establish costs for interoffice dedicated transport for unbundling. Moreover, the FCC explicitly requires that the incumbents make DCS available in the same manner for unbundling that it makes it available for special access.[113]

Q. DO THE INTERCONNECTION AGREEMENTS BETWEEN AT&T AND VERIZON, AND WORLDCOM AND VERIZON GIVE THE CLECS THE OPTION OF PURCHASING DCS WITH DEDICATED TRANSPORT?

A. Yes. Attachment 2 § 10.3 of the agreement between AT&T and Verizon provides that dedicated transport includes DCS as an *option* where available. Similarly, Attachment 3, § 10.2.4 of the agreement between WorldCom subsidiary MCImetro Access Transmission Services, Inc. and Verizon requires Verizon to "offer DCS and multiplexing, both with and separately from Dedicated Transport."

Q. DOES THE NETWORK CONFIGURATION THAT VERIZON IS USING PERMIT IT TO SEPARATE DCS FROM THE DEDICATED TRANSPORT?

A. Yes. Based on the diagrams provided by Verizon with its cost study, Verizon always places DSX cross-connect points on each side of the DCS. As such, the dedicated transport, which appears at the DSX, can be readily separated from the DCS, which also appears at the DSX, so that the CLEC can either purchase dedicated transport with DCS (if DCS is available) or without DCS.

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[113] FCC *First Report and Order*, FCC Docket No. 96-325, ¶ 444.

Q. HOW HAVE YOU RECALCULATED VERIZON'S COST STUDY TO CORRECT THIS ERROR?

A. We have stated the cost of DCS as a separate element. Effectively, we have taken Verizon's investments for DCS already included in its dedicated transport cost studies and separately developed the cost for this element based on the various port types available on DCS. We have made no underlying changes to Verizon's cost for DCS.

3. DEVELOPMENT OF MULTIPLEXING RATES

Q. DID VERIZON PROPOSE A RATE FOR MULTIPLEXING IN THIS PROCEEDING?

A. No.

Q. DID VERIZON PROVIDE UNDERLYING COSTS AND INVESTMENT DATA FROM WHICH RATES COULD BE GENERATED?

A. Yes. Verizon included the underlying equipment investment cost in its filing for Virginia. However, Verizon has not converted these equipment investment costs into proposed rates for Multiplexing.

Q. IS IT UNUSUAL THAT VERIZON DID NOT PROVIDE A COST FOR MULTIPLEXING?

A. Yes. In recent UNE cost proceedings in New York and in Massachusetts, Verizon provided costs for these elements in its cost studies and proposed rates for Multiplexing to those respective commissions.

Q. WHY ARE MULTIPLEXING RATES IMPORTANT?

A. Multiplexing enables the CLEC to take entrance facilities at lower transport speeds (*e.g.*,as DS1) and combine these together through unbundled access to multiplexing to take advantage of higher speed interoffice dedicated transport. Without Multiplexing, CLECs will be severely limited in the manner in which they can utilize interoffice dedicated transport.

Q. HOW HAVE YOU APPROACHED VERIZON'S FAILURE TO PROVIDE MULTIPLEXING RATES?

A. Our restatement of Verizon's cost in this proceeding includes Multiplexing costs in two forms: DS1 to DS0 Multiplexing and DS3 to DS1 Multiplexing, as Verizon did in similar proceedings. We rely on the underlying equipment investment costs Verizon has proposed in this proceeding before the FCC in making this cost calculation. The details for how the calculations were made can be found in our supporting work papers.

4. CORRECTION TO TRANSPORT EQUIPMENT IN-PLACE FACTOR

Q. FIRST, WHAT IS AN IN-PLACE FACTOR?

A. In most instances, Verizon has determined the material investment for each of the elements in its cost study. However, it has not separately identified the installation and miscellaneous costs necessary to put the material investment operation – or "in-place." The in-place factor is intended to gross up the material investment to represent the total installed cost of telecommunications equipment.

