lives and net salvage values adopted by the Department in the *Consolidated Arbitrations* docket should be kept in place, as advocated by AT&T/WorldCom witness Richard B. Lee.

To bolster its arguments, Verizon makes a series of broad, sweeping statements but fails to back up those statements with any record support. For instance, Verizon: (1) claims it has "extensively detailed" the "significant changes that have taken place in technology,

competition, and the regulatory environment" (Verizon Br. at 27); (2) evokes "the ever-increasing pace of technological change in the telecommunications market, as well as growing competition from all sources" (Verizon Br. at 27), and; (3) alludes to "current information and trends" (Verizon Br. at 28), all with the goal of undercutting the continued validity of the Department's current depreciation lives and promoting its shorter financial book lives. The problem, however, is that Verizon confuses hyperbole with evidence: *None* of the above-quoted sentences is followed by a citation to the record in this case (or anything else, for that matter). They are just bald, conclusory statements unsupported by any facts whatsoever, let alone a Massachusetts-specific analysis of any individual category of assets showing that the depreciation lives selected by the FCC are no longer appropriate.

On the vast majority of occasions where Verizon does offer "support," it consists merely of references to the self-serving testimony of its own witnesses. Verizon also places great reliance on the fact that the FCC, in other jurisdictions and for legacy GTE companies, has prescribed depreciation lives shorter than those currently in effect in Massachusetts. While there may be perfectly valid state-specific reasons why the FCC prescribed the depreciation lives it did in those jurisdictions, Verizon cannot bootstrap on those decisions without providing state-specific reasons why *this* jurisdiction also warrants shorter depreciation lives.[6]

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[6] Moreover, in an episode of perhaps unintended candor, Verizon's depreciation witness Allen Sovereign responded to a Bench question by admitting that "we're asking for lives that are short[er] than what we feel the FCC would prescribe, for whatever reason." Tr. 273 (Vol. 2, Jan.8, 2002). Sovereign further admitted that the FCC "makes a judgment about how much you incorporate the technological change and competition in their estimates, and we don't feel like they've adequately addressed some of the competition inroads and some of the technological change that definitely is occurring." Tr. 260, (Vol. 1, Jan. 7, 2002). Thus, Verizon's purported reliance on the FCC's actions elsewhere does not translate into a belief on the part of Verizon that the FCC would reach similar conclusions in Massachusetts.

Similarly, the mere fact that the FCC approved the use of GAAP lives by SBC (in Kansas and Oklahoma) and Verizon itself (in Pennsylvania) in recent §271 applications does not help Verizon here. While "a state *may* find" that a depreciation schedule based on GAAP is "appropriate" (Verizon Br. at 34 (citing *Kansas-Oklahoma §271 Order* at ¶76 (emphasis added))), the incumbent LEC must provide the state with sufficient reason to do so. Here, Verizon touts the purportedly unbiased nature of GAAP lives (Verizon Br. at 34) but fails to adequately address the fact that developing GAAP lives for financial reporting purposes is an inherently different exercise than developing depreciation lives for regulatory purposes. While there may have been state-specific factors in those other jurisdictions that would have permitted state commissions to adopt GAAP lives despite those inherent differences, Verizon presents no state-specific factors that provide the Department with a reason to do so here.

Verizon also makes vague assertions about the onset of new technologies as a rationale for migrating to the shorter depreciation lives on its financial books. But those assertions are unsupported, and in fact are contradicted by other statements Verizon makes. For instance, Verizon claims that packet switching will "render more and more of [Verizon's] digital switching capacity obsolete." Verizon Br. at 29. Yet Verizon admits it has no plans to replace any of its digital switches in Massachusetts. Verizon Br. at 145. In addition, Verizon does not even try to offer proof that packet switching will *replace*, rather than *augment* digital switches. If, for example, packet switching technology is used to alleviate the public switched telephone network of the data traffic it now carries through dial-up Internet use, the effect may be to extend the lives of circuit switches, not shorten them. Verizon's imprecise references to this emerging

technology, without more, cannot serve as a basis for concluding that switch lives in Massachusetts have shortened or will shorten in the foreseeable future.[7]

Another example of a vague and empty threat regarding "new technology" occurs at page 29 of Verizon's Brief. When it is convenient to argue in favor of shorter lives for copper cable, Verizon states that copper "is no longer the technology of choice and will be increasingly supplanted as carriers pursue fiber-to-the-home." Conversely, when it is convenient for Verizon to argue in favor of a high percentage of analog switch ports "***for the foreseeable and likely even long-term future***," Verizon states that "a significant percentage of Verizon MA's customers in the forward-looking network ***are appropriately served on copper loops*** (as well as UDLC)." Verizon Br. at 152 (emphasis added). This is an implicit recognition on Verizon's part that copper ***is*** "the technology of choice" in those instances when it has been determined to be a more economical alternative to fiber. By recognizing the long-term benefits of copper, *i.e.*, by putting it in its study, Verizon cannot also argue in favor of its demise for purposes of shortening its depreciation life.

Verizon's assertion that the FCC-prescribed lives fail to reflect the supposed recent increase in the threat of facilities-based entry, bypass and technological change is flatly untrue: these factors are explicitly considered in every three-way depreciation proceeding, and

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[7] Verizon also claims that "competitive carriers, including Verizon MA, have been developing substitute, new components of the switch with increasing frequency, reducing the overall average depreciable life of the digital switch." Verizon Br. at 28-29 (citing Exh. VZ 8 (Sovereign Surreb.) at 5-6). Once again, however, Verizon fails to support these assertions with facts. The testimony to which Verizon's Brief cites merely makes the observation (which is itself unsupported) that Verizon's switch vendors are responding to competition by developing "new and different switch platform/components" and that Verizon's switches must "keep up" with the competition. But Verizon offers no proof, let alone Massachusetts-specific proof, that it has accelerated its purchasing of switch components, or that it has retired component parts sooner than it had anticipated, or that the "frequency" with which

Verizon has offered no evidence that competitive trends have shortened its asset lives since the last such prescription proceeding. Moreover, if the 1996 Act has had any effect on economic lives, the effect has been to create *alternatives* to facilities-based bypass – *i.e.*, the purchase of UNEs or the resale of wholesale services – that tend to *lengthen* the economic lives of ILEC assets. Likewise, the advent of DSL exemplifies the ability of innovation to lengthen the lives of existing assets. In sum, the Act and technological innovation have extended the lives of existing assets, not shortened them.

The bottom line is that the FCC depreciation lives adopted by the Department in the *Consolidated Arbitrations* docket were appropriate at the time and remain appropriate today. For all its bluster, Verizon did not prove otherwise, nor did it prove that its financial book lives were a more appropriate measure of economic depreciation lives in the context of a TELRIC study. Verizon's proposed depreciation lives should therefore be rejected, and the Department should maintain the FCC-determined Massachusetts-specific depreciation lives currently in place.

B. Verizon's Cost of Capital is Too High

In its brief, Verizon attempts to defend its shockingly high cost of capital proposal of almost 13% and levels a number of criticisms on the methodology and results of AT&T/WorldCom witness John Hirshleifer. As discussed below, however, Verizon's arguments do not withstand scrutiny, and its proposed cost of capital should be rejected in favor of the 9.54% cost of capital advocated by Mr. Hirshleifer.

Verizon's vendors are responding to competition is any greater today than it was in years past. In short, the

1. Verizon's Claim That a High Level of Risk Must Be Assumed in TELRIC Proceedings is Wrong

In its initial brief, WorldCom dispelled the myth, perpetuated by Verizon witness Vander Weide in pre-filed testimony and at the hearing, that the Department is required to determine Verizon's cost of capital as though the wholesale market for UNEs (which currently has Verizon as its sole supplier) were competitive. WorldCom Br. at 10-13; *see also Local Competition Order* at ¶702; *Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F.Supp.2d 218, 240 (D. Del. 2000). In its initial brief, Verizon continues to press this argument. Although disingenuous, it is not terribly surprising. Verizon has derived much mileage from the high cost of capital in Massachusetts; because the cost of capital affects *all* UNE rates, *all* UNE rates in Massachusetts have been artificially inflated for more than five years. Given Verizon's clear desire to drive UNE rates up again, it continues to place great weight on this fatally flawed argument. WorldCom will not repeat here all the reasons why it is wrong to inflate the cost of capital by assuming an unrealistically high level of risk. There are, however, a few points raised in Verizon's Brief that warrant a response.

First, contrary to Verizon's assertions, there is no legal inconsistency between the requirements of Paragraph 702 (which requires an inquiry into the level of competition that Verizon actually faces) and the other elements of the TELRIC standard set forth in the *Local Competition Order*. It is commonplace, if not mandatory, for rate regulators to base rates on the *costs* that would prevail in an effectively competitive (or contestable) market, while limiting

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Department should give no weight to Verizon's unsupported assertions.

returns to the levels needed to compensate the regulated firm for the risk it actually faces.[8] The TELRIC-like cost standard adopted by the Interstate Commerce Commission in 1985 for regulating rates paid by captive rail shippers, the stand-alone cost ("SAC") test,[9] provides clear precedent in this regard: as implemented by the ICC, the SAC test combines the forward-looking cost assumptions of perfect contestability with a cost of capital based on the existing risks of the incumbent carriers.[10]

Moreover, to base UNE costs and prices on the counterfactual assumption that Verizon faces intense competition in the business of supplying UNEs would violate Section 252(d)(1)(A)(ii) of the 1996 Act, which requires that UNE prices be nondiscriminatory as well as cost-based. Nondiscrimination dictates that the prices paid by CLECs to Verizon are the same as the implicit prices (*i.e.*, economic costs) that Verizon incurs in supplying the same elements to itself for use in providing Verizon-branded retail service. The capital costs that Verizon incurs

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[8] *See Bluefield Water Works Improvement Co. v. PSC*, 262 U.S. 679, 692-93 (1923); *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944)). *Accord*, *Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F.Supp.2d at 240-241 & n. 19.

[9] *See* Coal Rate Guidelines—*Nationwide*, 1 I.C.C.2d 520, 534-47 (1985), *aff'd sub nom. Consolidated Rail Corp. v. United States*, 812 F.2d 1444 (3d Cir. 1987); *Potomac Electric Power Co. v. ICC*, 744 F.2d 185, 193-94 (D.C. Cir. 1984).