Q. WHAT IS THE IN-PLACE FACTOR FOR TRANSPORT EQUIPMENT PROPOSED BY VERIZON?

A. Verizon has proposed an in-place factor for transmission equipment of 53.2% in Virginia.

Q. WHAT IS YOUR CONCERN WITH THE IN-PLACE FACTOR USED BY VERIZON?

A. First, Verizon has used an in-place factor that is not representative of TELRIC cost for this element. In our experience, the in-place cost for transmission equipment should be in the 30% range. Verizon has proposed an in-place factor for transmission equipment of 53.2% in Virginia, which is significantly higher than any cost-based in-place factor we have seen. Second, Verizon has not separately identified the installation and miscellaneous costs that go into its in-place factor. It is therefore impossible to verify Verizon's claimed costs.

Q. WHAT IN-PLACE FACTOR WOULD YOU RECOMMEND FOR VIRGINIA?

A. In the New York UNE cost proceeding, Verizon presented a transmission equipment in-place factor of 36.4%.[114] There is no reason to believe that installation costs in Virginia should be 46% greater than the 36.4% factor used in New York. Verizon uses the same equipment vendors for transport equipment in New York as in Virginia, so it is unlikely that such a large difference is supportable. In short, in light of the large difference between Verizon's in-place factor in Virginia as compared to New York, we would recommend that the Commission use the value which Verizon presented in the New York proceeding.

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114 State of New York Public Service Commission, *Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements*, Case 98-C-1357, Workpaper Part C-1 – Section 1.0 to the Panel Testimony of Bell Atlantic – New York on Revised Costs and Rates for Unbundled Network Elements and Related Wholesale Services, February 24, 2000, p. 3. Please note that this exhibit can also be found as Exhibit 323 in the New York UNE cost proceeding.

C. SUMMARY OF CORRECTIONS TO VERIZON'S INTEROFFICE DEDICATED TRANSPORT COST STUDY

Q. COULD YOU PLEASE SUMMARIZE THE INTEROFFICE DEDICATED TRANSPORT RATES THAT RESULT FROM YOUR CHANGES TO VERIZON'S COST STUDY?

A. Yes. The following table summarizes the proposed rates for interoffice dedicated transport that are derived from our restatement of Verizon's cost study based on the criticisms and corrections identified above. These modifications also incorporate the annual cost factors and overhead factors addressed earlier in this testimony.

Rate Element	AT&T Monthly Rate	Verizon Monthly Rate
DS0 Dedicated Transport (Fixed)	$20.23	NA
DS0 Dedicated Transport (Per Mile)	$0.29	NA
DS1 Dedicated Transport (Fixed)	$43.66	$54.76
DS1 Dedicated Transport (Per Mile)	$2.46	$3.91
DS3 Dedicated Transport (Fixed)[115]	$198.88	$499.44
DS3 Dedicated Transport (Per Mile)	$33.53	$59.11
STS-1 Dedicated Transport (Fixed)[116]	$200.24	$502.99
STS-1 Dedicated Transport (Per Mile)	$33.61	$59.11
OC-3 Dedicated Transport (Fixed)[117]	$584.64	$1,441.40
OC-3 Dedicated Transport (Per Mile)	$102.95	$178.07

115 It is difficult to precisely compare the AT&T/WorldCom and Verizon proposed rates for dedicated transport in that Verizon has averaged DCS investment into its rates rather than allowing CLECs to elect this UNE if it wants to as does Verizon. Nonetheless, for DS3 dedicated transport, allowing CLECs to elect DCS accounts for 12.3% of the investment difference between AT&T/WorldCom and Verizon.

116 For STS-1 dedicated transport, allowing CLECs to elect DCS accounts for 12.2% of the investment difference between AT&T/WorldCom and Verizon.

117 For OC-3 dedicated transport, allowing CLECs to elect DCS accounts for 14.4% of the investment difference between AT&T/WorldCom and Verizon.