[10] In determining the cost of capital component of stand-alone cost, the Surface Transportation Board, like its predecessor, the Interstate Commerce Commission, uses the agency's annual cost of capital determination for the industry, not the cost of capital of a hypothetical carrier in a highly competitive or contestable market. *See* STB Docket No. 42022, *FMC Wyoming Corp. v. Union Pacific R. Co*. (decision served May 12, 2000), slip op. at 178 ("As in prior SAC cases, we find it appropriate to assume that the rate of return that the ORR [hypothetical stand-alone railroad] would earn is the railroad industry cost of capital"); *Arizona Public Service Co. v. Atchison, T. & S.F. Ry. Co.*, 2 S.T.B. 367, 438 (1997) (same); *Bituminous Coal—Hiawatha, UT, to Moapa, NV*, 10 I.C.C.2d 259, 315 n. 76 (1994) (same). The "railroad industry cost of capital" determined by the STB and ICC is based on a comparison group consisting of the publicly traded corporate parents of major Class I railroads. *See* Ex Parte No. 558 (Sub-No. 3), *Railroad Cost of Capital—1999* (decided June 6, 2000), slip op. at 1-2 & footnote 1 (noting that STB's annual cost of capital determinations for the railroad industry rely on a DCF comparison group composed of actual Class I carriers controlled by selected major railroad holding companies); Ex Parte No. 552 (Sub-No. 4), *Railroad Revenue*

when it engages in such self-provisioning reflect the risks that it actually anticipates, not the higher capital costs of a riskier, more competitive business.

Furthermore, the *Local Competition Order* makes clear that one of the main purposes of TELRIC pricing is to enable new entrants to share in the incumbents' scale and scope economies. One of those economies is the reduced cost of capital enjoyed by Verizon as a result of its near-monopoly scale and scope in Massachusetts local markets. As the FCC has explained:

> The incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly. As we pointed out in our NPRM, the local competition provisions of the Act require that these economies be shared with entrants. We believe that they should be shared in a way that permits the incumbent LECs to maintain operating efficiency to further fair competition, and to enable the entrants to share the economic benefits of that efficiency in the form of cost-based prices.

Local Competition Order ¶ 11 (footnote omitted).

Verizon also cites to footnote 8 of the FCC's Supreme Court brief for the proposition that "an appropriate cost of capital determination takes into account not only existing competitive risks . . . but also risks associated with the regulatory regime to which the firm is subject." Verizon Br. at 21 (citing Exh. VZ 55 at 12, n.8). The entire footnote, however, reads as follows:

> Moreover, an appropriate cost of capital determination takes into account not only existing competitive risks, as the FCC recently recognized (see Local Competition Order (para. 702), J.A. 395-396), but also risks associated with the regulatory regime to which

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Adequacy -- 1999 Determination (served July 19, 2000), (finding that the 1999 railroad industry cost of capital was 10.8%).

> a firm is subject. *That second consideration is, notwithstanding the incumbents' contrary suggestion (BellSouth Resp. Br. 30-32), implicit in any determination of the true economic cost of capital.* See generally *Represcribing the Authorized Rate of Return for Interstate Servs. of Local Exch. Carriers,* 5 F.C.C.R. 7007, 7521 (1990) (para. 120) [*"1990 Rate Represcription"*], aff'd sub nom. *Illinois Bell Tel. Co. v. FCC,* 988 F.2d 1254 (D.C. Cir. 1993).

Exh. VZ 55 at 12 n.8 (emphasis added). The portions omitted by Verizon are telling. The parenthetical reference to "Local Competition Order (para. 702)" makes clear, as WorldCom explained in its initial brief, that the "existing competitive risks" to be analyzed are the risks of the competition that the incumbent carrier actually expects to face. And the discussion of *regulatory* risk in the balance of the footnote ("risks associated with the regulatory regime to which a firm is subject") amounts to a clear rejection of the hypothetical risk paradigm that Verizon espouses.

The FCC's parenthetical reference to "BellSouth Resp. Br. 30-32" alludes, of course, to pages 30-32 of the joint brief that Verizon, BellSouth, SBC and USTA sponsored on June 8, 2001, as respondents in the same Supreme Court case. In that portion of their joint brief, Verizon and its allies argued (just as Verizon argues here) that consistency with the TELRIC standard requires regulatory commissions to "determine the cost of capital and depreciation expenses" by assuming that the supplier of UNEs would face the competitive risks of a "hypothetical" "perfectly competitive" or "hypercompetitive" market, rather than the competitive risks resulting from "actual market conditions." Responsive Brief of BellSouth *et al*. filed June 8, 2001, in *Verizon Comms. Inc. v. FCC,* Nos. 00-511, at 30-33. Verizon *et al*. also criticized the FCC for supposedly requiring state commissions to retain in UNE pricing decisions

the depreciation schedules and cost of capital determinations that were set under prior historical-cost ratemaking regimes. *Id*.

Footnote 8, far from embracing Verizon's fictional risk paradigm or the premium returns it supposedly warrants, makes clear that the appropriate regulatory risk premium to be included in the cost of capital in UNE rate cases will normally be zero. The second sentence of the footnote – the one that Verizon never quotes – drives the point home. Compensation for the "risks associated with the regulatory regime to which a firm is subject" is "implicit in *any* determination of the true economic cost of capital" – *"notwithstanding the incumbents' contrary suggestion."* Exh. VZ 55 at 12 n. 8 (emphasis added).

Finally, there is the FCC's citation at the end of footnote 8 to the *1990 Rate Represcription* proceeding. *Id*. In the 1990 proceeding, the FCC specifically rejected the incumbent LECs' arguments for an additive to the cost of capital (rate of return) to compensate for the risk that the FCC (or any other regulatory agency) might exclude prudent investments from a carrier's rate base. In declining to approve any such adjustment, the FCC explained:

> Nothing in the Constitution or in the Communications Act requires the agency to adjust the prescribed rate of return to take into account *the agency's policies regarding rate base disallowances.* Rather, the methodologies we employ to determine the appropriate rate of return already take into account *the FCC's approach to such disallowances.* Investors are presumably aware of our ratemaking procedures, including our treatment of plant that is not automatically included in the rate base, and take these procedures into account in establishing the price of the stock. *The risk of disallowance, including the disallowance of prudent investment, is one of many factors that investors consider in evaluating the riskiness of investment in a regulated enterprise. Thus, the rate of return prescription itself already takes into account the fact that the FCC generally disallows prudent investments that are not "used and useful" in providing service.*

1990 Rate Represcription, 5 FCC Rcd. at 7521 (¶ 120) (emphasis added). The U.S. Court of Appeals for the D.C. Circuit, affirming the FCC, recognized that the FCC had held only "that because investors are aware of its rate base policies, the agency's market-based methodologies for determining the rate of return will produce a rate high enough to compensate for that risk." *Illinois Bell Tel. Co. v. FCC*, 988 F.2d 1254, 1263 (D.C. Cir. 1993).

The FCC's logic applies with equal force here. The FCC and state commissions have been setting UNE prices under the rubric of the *Local Competition Order* – and (with the notable exception of Massachusetts) rejecting the inflated cost of capital measures proposed by Dr. Vander Weide – for nearly six years. Whatever regulatory risks the FCC standards may create should be fully reflected in the returns demanded by investors, and no return additive for regulatory risk is warranted.

In this regard, Dr. Vander Weide's (and Verizon's) current interpretation of the *Local Competition Order* is starkly at odds with Verizon's characterization of the *Order* in the same Supreme Court proceedings. The TELRIC standard, Verizon *et al.* informed the Court, "presumes that carriers in its fictional world of constant network replacement *would nonetheless continue to have the same cost of capital established for incumbents in the stable, low-risk monopoly system of the past*." Brief of Petitioners Verizon Communications Inc. *et al*. in *Verizon Communications Inc. v. FCC*, No. 00-511 (U.S. Apr. 9, 2001) at 10 (citing *Local Competition Order* ¶¶ 687-688, 702) (emphasis added). To overcome this presumption, Verizon adds, "incumbents" must "demonstrate with specificity that the business risks – defined

exclusively in terms of facilities-based entry by competitors – justify any change in the rate of return." *Id*.

2. Verizon's Actual Risk in the Provision of UNEs is Virtually Nonexistent

Verizon's discussion in its brief of the current and anticipated level of competition in Massachusetts is an apparent attempt to respond to (without acknowledging) the FCC's criticism that Verizon's cost of capital is "higher than any other state in Verizon's territory with nothing on the record to justify a Massachusetts-specific difference." *Massachusetts § 271 Order* at ¶251. Because its proposed cost of capital is higher than the one in place, Verizon presumably feels compelled to manufacture "Massachusetts-specific" justifications to support it. There are two responses to this argument.

First, nascent competition is hardly a phenomenon unique to Massachusetts; competition is also emerging in other jurisdictions throughout Verizon's region. And even Verizon is forced to admit with respect to the "business risks" Verizon actually faces in Massachusetts, competition has only "*begun* to develop but is not full-blown." Verizon Br. at 37 (emphasis in original). Verizon offers no serious challenge to the evidence that the business risks it *actually* faces as a wholesale supplier of UNEs are low and will remain low for the foreseeable future. The collapse of the CLEC sector, coupled with the rosy financial projections offered by Verizon's own executives, render Verizon's self-portrait of a beleaguered competitor not credible. Thus, pointing to the existence of competition in Massachusetts is hardly a satisfactory response to the FCC's criticism, and it fails to justify Verizon's proposal.

Second, other states in Verizon's region continue to set costs of capital that are significantly below that which Verizon proposes here. The most recent state commission in the Verizon region to address the issue of cost of capital is the New Hampshire Public Utilities Commission, which earlier this month required Verizon to recalculate its rates using an overall cost of capital of 8.42% as a condition of the Commission's support for Verizon New Hampshire's Section 271 application. *See* March 1, 2002 letter from NHPUC to J. Michael Hickey, President, Verizon New Hampshire. New Hampshire thus joins the other states, previously identified by WorldCom, which have recently adopted costs of capital well below what Verizon proposes. *See* WorldCom Br. at 9, n.5; RR-DTE-6. The FCC's criticism of the *current* cost of capital thus applies with full force to Verizon's *proposed* cost of capital as well.

3. Verizon's Misrepresentation of Testimony in Another Proceeding is Inappropriate and Irrelevant

Against the overwhelming authority establishing that the cost of capital in this TELRIC proceeding should reflect Verizon's actual business risks, Verizon cites two sentences of oral testimony by AT&T/WCOM witness Terry Murray in the Virginia proceeding for the contrary conclusion.[11] Verizon takes Ms. Murray's testimony grossly out of context. Her actual testimony was that, as a matter of theory, the competitive assumptions of cost of capital analysis should be "consistent" with the other assumptions of the cost model. Ms. Murray emphasized,

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[11] Verizon also asserts that the "instantaneous replacement" assumption of the TELRIC standard implies a very high cost of capital because the entire network could potentially, at any time, have to be replaced. This is a caricature of the TELRIC standard. The "instantaneous replacement" standard is in fact a shorthand term for the continual fluctuation of the *market values* of existing assets in response to technological innovation and other competitive trends. That responsiveness need not (and in this case does not) translate into high risks.

however, that the actual estimation of a cost of capital in a hypothetical competitive market is a tricky matter, that she had not thought through how one would make the necessary theoretical adjustment to estimate the cost of capital in such a market, and that Mr. Hirshleifer was the appropriate witness to deal with those issues. When Verizon's counsel read into the record a brief question and answer purportedly from the transcript of the FCC arbitration, Mr. Hirshleifer, who attended the Virginia hearing when the excerpted testimony occurred, explained that the excerpted testimony was being taken out of context. *Id.* at 185.

Verizon now uses the same testimony read into the record by its counsel on Brief (at page 38), notwithstanding the fact that the Virginia testimony was taken out of context, not offered into evidence, and in spite of Mr. Hirshleifer's undisputed explanation that the quote does not stand for the proposition Verizon says it stands for. And in any event, the views of AT&T/WorldCom witnesses or of Verizon witnesses are ultimately beside the point. Unless rescinded by the FCC, or overturned by a reviewing court, paragraph 702 of the *Local Competition Order* is the controlling legal standard, whatever the opinions of any individual witness.

4. Mr. Hirshleifer's Three-Stage DCF Model is More Appropriate than the Single-Stage Model Advocated by Dr. Vander Weide

Verizon also attempts in its brief to discredit the utility of the three-stage DCF model by repeating a criticism already addressed and dismantled by Mr. Hirshleifer – that the three-stage DCF model produces "irrational" results.

Verizon claims that it is "common" for companies to grow at rates much greater than the GNP for extended periods of time. As Mr. Hirshleifer has explained, however, super-normal growth is the exception not the rule, and even in those exceptional cases such super-normal growth cannot occur forever. *See* Exh. AT&T 2 (Hirshleifer Reb.) at 6-8.

Verizon asserts that there is ample "evidence that investors expect" telecommunications holding companies to grow "in the long run" at a rate "significantly higher" than the rate estimated by Mr. Hirshleifer. Verizon Br. at 46. But there is no such "evidence." As explained by Mr. Hirshleifer, Verizon's "evidence" consists of nothing more than Dr. Vander Weide examining data from Value Line (which publishes forecasts that predict growth to no more than five years in the future) and "inferring a long-run growth rate by looking at *book* retained earnings growth and merely *assuming* it will persist indefinitely into the future." Exh. AT&T 3 (Hirshleifer Surreb.) at 11-12 (emphasis in original). This is not evidence of investors' long-run expectations, but rather Dr. Vander Weide's fanciful projections based on short-term forecasts.

Verizon claims that the three-stage DCF illogically results in low-risk companies (*e.g.*, natural gas distribution companies and electric companies) having higher costs of capital than high-risk companies. But as acknowledged by Dr. Vander Weide, his results contradict only "the common perception" that these industries are less risky (Exh. VZ 4 (Vander Weide Reb.) at 44). The "electric" companies Dr. Vander Weide used to develop this argument include companies engaged in electric, gas and nuclear energy, telecommunications, real estate, financial services and international businesses (Exh. AT&T 3 (Hirshleifer Surreb.) at 85), so Dr. Vander Weide's convenient "perception" is belied by the actual risks these companies face. With

respect to gas companies, Dr. Vander Weide used only three companies to develop his "anomalous" results using a three-stage model, even though Vander Weide himself has argued that such a small sample size will not yield an accurate estimate of a group's cost of capital. *Id.*

Verizon argues that the three-stage DCF results in high-risk companies with higher betas having lower costs of equity than low-risk companies with lower betas (a beta being a measurement of risk that increases as a company's risk increases). Verizon Br. at 46; Exh. VZ 4 (Vander Weide Reb.) at 11. But the regression analysis Dr. Vander Weide performed to arrive at this result is riddled with errors and therefore has no analytical value or evidentiary weight. *See* Exh. AT&T 3 (Hirshleifer Surreb.) at 86-87.

Finally, a passage from Verizon's Brief is worth noting. In defending its choice of a three-year planning period for its cost models as "eminently reasonable," Verizon makes the following claim:

> Uncertainty concerning factors such as changes in technology and demand mean that an efficient firm can manage risk only for the finite period for which it reasonably can predict the mix of forward-looking technologies that it should efficiently use, based, as the FCC has explicitly stated, on technology currently being deployed in the network. The planning period for a TELRIC study should thus be only as long as the period for which reasonable predictions can be made concerning technological and demand changes. Three years is a reasonable measure of that period.

Verizon Br. at 15 (footnote omitted). If it is impossible to determine risk past a 3-year window, then it is wrong to assume, as Verizon's single-stage DCF model does, that a company will experience above-average growth *ad infinitum*. Indeed, Verizon does not dispute that scholars and practitioners in the field of corporate finance have overwhelmingly rejected the single-stage DCF model, and Verizon fails to identify a single reputable economist who supports a one-stage

DCF for companies with above-average short-run growth rates. It is also telling that Dr. Vander Weide has never published his analysis in a peer-reviewed economic journal.[12] For all the foregoing reasons, as well as those articulated in WorldCom's initial brief and in Mr. Hirshleifer's exhaustive treatment of this issue, the Department should adopt the 9.54% cost of capital advocated by AT&T/WorldCom witness John Hirshleifer.

C. Verizon's Engineer, Furnish and Install Factors are Inflated

Although WorldCom has previously addressed why Verizon's EF&I factors are inappropriately high and require downward adjustments (*see* WorldCom Br. at 24-28, 56-57, 62-63), there are a few assertions by Verizon in its initial brief regarding its EF&I factors that require a response.

First, Verizon's claim that "no party questioned the reasonableness of the use of loading factors to convert material investment into total installed cost" (Verizon Br. at 51) is misleading. While it may be true in the abstract that the use of an in-place or EF&I factor can be applied in a reasonable manner, it is not true to suggest that the parties to this case found Verizon's use of loading factors to be reasonable. As AT&T/WorldCom witnesses established, a factor is only as reasonable as the inputs used to create it, and the inputs Verizon used were patently unreasonable. *See, e.g.*, Exh. AT&T 21 (Pitts Surreb.) at 3; Exh. AT&T 24 (Baranowski Supp. Reb.) at 4; Exh. AT&T 28 (Donovan Reb.) at 13-15; Tr. 1512-14 (Vol. 8, Jan. 24, 2002); Tr. 2177 (Vol. 11, Jan. 29, 2002).

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[12] *See* http://faculty.fuqua.duke.edu/%7Ejv1/bio/vita.htm(listing Dr. Vander Weide's publications).

The manifest unreasonableness of Verizon's approach to virtually all of its EF&I or "in place" factors is proven by Verizon's own argument in defense of one of them – its "transmission equipment in place factor" (*see* Verizon Br. at 121). The 53% in-place factor Verizon proposes in Massachusetts is based on equipment installed in Massachusetts in 1998; the 36% in-place factor Verizon used in New York was based on equipment installed in New York in 1997. Verizon had earlier claimed that a precipitous drop in year-over-year equipment prices accounted for the dramatic increase in the ratio of in-place costs to investment costs – an argument thoroughly discredited by AT&T/WorldCom witness Steven Turner (*see* WorldCom Br. at 62-63).

Apparently groping for some other basis on which to support its inflated 53% in place factor, Verizon has come up with a new argument in its brief – that "the specific mix of equipment installed in New York in that particular year [*i.e.*, 1997] . . . is quite different from the equipment placed in Massachusetts in 1998." Putting aside for the moment that there is no record evidence to support that assertion, how it helps Verizon is a mystery. If true, all it does is help prove that Verizon's approach to developing in-place factors results in arbitrary and unfairly calculated loadings. That is because taking single-year snapshots of its equipment installations does not produce results that are representative of the installation costs for the equipment mix required to create a telecommunications network. This fatal flaw, like so many others in Verizon's cost studies, is directly attributable to its incorrect approach of "not having to start from scratch" in developing its TELRIC network construct. Verizon Br. at 19.

By compiling aggregate EF&I factors based on a year's worth of the equipment installations in its embedded network, Verizon's factors are necessarily subject to wide

variations depending on whether an unusually large or small number of labor-intensive installations occur in any given year (as appears to be the case given that the factor used in New York is more consistent with Mr. Turner's experience and expectations). With respect to the transmission equipment in-place factor in particular, Massachusetts CLECs could be getting penalized because in 1998 Verizon may have had an unusually large number of installations involving labor-intensive equipment than in preceding or subsequent years. More importantly, however, with respect to Verizon's EF&I or in-place factors generally, there is no basis on which one could reasonably conclude that the equipment mix to be installed in an existing network in any one year accurately reflects the equipment mix needed to get a new network up and running. Moreover, given the fact that Verizon's factors are based entirely on installations that did not establish a *new* network but instead grew an *existing* one, it is a beyond question that that the relationship between material costs and installed costs is inflated. The largely factory-assembled, pre-wired, pre-tested, modular equipment that would be installed at the creation of a new network would clearly have lower relative installation costs than equipment engineered to fit within an existing infrastructure, which is often assembled on-site.

Finally, Verizon apparently agrees in concept with the idea that analysis of one data set may not provide guidance sufficient to be applicable to another data set. In challenging AT&T/WorldCom's restatement of its switching EF&I factor[13], which uses 1992 data, Verizon makes the following observation: "there is simply no way to know whether the techniques and costs for installing that older equipment bear any similarity to the techniques and costs of

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[13] WorldCom specifically addresses Verizon's switching EF&I factor later in this brief.

installing current equipment." Likewise, there is simply no way to know whether the techniques and costs for installing equipment needed to maintain and expand an existing network bear any similarity to the techniques and costs of installing equipment necessary to build a new network. Verizon's in place or EF&I factors are therefore all suspect and require adjustment.

D. Verizon's Loop Costs are Overstated

Seeking to cast doubt on the validity of the AT&T/WorldCom restatement of Verizon's loop costs, Verizon dramatically asserts that "[i]t is simply inconceivable that over the past six years, costs have been more than *halved*." Verizon Br. at 2 (emphasis in original). While it is true that the restated rates calculated by Mr. Baranowski result in a statewide average rate of just over $7 (which is roughly half of Verizon's current statewide average of $15.66, and less than half of Verizon's proposed statewide average rate of $18.75), Verizon's incredulity rings hollow. Verizon's loop costs have not dropped by half since they were first set – they were far too high to begin with. Verizon conveniently ignores, for example, that the fill factors and cost of capital used in setting its current loop rates were sharply criticized by the FCC in its *Massachusetts §271 Order* (at ¶¶ 38, 39, 251). Rather than correcting those errors, Verizon has perpetuated them (again using a 40% distribution fill factor and, as discussed above, an even higher cost of capital); and it has made other errors specifically designed to inflate its loop rates. The adjustments made to Verizon's models merely bring Verizon's *proposed* rates for these critical bottleneck facilities closer to levels Verizon's *current* rates should have been at all along.

1. Verizon's Low Fill Factors are Inconsistent with TELRIC and Must Be Adjusted Upward

In its brief, Verizon confirmed that its cost model fill factors were not based on a forward-looking network built from scratch, but on its own embedded network: "the fill factors used in Verizon MA's studies reflect the utilization levels that Verizon MA ***has observed*** in the Massachusetts network" (Verizon Br. at 81 (cite omitted; emphasis added)); fill factors in Verizon's studies "are based on ***observed*** fill after years of operating the network" (*id.* at 22-23). As such, these fills do not reflect the efficiencies of a new network but inherent *in*efficiencies of its embedded network, which "employ[s] a number of technologies of differing vintages and characteristics at any given point in time" (Verizon Br. at 14). For that reason alone, each of Verizon's loop-related fill factors ought to be adjusted upward. We discuss individual fill factors below.

a. Verizon's Distribution Fill of 40% is Too Low

After assuming two distribution pairs per zoned living unit are required, Verizon whittles down the achievable fill in its distribution plant with a series of assumptions designed to reduce either the pool of potential users or the percentage of pairs available to serve those users. A threshold question the Department must decide with respect to distribution fill is: would a new entrant, who knows the *actual* level of demand, design its outside plant so that *every* zoned living unit on *every* street had two pairs of copper cable dedicated to it? WorldCom submits that the answer is no. But because Verizon fails to approach the TELRIC exercise as though it were a

new carrier that *knows* what the level of demand is, Verizon fails to consider that a new carrier would use this information when deciding how to most efficiently allocate its distribution plant.

For example, in its brief Verizon refers to a hypothetical street that "requires" 60 cable pairs. Verizon Br. at 90. Because Verizon assumes two pairs per zoned living unit, a street that "requires" 60 pairs translates into a street zoned for 30 living units. According to Verizon, that street requires a 100-pair cable because the next smallest size cable, containing 50 pairs, is insufficient to meet the two-pair-per-zoned-unit requirement. Verizon would also run a 100-pair cable if the street were zoned for 26 units because a 50-pair cable would be too small to accommodate the "required" 52 pairs. A 100-pair cable would be "required" whether, despite the zoning, the street has had only twenty houses for the last twenty years and whether, in Verizon's experience, the historical utilization on the street had never gone above 30 pairs at any given time. In short, Verizon would slavishly follow its design criteria despite the existence of other factors that might warrant a new entrant to conclude that something less than two pairs per living unit were actually necessary.

The point of Mr. Baranowski's testimony is that a new entrant running cable down the street would not, in every case, reach the same conclusions that Verizon does. Mr. Baranowski's suggested the use of a 1.6 pairs per living unit assumption rather than a two-pair per living unit assumption is not "abandoning accepted engineering and design standards" as Verizon claims (Verizon Br. at 92), but rather rationally applying a standard that results in greater utilization of the dedicated plant *based on available information*. A new entrant running cable down a street zoned for thirty houses but which has had only twenty houses for the last twenty years might rationally conclude that a 50-pair cable is sufficient for the foreseeable

future, rather than the 100-pair cable required by Verizon's 2-pair per zoned living unit assumption. A new entrant running cable down a street zoned for 51 living units and which has had only modest utilization fluctuations in the last ten years (*e.g.*, between 44 and 62 lines) might rationally conclude that the use of a 100-pair cable is sufficient for the foreseeable future, rather than the 200-pair cable required by Verizon's assumption. Multiplying these scenarios and others like them thousands of times across Verizon's 13,650 distribution areas would result in an efficient carrier significantly reducing its outside plant investment, and increasing its plant utilization, *without* undermining service quality. The key factor, which Verizon ignores, is that information would be available to a new entrant to help guide its decision-making. A new entrant could, as Mr. Baranowski explained, use that information "to more specifically tailor" design criteria as appropriate. Tr. 2148 (Vol. 11, Jan. 29, 2002).

Verizon's claim that small area demand is "highly variable and unpredictable in both the long and short term" (Verizon Br. at 93) does not erode validity of this more rational approach. The factors affecting variability of which Verizon invariably speaks – churn, competition and vacancies – tend to *lessen* the number of lines needed at any given time. To balance these factors with a factor that would result in *greater* utilization, Verizon asserts that "past demand is a poor predictor of tomorrow's need at specific customer locations" and concocts a scenario in which a neighborhood with customers who have "rarely ordered two lines . . . suddenly sprout[s] teenagers needing second lines for surfing the Internet." Verizon Br. at 91-92.

First, while the phrase "past demand is a poor predictor of tomorrow's need" is an interesting maxim, it is no substitute for proof, of which Verizon offers none. Instead of proving

that past demand would be unreliable as a factor in determining future needs, Verizon offers its alarmist hypothetical.

Second, the increase in demand of which Verizon speaks would be much less likely occur with a newly minted network, which would allow all customers to obtain POTS and advanced services such as DSL over the same line, thereby reducing the need for second lines for dial-up Internet access. And on the subject of demand increases generally, a new entrant sizing outside plant today would also consider other factors, nonexistent in years past, which would tend to reduce the likelihood that an unusually large percentage of potential users in any given distribution area or on any given street would require second lines. In addition to the ubiquitous availability of POTS and advanced services over a single line (which would reduce not only the need for a teenager's second line for Internet surfing, but also a telecommuter's need for a separate fax line), other factors include the availability of high-speed Internet connectivity via cable modems (which has the same effect), the growing penetration of cell phones, two-way pagers and PDAs with email capabilities, and the availability of certain features with telephone service itself, such as call-waiting, three-way calling, and voicemail.

Third, in the event that a neighborhood did "sprout teenagers" and demand increased, a distribution plant sized at 1.6 lines per zoned living unit would still be able to absorb additional demand. This is especially true where, as in Verizon's hypothetical, the neighborhood is one in which customers "rarely" ordered second lines, in which case its historical usage per unit would have been *less* than the 1.2 line per unit statewide average to start with.

Fourth, if the increase in demand did in fact tax the distribution plant to the point where an augment was required, then the new entrant would augment the distribution plant as

necessary, just as Verizon does today when faced with increased demand that strains existing capacity. There is no reason to believe, however, that an intelligently tailored outside plant would, on average, require such augments more often than Verizon's outside plant does today. As such, its claims that its "costs would ultimately be higher" and that "service would degrade" (Verizon Br. at 92) are simply scare tactics with no factual basis in the record.

To permit Verizon's cost studies to retain the 2-pair per zoned living unit assumption would be to reward Verizon for failing to make its case. The Department should recognize that a new entrant would make informed judgments that would permit, in appropriate circumstances, cable sizing at less than two pairs per zoned living unit. A downward adjustment, consistent with Mr. Baranowski's recommendation of 1.6 lines per zoned living unit, is thus warranted and would result in a more efficient allocation of assets that serves total demand, increases fills, and still provides ample spare capacity for fluctuations in usage. The Department should order Verizon to make this adjustment, as well as the other adjustments identified by Mr. Baranowski and discussed in WorldCom's initial brief.

Finally, whatever fill percentage the Department selects to be the appropriate average in a forward-looking network, it must ensure that the annual costs and recurring rates generated as a result of re-running Verizon's model appropriately reflect that selection. In other words, for rates to accurately reflect the selected fill, the fill must be an *output* of the model, *i.e.*, the result of having the model re-run, rather than a target *input* to the model that is then reduced by virtue of the running of the model.

b. Verizon's 60% Fiber Feeder Fill is Too Low

Verizon asserts that its fiber feeder fill of 60% is justified primarily because it is more cost effective to work with "ribbons" of 12 strands, even though a given remote terminal may need fewer than 12 strands of fiber to carry call traffic. Verizon Br. at 94. That explanation is unsatisfactory, however, for several reasons. First, it fails to account for the fact that an efficient carrier would use "excess" fibers to provide other services. Indeed, on March 7, 2002, Verizon informed the Department of its "preliminary plans" to begin offering CLECs a DSL "access service" over fiber fed loops in at least one location in the latter half of this year. *See* March 7, 2002 letter from Barbara Anne Sousa to Mary L. Cottrell in D.T.E. 98-57-Phase III; *cf.* Tr. 3489 ("A fiber-cable-based transport network capable of delivering broadband services remains the long-term service objective")(Verizon's Mr. Livecchi, quoting an apparently non-proprietary sentence from a Verizon proprietary network planning guideline produced in response to Exh. ATT-VZ-3-1). Because an efficient carrier would utilize "excess" fibers to provide DSL and other high speed business services to CLECs and to its own end-user customers, Verizon understates its achievable fiber fill in the forward looking network.

Second, to the extent excess fibers might not be utilized to provide "access" services or retail services, they would still be available to be leased to other carriers as dark fiber. Full utilization of spare fiber should be recognized, and thus increase Verizon's fill factors.

c. Verizon's 80% Fill Factor for RT Electronics is Too Low

Verizon admits that "there is no doubt that individual RTs could operate at a utilization rate of 90 percent before capacity is added …" Verizon Br. at 96. Yet Verizon

proposes an 80% fill, suggesting that this is necessary based on the "estimated forward looking utilization levels" it foresees in its embedded network (*id.*), and because a 90% fill is the "relief point" for an RT (*id.*). But the "relief point" marks the beginning of the process to add capacity. Capacity usually is not literally added until the RT is very close to 100%. Verizon does not seriously dispute the relative ease of installing plug in cards. As such, a slightly higher relief point and a 90% fill for RT electronics is achievable in a forward-looking network, especially given the fact that with even aggressive annual growth of 3%, an RT operating at 90% capacity would not reach exhaust in the six month interval between growth deployments. *See* Exh. CC-VZ-2-43. A 90% fill is also more consistent with the 88% RT fill factor recently set by the New York Public Service Commission. *See NYPSC Order* at 102.

2. Verizon's Proposed Distribution Cable Lengths Are Unsupported

Verizon has failed to meet its burden of proving that its proposed loop lengths are appropriate for a forward-looking, least cost network. More particularly, because Verizon did not model the network from scratch, there is no reason to conclude that Verizon's proposed cable routes and loop lengths represent the most efficient, least-cost outside plant configuration (as Verizon has asserted, but not proven). Moreover, Verizon has even failed to prove that its proposed distribution loop lengths accurately reflect the actual distribution lengths in its embedded network. Verizon determined the average distribution loop lengths by identifying a distribution area's longest loop and deciding that the area's average distribution cable length was half the distance of the longest cable pair. Verizon Br. at 68-69. In its initial brief, WorldCom established that Verizon's purported justification for using this surrogate measurement, *i.e.*, that

its customer locations throughout its distribution areas were "evenly dispersed," was without any analytical support whatsoever. In Verizon's Brief, Verizon confirmed that to be the case by citing only to its own testimony – but no study, sample, analysis or other objective evidence – as support for the proposition that customers are "evenly dispersed." *See* Verizon Br. at 69. Aside from the absence of proof that customer locations are evenly dispersed, common sense and everyday observation also disprove the assertion. Different parts of the geography are either more or less densely populated than the average. There is no reason to assume, as Verizon does, that the average loop is 50% of the length of the longest loop.

To further bolster its claim, Verizon seeks to bootstrap into this case the results of actual loop length measurement studies it has undertaken in other jurisdictions. (Verizon Br. at 70 (citing Tr. 2186-88 (Vol. 11, Jan. 29, 2002))). But the record in this case does not identify how, or even where, those studies were conducted. All we do know is that: (1) Verizon did not affirmatively use these studies in support of its case, but rather tried to sneak in the results through the testimony of Mr. Baranowski, and; (2) Verizon chose an absurdly small sample size of six distribution areas out of a universe of eight or nine thousand distribution areas, which amounts to a sample size of a few hundredths of one percent and strongly suggests that Verizon engaged in "cherry picking" to skew the results in its favor. When this topic was briefly discussed at the hearings, the Hearing Officer cautioned that the Department would give it "the weight it deserves." Tr. 2188 (Vol. 11, Jan. 29, 2002). WorldCom submits that the Department can give no weight whatsoever to this unsupported claim. If anything, the Department should draw a negative inference from Verizon's attempt to use it; even if Verizon's embedded routes and loop lengths were an appropriate yardstick for determining the forward-looking, least cost

network construct, Verizon's failure to conduct a statistically valid study of the actual length of its distribution cable in Massachusetts, coupled with its failure to provide the Department the opportunity to test the validity of the studies it has conducted in other jurisdictions, strongly suggests that an actual analysis would not be in Verizon's favor, *i.e.*, the loop lengths would be shorter than those obtained by the surrogate methodology Verizon employed here. Finally, the fact that Verizon consciously chose to use a model that will not accept actual customer location data that is in fact available should count heavily against accepting Verizon's convenient assumption about loop lengths. Verizon's failure to provide such a model is itself a significant violation of the FCC's TELRIC rules.

3. GR-303 IDLC, Not UDLC is the Forward-Looking Technology for Fiber-Fed Loops

WorldCom has previously shown that a new entrant employing least cost technology would deploy exclusively GR-303 technology in (approximately) half of the forward looking network (copper feeder would make up the other half). WorldCom Br. at 42-47. Verizon, in contrast, raises a number of arguments in its brief to cast doubt on the utility of GR-303 technology and to preserve the extensive use in its cost model of outdated, inefficient UDLC technology. But Verizon's arguments are undone by the evidence, which proves that GR-303 is the most efficient, forward-looking technology of choice. The Department should therefore reject Verizon's attempt to pad its rates by cramming its modeled network with cumbersome and expensive UDLC and instead adopt WorldCom's network assumption that all fiber fed loops be provisioned via IDLC with a GR-303 interface.

First, Verizon asserts that the reasonableness of its 25% GR-303 deployment assumption is "suspect" because Verizon has "no current plans or projections to install GR-303 based lines." Verizon Br. at 74. But Verizon's "current plans or projections" are irrelevant inasmuch as they are dictated by the "differing vintages" of technology in Verizon's embedded network. Much as Verizon would like it to be the case, the governing standard is ***not*** "what technology best comports with the ILEC's existing plant." The standard, quite simply, is that the "most efficient" technology be used in the "lowest cost network configuration"; the only nod to the ILEC's embedded plant is the fact that the existing location of the incumbent LEC's wire centers remains constant. 47 C.F.R. §51.505(b)(1).

There is little question that GR-303 is the most efficient, least cost technology. Verizon's inclusion of GR-303 in its study is an implicit recognition of that fact. Moreover, Verizon has explicitly acknowledged the economic benefits of GR-303 as well. *****BEGIN PROPRIETARY**

[14] **END PROPRIETARY***** Therefore, if, as its witnesses claim, Verizon has made a business decision not to use GR-303 technology in Massachusetts (*see* Tr. 3488 (Vol. 17, Feb. 7, 2002)), that decision in no way negates the conclusion that GR-303 is the most efficient, least cost technology. Instead, it suggests only that Verizon's technology choices are constrained because of the limitations and inefficiencies of its embedded network.

In fact, Verizon essentially acknowledges in its brief that its existing network configuration has limited its roll-out of GR-303. As explained by Verizon, its network planning guidelines called for the installation of GR-303 "under certain narrow circumstances" such as "where GR-303 compatible equipment ***had already been installed*** in the existing switch . . .and where all operation systems and other systems required to provision, maintain and monitor GR-303 lines ***have been deployed***." Verizon Br. at 74 (citation omitted). In other words, Verizon would deploy GR-303 in those wire centers where the existing infrastructure could support it; elsewhere, because of the limitations of its equipment and systems, GR-303 could not be deployed. A network being constructed today would not suffer from these limitations and would be fully GR-303 compatible. *****BEGIN PROPRIETARY**

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Verizon also makes the claim that "UDLC is necessary to provide services *other* than unbundled loops" and specifically to non-switched special services. Verizon Br. at 76 (citation omitted). But this claim is plainly contradicted by Verizon's own documentation.

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[14] Exh. WCOM-VZ-3-1 (Bell Atlantic Network Planning Guideline (NP-G-97-027) (emphasis in original). This document is marked as "WCOM Exh. 15" in the document production responsive to this request for documents regarding the recently concluded UNE rate case in New Jersey.

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Finally, Verizon claims that IDLC loop unbundling using GR-303 is not "commercially available." Essentially ignoring Telcordia's October 2000 Notes on the Network, which recognizes the technical feasibility of IDLC unbundling (*see* RR DTE 81; WorldCom Br. at 45-46), Verizon instead points to a February 1999 letter from Alcatel, a major vendor to Verizon and the maker of the Litespan 2000 NGDLC equipment discussed above. That letter identifies several issues that need to be resolved before IDLC unbundling can be implemented in a multi-carrier environment. *See* Exh. VZ 18 (NRC Panel Surreb.) at Att. 1. However, the letter also confirms that as far back as 1999, GR-303 permitted a single RT to interface simultaneously with several switches. *Id.* As such, the *technology* that would allow IDLC unbundling is "available" as is required by the FCC's rules. *See* 47 C.F.R. §51.505(b)(1). What is missing is a commercially available product designed to *apply* that technology in a manner that suits the needs of a multi-carrier environment.

As discussed in WorldCom's initial brief, the operational, security and other issues identified as having prevented this technology from being offered in a commercially available product is only part of the story. Because of the substantial impact such a product would have on Verizon's recurring and non-recurring rates, it has no incentive to initiate or

meaningfully contribute to a process that would address these issues. *See* WorldCom Br. at 47. Verizon's motivation is, in fact, the exact opposite of what a new entrant's would be. A new entrant that has not yet incurred outside plant investment costs would aggressively invest the time and resources to resolving any issues involving IDLC unbundling in a multi-carrier environment because the payoff, in the form of lower outside plant investment costs and greater network efficiencies, would be so great. A new entrant to the wholesale UNE market using GR-303 would gain market share by passing on the savings to its CLEC customers in the form of lower UNE rates; CLECs in a competitive market for UNEs would also benefit from GR-303's network efficiencies (*e.g.*, with customer acquisitions, a "hot cut" that takes days to perform today could take minutes if the customer's unbundled loop could be electronically routed to the CLEC, giving the CLEC faster access to the revenue stream generated by the customer).

Verizon, on the other hand, has already spent billions on outside plant that apparently cannot accommodate GR-303, wants to charge CLECs as much as possible, and does not want to surrender its customers at all, let alone more quickly. Verizon will never take the steps necessary to get a multi-carrier unbundling product to market *unless* it is driven to do so by the UNE rates imposed by regulators. As noted in the NYPSC Order, "where a range of estimates is suggested by the record, regulators have always made reasonable adjustments that impel a utility to seek efficiencies, just as it would be impelled to do by a competitive market." *NYPSC Order* at 19 (quoting the Administrative Law Judge's recommended decision at 87). In this case, it is up to the Department to force Verizon's hand. If it is allowed to charge UNE rates as though multi-carrier IDLC unbundling is impossible, then multi-carrier IDLC unbundling *will be* impossible as a practical matter because Verizon will have no incentive to develop it. If, on

the other hand, UNE rates are priced as though multi-carrier IDLC unbundling were not just an available technology, but a commercial reality, then it will become a commercial reality because Verizon will have the financial incentive to improve its network. The Department should therefore order Verizon to re-run its model assuming that all fiber feeder is provisioned over IDLC via a GR-303 interface.

E. Verizon's Argument Against AT&T/WorldCom Witness Michael Baranowski's Growth Adjustment Makes No Sense and Must Be Rejected

Verizon claims Mr. Baranowski's growth adjustment (which is similar to the adjustment approved by the New York PSC in its recent UNE rate proceeding) is "erroneous" because it fails to consider additional investment. Verizon Br. at 110-111. The point of the adjustment, however, is to take account of the anticipated demand growth in the network as sized by Verizon, which already has the costs of additional investments for growth added in. *See* Exh. AT&T 23 (Baranowski Reb.) at 33 (citing Verizon's engineering survey). Verizon's argument basically puts CLECs back in the position they would be in before the adjustment is made – paying for plant to be used in the future, but without offsetting reductions in rates to account for the fact that the newly placed plant will generate revenues when the demand materializes.

Moreover, Mr. Baranowski's adjustment would have been unnecessary had Verizon's cost study maintained consistency between capacity and demand. As the FCC has explained:

> [T]he synthesis model currently calculates the average cost per line by dividing the total cost of serving customer locations by the current number of lines. Because the current number of lines is used in this average cost calculation, we agree with AT&T and

> MCI that the total cost should be determined by using the current number of customer locations. As AT&T and MCI note, 'the key issue is the consistency of the numerator and denominator' in the average cost calculation.

Universal Service Tenth Order ¶ *56 (citation omitted).*

Verizon adds additional capacity to its model, thus lowering its fill factors, but does not spread the cost of that capacity over the additional demand. This will result in over recovery of costs.[15] As the FCC explained, "[I]f we were to calculate the cost of a network that would serve all potential customers, it would not be consistent to calculate the cost per line by using current customer demand. In other words, it would not be consistent to estimate the cost per line by dividing the total cost of serving all potential customers by the number of lines currently served." *Universal Service Tenth Order* ¶ 58. *Accord*, A. Kahn, *The Economics of Regulation* at 121; *Local Competition Order* ¶ 682 (directing that fill factors reflect "the total cost of the element" divided by a "reasonable *projection* of the actual total usage of the element"). Of course, Verizon's model does exactly what the FCC has said should not be done. Verizon has derived UNE costs by dividing the cost of current and future capacity by existing demand.

When Verizon builds its real network it provides substantial spare capacity to allow for growth and presumes that growth will continue into the future. When that growth occurs, some of the spare capacity that Verizon has provided will be used up. Yet Verizon's

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[15] Consider a fictitious network consisting of 100 customers that is expected to last for 10 years. Feeder plant could serve those customers for $100,000, but the feeder plant could also be constructed to serve 150 customers for only $120,000. If the company constructed the additional capacity later, the feeder plant would cost $150,000. Although it is less expensive to construct the additional capacity now, it only makes sense to construct the additional capacity now if the network is expected to grow so that the cost per customer of the feeder plant would be less over the 10 year period. If the company charges the customers more in year 1 because it has constructed capacity to

model prices UNEs as if the level of spare capacity remains constant over time, as if demand does not increase. Verizon charges present customers for capacity that will be used by future customers and then *also* charges future customers for that capacity. Verizon has modeled plant to meet future demand as well as current demand, but the company has calculated unit costs using only current demand in the denominator of the calculation. In a competitive market, such a pricing strategy would be vulnerable to competitive entry by a firm that charged present customers for present demand only – or even by a firm that built a network with no spare capacity for growth and charged customers only for the capacity it had built. Moreover, a firm will not make the right investment decisions unless it bears the risk of recovering the carrying cost of today's spare capacity from future customers. If excess capacity is put into the model for growth because this minimizes the net present value of deploying the network over the life of the network, then the unit price should be based on the total demand over the life of the facility. Alternatively a model can estimate cost by assuming capacity is not built for growth and not accounting for the revenues that would result from utilization of that capacity. *Universal Service Tenth Order* ¶ 58 (refusing to include future demand because of the speculative nature of that demand.).

It is no answer to say, as Verizon repeatedly does, that the average fill factors in its network have remained constant over time. The capacity that Verizon accounts for in its pricing models would get used after it was built. The fact that Verizon simultaneously would

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serve 150 customers and continues to charge this amount over the 10 year life of the network, it will over recover its costs.

build additional capacity to serve additional demand, thus keeping utilization levels in its network constant, is irrelevant because this additional capacity and demand is not modeled.

Verizon also argues that some of the spare capacity in its embedded network is necessary for administration and maintenance and is not built to prepare for future growth. Spare capacity is also needed, according to Verizon, so it can respond quickly and flexibly to service orders. But Verizon nowhere even attempts to demonstrate that the higher fill factors proposed by WorldCom are insufficient to provide sufficient spare capacity for administration, maintenance, and response to service orders.

Finally, Verizon's attempt to discredit Mr. Baranowski's growth adjustment by reference to the effect that growth would have on distribution fills is curious to say the least; Verizon witnesses Gansert and Livecchi were adamant in asserting that growth has "absolutely no impact" on distribution utilization. Tr. 1739 (Vol. 9, Jan. 25, 2002).

Verizon has improperly included too much capacity in its model. The growth adjustment advocated by WorldCom is a rational attempt to lessen the over recovery inherent in Verizon's chosen methodology. The Department should therefore require that Verizon's costs are properly adjusted for growth in the manner suggested by Mr. Baranowski.

F. Verizon's Interoffice Transport Costs are Inflated

For all its talk of consistency in modeling assumptions, Verizon freely admits it has taken an inconsistent approach to modeling its interoffice facilities: "When calculating the fixed component of IOF UNE rates, Verizon MA used the number of nodes in a forward-looking SONET ring (6) to determine the investment for ADMs and other equipment at each node.

When calculating the mileage-sensitive components of the IOF UNE rates, Verizon MA multiplied the average number of nodes on actual SONET rings deployed in Verizon MA's existing network [*i.e.* 3.83 nodes per ring] by the average distance between nodes on these rings to determine the average length of a SONET ring (Exh. VZ 38A, at 83)." Verizon Br. at 115.

This inconsistency has no other purpose than to inflate costs. The six nodes per ring assumption artificially boosts fixed interoffice transport costs because a larger number of nodes requires more electronic equipment, which results in greater investment costs. But six nodes per SONET ring is inconsistent with sound engineering practices (*see* Exh. AT&T 17-P (Turner Surreb.) at 8-11), and Verizon's only "support" for the assumption is apparently the fact that it is the number that appears in its workpapers (*see* Tr. 2465 (Vol. 12, Jan. 31, 2002). The Department should adjust Verizon's study, consistent with Mr. Turner's recommendations, to reduce the six nodes per ring assumption.

With respect to DCS, Verizon argues that, contrary to Mr. Turner's position, DCS investment costs cannot be separated from dedicated interoffice transport costs. Verizon Br. at 119-120. But in doing so, Verizon misstates Mr. Turner's position, and fails to acknowledge the selective approach Mr. Turner actually took in restating Verizon's interoffice transport costs. As explained by Mr. Turner at the hearing, he *did not* remove DCS costs from that portion of Verizon's cost study containing DCS investments associated with interconnection of facilities. *See* Tr. 1527-28 (Vol. 8, Jan. 24, 2002). Indeed, Mr. Turner acknowledged that DCS is necessary for interconnection. *Id.* at 1530. Rather, he removed DCS costs only from that portion of the study relating to the termination of circuits, where DCS functionality is *not* necessary. *Id.* at 1527-28, 1530. The Department should reject Verizon's attempt to mischaracterize and undo

Mr. Turner's restatement and compel Verizon to revise its study in accordance with Mr. Turner's recommendations.

G. Verizon's Inflated Switching Rates Must Be Reduced

1. Verizon's Switch Discount Must Be Adjusted to Reflect New Switch Purchases

The FCC's *Rhode Island §271 Order* – the most recent, most specific, and most authoritative pronouncement on what the switch discount should (and should not) be in developing TELRIC-based switch rates – makes clear that Verizon's application of a growth discount in developing switch costs in this case is inconsistent with TELRIC and must be rejected by the Department.[16] For its part, Verizon acts as though the *Rhode Island §271 Order* does not exist and ignores it altogether (the *Order* is not mentioned once in Verizon's nearly 300-page brief). But the Department cannot ignore the clear mandate that "rates based on an assumption of all growth additions and no new switches do not comply with TELRIC principles." *Rhode Island §271 Order* at ¶34. As such, the Department must adjust Verizon's growth discount to reflect the FCC's "assumption in TELRIC pricing of a forward-looking network built from scratch, given the location of the existing wire centers." *Id.* As WorldCom established in its initial brief, the appropriate adjustment is to use the substantial discounts Verizon receives when purchasing new switches. *See* WorldCom Br. at 20-24. WorldCom will

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[16] As explained in WorldCom's initial brief, Verizon's token inclusion of two new switch purchases in a universe of investments measured in hundreds of millions of dollars is a nonevent; the discount developed by Verizon would essentially be the same whether or not those two new switch investments were included. *See* WorldCom Br. at 23.

not repeat here all the reasons why new switch discounts are appropriate and consistent with TELRIC.

However, on the subject of what the appropriate switch discount should *not* be, there is one point on which WorldCom and Verizon agree, albeit for different reasons – the Department should not adopt a "life cycle" discount which melds the greater discounts received for new switch equipment with the lesser discounts received for growth purchases. Verizon believes the "life cycle" discount is too deep. *See* Verizon Br. at 150 & n. 132. To the contrary, a life cycle discount would not be deep enough.

As an initial matter, WorldCom will not engage in the theoretical exercise of defining when application of a "life cycle" discount might be appropriate, nor will WorldCom seek to identify all the evidence that might be required to establish a life cycle discount. Whether or not a "life cycle" discount might be appropriate in other circumstances, it is clear from the record in this case that it would be inappropriate here. Moreover, it is clear that a life cycle analysis deviates further and further from the TERLIC requirement of a network built from scratch the further out the life cycle analysis is extended.

First, Verizon has chosen to measure its costs over a three-year window. Given the FCC's recognition that TELRIC-compliant rates should be based on a network built "from scratch," a necessary assumption is that there is a starting point – a beginning to the costing period – when brand new equipment is installed at the ILEC wire center locations. With a planning period of three years, the only growth additions or augments that could conceivably be included in the investment base are those that occur in the first three years after a new switch is installed. Upgrades in years four, five and six, for instance, would be inappropriate to include

unless the planning period were also extended out to spread those additional costs over the additional demand occurring in those later years (*i.e.*, spreading the additional costs over a larger number of ports and a greater number of minutes of use). *****BEGIN PROPRIETARY**

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Second, the methodology on which Verizon relies in calculating its "life cycle" discount is also inappropriate. *See* Verizon Br. at 149 n. 132 (citing DTE RR 66). In determining its "life cycle" discount, Verizon calculated (among other things) the ratio of new lines to growth lines purchased over a five year period. But that ratio has no relationship whatsoever to what the appropriate five-year ratio would be for a TELRIC-compliant network built "from scratch." Because the TELRIC-compliant network must be viewed as having a starting point, the only growth jobs that should appropriately be considered in determining a five-year ratio would be growth jobs that occurred within the first five years of the installation of the switch. In other words, if a growth job captured in Verizon's analysis was for a switch that was initially installed seven years earlier, it should not be included in a five-year ratio because the growth occurred beyond the first five years the switch was in existence. With Verizon's methodology, there is no way to tell when a growth job occurred *in relation to installation date of the switch that is being grown*. For that reason, RR-DTE-66 provides the Department with no

guidance in determining a "life cycle" discount for *any* planning period. Moreover, even if Verizon were able to reexamine its new and growth purchases to come up with an appropriate ratio, further investigation would still be required. For instance, it would be necessary to determine whether the growth purchases were prompted solely by forward-looking concerns or whether an augment of some sort was required to accommodate one of the "differing vintages" of older equipment within Verizon's network. If the latter, the purchase would need to be excluded from the universe of growth purchases for purposes of developing a new-growth ratio.

The FCC's clearly articulated expectation that initial switch discounts *should* be considered in determining TELRIC costs also lays waste to Verizon's absurd claim that vendors would likely *increase* prices were it to replace its switching network. Verizon Br. at 147. The basis for this claim is Verizon's attempt to liken this hypothetical costing exercise with the real life Bridgestone/Firestone tire recall. Verizon's dramatics notwithstanding, the FCC's rules do not require regulators to assume that switches be installed at break-neck pace as though the lives of all end-user customers hang in the balance. TELRIC is an economic cost convention; its application here should not be trivialized by Verizon's hyperactive imagination.

The new switch discount in the restatement of switching rates performed by Ms. Pitts is by all accounts conservative and the Department would be well within its rights to apply an even greater discount based on the more recent information Verizon has provided in response to the record requests concerning the Virginia arbitration. In contrast, neither the TELRIC standard as properly applied nor the evidence adduced in this proceeding permits the application of a discount that is less than what appears in Ms. Pitts's restatement.

2. Verizon Overstates its Traffic Sensitive Switching Costs

In its initial brief, WorldCom established that many of the switch investment categories Verizon has designated as traffic sensitive ("TS"), and thereby recoverable through per minute-of-use switching rates, should more appropriately be designated as non-traffic sensitive ("NTS"), and thereby recoverable through flat-rated monthly port fees. *See* WorldCom Br. at 28-33. [17] In its brief, Verizon tries to defend its allocation of TS and NTS costs by arguing that they have been appropriately apportioned on a cost causative basis. But Verizon's argument fails because it confuses resource utilization with cost causation.

WorldCom does not dispute that a higher volume customer "uses" more of the processor capacity of a switch. The point, for cost causation purposes, is that the additional use does not lead to further investment because no user will ever consume so much capacity so as to require the purchase of an additional switch. Verizon implicitly recognizes this fact with its use of qualifying language in its assertions of traffic sensitivity, *e.g.*, all the investments it has labeled as traffic sensitive "potentially" require replacements or additions as the level of usage on a line increases (Verizon Br. at 152); the processor complex of a switch is "ultimately" limited by usage (Verizon Br. at 154). Moreover, with respect to "getting started" and RTU fees

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[17] While WorldCom has stated that the NTS/TS ratio should be approximately 75/25, Verizon, in its brief, identifies the ratio as 85/15. There is an explanation for this seeming discrepancy. As recognized in Ms. Pitts's revised rebuttal testimony (AT&T Exh. 20 at n. 42), Verizon's cost study temporarily includes trunk-related costs in the non-traffic sensitive cost category. Restated Workpaper Part C-2, Section 4, Page 1 of 3, shows that when Ms. Pitts reallocated the "getting started" and EPHC costs to the non-traffic sensitive category, the traffic sensitive percentage (excluding trunks) is 15%. However, when the trunks are returned to the traffic-sensitive category (there is no disagreement that trunks are traffic sensitive), the final traffic sensitive percentage is 25.7%, and the non-traffic sensitive percentage is 74.3%.

in particular, Verizon recognizes the point explicitly in attempting to defend its reciprocal compensation scheme:

> The "additional cost" standard requires that the Department must look to identify what costs will be incurred as a result of offering *more traffic* to an already functional switch. Because the switch is already functioning, there is no need to incur additional "getting started" costs or RTU costs.

Verizon Br. at 163-164 (emphasis in original). "More traffic" is synonymous with additional minutes of use. This admission is fatal to Verizon's attempt to recover "getting started" costs and RTU fees through traffic sensitive usage rates because Verizon acknowledges that increased traffic is not what *causes* these costs to be incurred.

Trying to turn a bad defense into a good offense, Verizon turns cost causation on its head by arguing that the approach WorldCom advocates would result in low volume users subsidizing the costs of WorldCom's high volume customers. In truth, Verizon is attempting to create a cost structure that, in one of two ways, results in an undeserved windfall for itself. Because Verizon's own switch costs do not increase as traffic increases, Verizon's inflated per minute charges will result in either (1) over-recovery of its costs, in which case CLECs serving customers via the UNE-Platform will effectively subsidize Verizon's operations, or (2) CLEC costs for UNEs being inflated to the point where it is unprofitable to do business in Massachusetts, in which case Verizon maintains its monopolist stranglehold on local service customers.

3. Verizon's Busy Hour Calculations Are Wrong

Although WorldCom has already established how and why Verizon's busy hour calculations must be adjusted (*see* WorldCom Br. at 34-35), Verizon has raised a few arguments that require a response. First, with respect to Verizon's defense of its use of 251 days in calculating its Busy Hour to Annual Conversion Factor, WorldCom agrees that the size of a switch must be determined by the busy hour traffic, not annual traffic loads. The "size of a switch" translates in a cost model to the switching investment needed to serve the busy hour.

For purposes of illustration, assume that a switch costing $1 million is needed, based on busy hour traffic. The next step in developing rates is to turn the $1 million investment into a minute of use rate. For the sake of simplifying the math, assume that total minutes of use throughout the year (including holidays and weekends) are 1 million, and that business day demand is 500, 000 minutes. If the $1 million investment is turned into a mou rate based on business day demand of 500,000 mou, the resulting rate is $2 per mou ($1 million/500,000 mou). The mou rate of $2 will be charged by Verizon for all minutes of use, including use by CLECs on weekends and holidays. Therefore, the mou rate derived by using only business day minutes in the equation above will produce $2 million ($2 x 1 million mou), even though the switching investment to be recovered is only $1 million.

On the other hand, if the $1 million investment is turned into a mou rate based on the total demand of 1,000,000 mou, the resulting rate is $1 per mou. Application of the $1 per mou rate to the 1 million minutes of use will produce $1 million in revenue, equal to the investment in switching to be recovered. In short, the denominator in the equation, which develops the minute of use rate, must be the total annual minutes of use because the rate will be

charged for all minutes of use consumed by the CLEC. The switch investment will be over recovered if the rate is derived based upon only business day minutes but is charged on all minutes consumed.

Verizon's proposal to develop the per minute rate by dividing the switch investment by a fraction of total use, rather than dividing by total annual minutes of use, guarantees an over recovery of switching investment. This overstatement of the per minute rate occurs no matter what methods the Department uses (growth discounts or replacement discounts for example) to develop the switch investment itself.

On the issue of Verizon's proposed Busy Hour to All Hour of the Day ratio, it is also worth noting that notwithstanding Verizon's unsupported assertions at the hearing that the "flattened out" busy hour in its 1997 data is now resuming its traditional daytime spike pattern (*see id.*), Verizon takes the liberty of relying on nontraditional usage patterns when it suits Verizon's purposes. *See* Verizon Br. at 80 ("calling patterns of residential versus business usage are dissolving on a going-forward basis" and citing Internet "always on" usage, telecommuters and remote virtual network users in attempting to refute argument for greater GR-303 concentration ratios); Verizon Br. at 92 (Verizon hypothetical in which a neighborhood "sprouts" teenagers requiring second lines for surfing the Internet in attempting to defend its low distribution fill factor).

In short, Verizon will take whatever position is necessary to keep its costs high, no matter how illogical, incongruous or contradictory. In the case of its Busy Hour calculations, the Department should spread costs over all 365 days of the year and make the other adjustments described in WorldCom's initial brief. *See* WorldCom Br. at 34-35.

4. Verizon's Switch EF&I Factor is Overstated

As discussed above, Verizon has criticized WorldCom's use of 1992 Bell Atlantic-South data filed with the FCC showing ILEC EF&I factor for switch installation to be in the 8-10% range (which when coupled with 5% sales tax and vendor EF&I of 12% results in the 25% restated EF&I factor recommended by Ms. Pitts and advocated by WorldCom). Verizon's main criticisms are that the data is old, and that its EF&I factor, which is over 40%, is based on more recent data. But as detailed extensively above, the data used in developing Verizon's EF&I factors is inherently suspect because it is based on one-year snapshots of equipment installations (its switching EF&I factor is based on DCPR data from 1998). While Verizon is correct in arguing that its data is more recent, it is by no stretch of the imagination more reliable given that the equipment mix captured by Verizon's one-year snapshot bears no relation whatsoever to the equipment mix needed to be installed to get a new network up and running.

Its other main criticism, that the data is too old, is ironic to say the least. In connection with its busy hour calculations Verizon is more than willing to have the Department rely on 1992 data to support its low call completion ratio. *See* Verizon Br. at 167-68. In fact, in justifying its use, Verizon argues that it is the "most recent data" it has and that it should be deemed "more reliable" than the ratio recommended by WorldCom. *Id*. at 168.

While those arguments in fact fail to save Verizon's call completion ratio[18], they apply with full force to the use of the 1992 Bell Atlantic-South data. It is the "most recent" data that actually captures a specific metric required for determining a switching EF&I factor, namely

the relationship between the ILEC's investment costs and its installation costs. Verizon's DCPR does not do that for the reasons already explained. The BA-South data is therefore much more reliable as an indicator of the relationship between Verizon's equipment and installation costs.

In fact, Verizon's arguments in favor of 1992 data in that other context apply with even greater force here because if the data is problematic, it is a problem of Verizon's own making. Verizon should not be heard to complain that time and other factors have lessened the relevance of this 1992 data to the installation costs of today's switches because no one forced Verizon to forego developing costs based on the actual costs of installing new switches today. Verizon freely chose to develop a flawed ratio based on DCPR data that is thoroughly ill-suited for the purpose of developing an accurate EF&I factor for a newly installed switch. As such, Verizon's over 40% switching EF&I factor should be rejected in favor of the 25% factor advocated by WorldCom.

IV. VERIZON'S NON-RECURRING COSTS REFLECT THE INEFFICIENCIES OF ITS CURRENT NETWORK RATHER THAN THE EFFICIENCIES OF A NEW NETWORK

As discussed in WorldCom's initial brief, AT&T/WorldCom witness Richard Walsh exposed the many flaws in Verizon's NRCM in his extensive testimony. Specifically, Mr. Walsh revealed the myriad ways in which Verizon had attempted to overcharge CLECs with NRCs that were either overstated, unnecessary altogether in a forward-looking network, or more properly recoverable through recurring rates. More broadly, however, Mr. Walsh also provided

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[18] Verizon's data is both unreliable and outdated because it fails to consider a number of significant developments in recent years that would substantially increase the percentage of calls completed, thereby requiring the upward adjustment advocated by WorldCom. *See* WorldCom Br. at __.

the analytical framework for developing NRCs consistent with the FCC's approach to TELRIC. The application of that analytical framework to the NRC modeling approach advocated in Verizon's Brief confirms that Verizon's NRCM is deeply flawed and at odds with what TELRIC requires. It also confirms that the non-recurring charges Verizon proposes to level on CLECs are so far removed from TELRIC as to be a barrier to entry for many CLECs, and a punitive cost of doing business for those that could actually pay the charges and still operate in Massachusetts.

As to Verizon's overall approach, it mirrors the approach taken in developing its recurring costs – ignore the FCC's mandate that TELRIC requires the assumption of a network built from scratch, make token adjustments to give lip service to being forward-looking, and otherwise defend as efficient all current practices. An example to illustrate Verizon's flawed approach may be beneficial.

In discussing the provisioning of orders, Verizon argues that in some cases "special or complex CLEC requests are handled manually by design in the provisioning phase, just as in the ordering phase. This will continue to be the case for some time because it is necessary and/or efficient." Verizon Br. at 228. But what makes Verizon's manual process "necessary" today is that its OSS is incapable of handling these "complex" orders. What makes the process "efficient" today, from Verizon's perspective, is the circular reasoning that the process efficient because that is the way Verizon's systems were designed, and Verizon's systems were designed this way because it is efficient. In sum, Verizon positions this system deficiency as being a design decision. But that only begs the question of why the system could not be designed to handle these orders electronically. The answer, of course, is that a new

entrant, seeking to maximize efficiency for the sake of its CLEC customers, *would* design a system capable of handling "special or complex" CLEC requests.

The inescapable reality is that the manual handling of such orders is inefficient and would be unnecessary were appropriate systems developed. But because Verizon has turned a blind eye to the "assumption in TELRIC pricing of a forward-looking network built from scratch" (*Rhode Island §271 Order* at ¶34), Verizon must continually engage in the fiction that its embedded OSSs are as efficient as technically possible.[19] Although that example applied specifically with respect to provisioning, the logic applies with equal force across all Verizon's NRCs in which people are doing the work that in a forward-looking environment would be performed by efficient systems. Because Verizon's approach is fundamentally at odds with TELRIC, its costs are largely based on tasks that would be minimized or eliminated altogether in a truly forward-looking network.

Another example of the gulf between Verizon's approach and a forward-looking approach can be seen with Verizon's defense of its astronomical hot cut charges. Putting aside the biased methodology for arriving at task times, in a forward-looking network consisting

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[19] Notwithstanding its adherence to that fiction, Verizon appears to recognize the incongruity of its position when it states that the manual handling of "special or complex" orders "will continue to be the case for some time because it is necessary and/or efficient." There is an obvious tension in this statement between Verizon's defense of its current practices and in-place systems, and its implicit acknowledgement that truly forward-looking practices are different. By including the process by which Verizon (manually) handles special or complex requests in its cost study, Verizon represents that the process is forward-looking and TELRIC-compliant. Because TELRIC requires the use of the "most efficient telecommunications technology currently available" (47 C.F.R. §51.505(b)), an assertion that the practice is "necessary and/or efficient" today essentially means that there is no need for the process to change. Yet Verizon concedes that the current process is limited and will only continue "for some time" into the future. Verizon thus implicitly recognizes that its current practice is not, in fact, forward looking but is expected to be improved upon.

largely of IDLC with a GR-303 interface, the tasks themselves would be unnecessary because loops would be unbundled electronically and routed to the appropriate CLEC switch.

Although both Verizon's recurring and non-recurring costs are based on the same wrong-headed view of TELRIC, the Department's approach to conforming each category of costs to TELRIC is, of necessity, fundamentally different. Verizon's recurring rates can be brought more into compliance with TELRIC through the daunting but ultimately straightforward task of altering inputs and assumptions and re-running the models. Conforming Verizon's NRCs to TELRIC, on the other hand, requires the Department to perform the regulatory equivalent of radical surgery. But cut the Department must if the goal of truly forward-looking non-recurring charges, consistent with the FCC's rules, are to be obtained. In that connection, the guidance provided by Mr. Walsh in his testimony provides the Department with an invaluable tool in deciding what should stay and what should go. Verizon's Brief, on the other hand, demonstrates the false assumptions and misapprehensions in Verizon's non-recurring cost methodology that require the Department to reject Verizon's proposed non-recurring rates and accept those proposed by AT&T/WorldCom. The thrust of Verizon's Brief is to attempt to explain, albeit unsuccessfully, that Verizon's model should be accepted because it is based upon Verizon's existing embedded network and the activities that have occurred historically in providing services through that network. As explained in WorldCom's initial brief, however, Verizon's study is fatally flawed for this and other reasons. Nothing in Verizon's Brief justifies these flaws. It is also worth noting that Verizon's criticisms of the non-recurring cost model sponsored by AT&T are largely based upon that model's (appropriate) rejection of embedded network

assumptions in favor of forward-looking TELRIC-compliant assumptions. The strengths of this approach over Verizon's were attacked by Verizon as flaws and weaknesses.

In summary: (1) Verizon's entire model is based upon backward-looking embedded network assumptions arbitrarily adjusted by its panel of experts, but nevertheless, still tied to outdated technologies, while the NRCM sponsored by AT&T is based upon forward–looking network assumptions; (2) Verizon refuses to accept (at least for CLECs) the cost reductions which result from efficient technologies and from the mechanization of activities that have been accomplished manually in the past, and; (3) Verizon would load non-recurring rates with costs which should be recovered through recurring rates, while the AT&T NRCM produces only costs properly classified as non-recurring.

A. Verizon's Primary Argument, That Its Non-Recurring Costs Are Based Upon Surveys Of Existing Practices By Its Current Employees, Is Its Primary Weakness

Verizon's Brief attempts to defend the crux of its study – that Verizon determined its non-recurring costs based on a survey of workers who actually perform the tasks necessary for the provision of UNEs. This, of course, is the primary problem with Verizon's methodology, *i.e.*, that its embedded processes are not relevant to the TELRIC analysis. *See McMahon*, 80 F.Supp.2d at 250-51. Moreover, as Verizon witnesses made abundantly clear on cross-examination, Verizon has no documentation of the segment of its process that would be relevant, *i.e.*, the forward-looking adjustments made by its unnamed experts. These facts, combined with the inherent bias built into Verizon's survey process and the flaws in its statistical methodology

compel the conclusion that Verizon's survey results and the non-recurring costs based on them must be completely rejected.

Boiled down, Verizon argues that its actual costs *are* the lowest costs resulting from the most efficient technology and processes available. Verizon makes no allowance whatsoever for two glaring discrepancies: (1) that it has had and will continue to have inefficient and unnecessary costs, which should not be included in a TELRIC study; and (2) that the costs it is proposing (based on data from 1999 and before) do not reflect past or future efficiencies from improvements such as OSS upgrades. Verizon has attempted to gloss over these deficiencies in its approach by glomming together all the work that Verizon work groups perform and spreading the cost across all orders. Thus, Verizon has completely ignored the issue of cost causation for the manual labor caused by CLEC UNE orders. Verizon has done nothing to shake the conclusion of Mr. Walsh that a 2% fallout assumption is conservative if one properly defines fallout as limited to those instances attributable to, *i.e.*, caused by, CLECs.

Verizon also mixes apples and oranges by citing the FCC's findings that certain Verizon processes are adequate for purposes of proceedings under 47 U.S.C. § 271. Those findings do not, by any means, lead to the conclusion that under the TELRIC standard, CLECs should absorb the cost of all inefficiencies embedded in the existing processes of Verizon or reflected in its cost study.

B. Verizon's Position that NRCs Must Be Based on Actual Network Assumptions as Opposed to the Most Efficient Technologies Available Must Be Rejected

Verizon relies on the ill-conceived argument that TELRIC costs should be measured exclusively by what Verizon, or its sister ILECs, are currently doing (or planning). Verizon disregards the obvious incentive for ILECs not to deliver UNEs by the least costly methods available. *Local Competition Order* ¶ 10. Verizon would rely upon the fact that neither it, nor the other ILECs, have deployed electronic unbundling of loops over IDLC for CLECs, although they use such technology themselves. By Verizon's logic, customers and competitors would always have to wait at the whim of ILECs in order to benefit from the most efficient technologies.[20] Only if Verizon had decided to move ahead with such technologies for the benefit of CLECs would UNE rates reflect those efficiencies. This turns the TELRIC concept on its head. TELRIC costs must be based upon the least costly, technically feasible solutions regardless of whether Verizon or other ILECs have chosen to implement them. The record establishes that loops may be unbundled electronically over IDLC, and Verizon should not be able to recover charges for manual labor required by less efficient technologies simply because it has dragged its feet on the implementation of this option.

TELRIC rates provide an incentive to provision UNEs more efficiently by using the best processes available. If the Department sets rates that reflect efficient forward-looking processes, Verizon is more likely to implement those processes, rather than pass on the cost of inefficient embedded processes.

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[20] Verizon also finds it significant that there is no proof that any ILEC actually has attained 98% flow through of UNE orders. As discussed above, this argument ignores the relevant issue of what rate of fallout is economically attributable to CLECs and what amount of manual labor is caused by the ILEC.

C. Field Dispatch, Cross-Connects At The FDI And Related Activities Should Be Recovered As Recurring Costs

Verizon's Brief points to no evidence that would alleviate the concern that shifting field dispatch costs to non-recurring charges will result in over-recovery and inequitable treatment of CLECs. Verizon has proposed no method by which CLECs bearing the initial field installation cost could share that cost proportionally with subsequent users, including Verizon.

The problems with Verizon's approach demonstrate why the Department should follow the straightforward method of recovering these costs through recurring charges. Verizon admits that the installation and maintenance expenses for the loop, including moves and rearrangements for the benefit of Verizon customers, are all included in its recurring cost study. Verizon's convoluted attempt to remove a proxy of retail non-recurring charge revenues is essentially a concession that, in the absence of such machinations, all of the costs for installation and maintenance, including moves and rearrangements in the field for CLEC customers, are recovered in recurring cost studies. This has been AT&T/WorldCom's position from the start and is consistent with sound principles of cost causation.

Under TELRIC, all costs must be correctly identified as recurring or non-recurring in order to avoid double recovery and obey principles of cost causation. Reusability of an asset is the key determinant. The FCC has directed that reusability (using the example of collocation) gives rise to a requirement for a refund mechanism from future users. The FCC has explicitly ordered such a mechanism.[21] Verizon declined to propose such a mechanism and

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[21] Second Report and Order, Local Exchange Carriers' Rates, Terms and Conditions for Expanded Interconnection through Physical Collocation for Special Access and Switched Transport, 12 FCC Rcd 18730 (1997).

failed to address the inequity that arises from charging the first user an NRC for a reusable asset.[22]

Significantly, the most likely beneficiary of this inequity would be Verizon. Where a CLEC has paid Verizon's exorbitant NRC for field dispatch to place a cross-connect at the FDI and subsequently cancels the service, Verizon enjoys the windfall of using that dedicated outside plant to serve customers at that location and keeps the NRC revenue. Thus, it becomes clear that Verizon's attack on AT&T/WorldCom's use of dedicated outside plant is misguided. The issue has nothing to do with Verizon's description of a network that has all cross-connects in place in 100% of all locations at any given moment in time. The point is simply that if the costs of placing the cross-connects are recovered fully in the construction and maintenance accounts of a recurring cost study, then from the perspective of the non-recurring *cost study*, there is no cost, because it has already been accounted for.

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[22] In the case of collocation, the size of the initial expenditure, the relatively limited number of orders and the likelihood that the facility will not be re-used if the service is cancelled, may all have supported non-recurring cost treatment in the very early days of collocation. Each of these factors supports treatment of field dispatch as a recurring cost in this arbitration. While a high per loop charge might be significant enough to act as a barrier to entry, it might not be a large enough amount to justify the expense of a refund mechanism from future users.

V. CONCLUSION

For all the foregoing reasons, and for the reasons set forth in the Initial Brief of WorldCom, Inc., WorldCom respectfully requests the Department to (1) require Verizon to make the specific changes to its cost models identified by WorldCom and its witnesses, (2) require Verizon to make all other changes to its models warranted by the evidence adduced in this proceeding, and (3) adopt TELRIC-compliant UNE rates that will allow statewide UNE-based competition.

Respectfully submitted,

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Dated: New York, New York
March 29, 2002

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing upon each person designated on the service list in this proceeding by email and either U.S. mail or overnight courier.

Dated: New York, New York
March 29, 2002

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