OC-12 Dedicated Transport (Fixed)	$2,578.58	$4,113.45
OC-12 Dedicated Transport (Per Mile)	$255.04	$390.84
Multiplexing DS1 to DS0 – Common	$167.56	N/A
Multiplexing DS1 to DS0 – Plug-In	$6.98	N/A
Multiplexing STS-1/DS3 to DS1	$259.36	N/A
Multiplexing STS-1/DS3 to DS1 – Plug-In	$9.26	N/A
DCS DS1 Port	$5.77	NA
DCS DS3 Port	$109.40	NA
DCS STS-1 Port	$109.40	NA
DCS OC-3 Port	$328.19	NA

D. VERIZON'S CLAIMED COMMON (SHARED) TRANSPORT COSTS

Q. WHAT IS THE RELATIONSHIP BETWEEN THE COST FOR COMMON TRANSPORT AND INTEROFFICE DEDICATED TRANSPORT?

A. Common transport is closely linked to the costs for interoffice dedicated transport. The trunks that are used to carry common transport are provisioned on dedicated transport circuits. As such, the underlying cost for dedicated transport directly relates to the costs that would be incorporated into the calculations for common transport. Of course, other issues also come into play with common transport in that the cost recovery for this element is not based on circuits, but on minutes. As such, the assumptions related to the number of minutes that will pass across a trunk provisioned over dedicated transport are critical factors in developing the cost for this element.

Q. WHAT CONCERN DO YOU HAVE WITH VERIZON'S COMMON TRANSPORT COST STUDY?

A. Verizon used as the underlying cost element for common transport the costs from the dedicated transport cost study for DS1 Dedicated Transport and STS-1 Dedicated Transport. Using these elements as the underlying cost for the transport in common transport is appropriate, but Verizon's cost study for common transport costs must be corrected to account for the same errors as in the dedicated transport cost study.

Q. COULD YOU PLEASE SUMMARIZE THE RESULTING RATES FOR COMMON TRANSPORT BASED ON YOUR MODIFICATIONS TO VERIZON'S COST STUDY?

A. Yes. The resulting rate for common transport is $0.000060 per minute of use – fixed and $0.000001 per minute of use per mile. This rate also reflects adjustments to the annual cost factors and overhead factors that are addressed in other sections of this rebuttal testimony.

E. CONCLUSION

Q. PLEASE SUMMARIZE THIS PART OF YOUR TESTIMONY.

A. Verizon has significantly overstated its forward-looking economic costs for dedicated interoffice transport and common transport. For dedicated interoffice transport, Verizon's understated the capacity of the SONET rings, thereby significantly overstating the costs for the circuits riding those SONET rings; improperly included DCS on most dedicated transport circuits regardless of whether the CLEC elects this element or not; used an inflated installation factor for transport equipment that is significantly higher than even Verizon has previously suggested is reasonable; and failed to develop multiplexing cost for DS1 to DS0 and DS3 to DS1 multiplexing. Finally, Verizon's cost for common transport, which is based on its underlying dedicated transport cost study, must be revised to correct the errors in that underlying study.

VI. ACCESS TO OSS COSTS

A. INTRODUCTION AND SUMMARY OF THIS PORTION OF THE TESTIMONY

Q. WHAT IS THE PURPOSE OF THIS PORTION OF YOUR REBUTTAL TESTIMONY?

A. In this section, we will rebut Verizon's Panel Testimony on Unbundled Network Element and Interconnection Costs. For certain of the adjustments proposed herein, we rely on concurrently filed reply testimony of AT&T/WorldCom witnesses Mr. Lee and Mr. Hirschleifer.

B. VERIZON'S "ACCESS TO OSS" CHARGE IS NEITHER COMPETITIVELY NEUTRAL NOR BASED ON FORWARD-LOOKING COSTS.

Q. PLEASE SUMMARIZE THE MAJOR CONCLUSIONS THAT YOU HAVE REACHED BASED ON YOUR REVIEW OF VERIZON'S ACCESS TO OSS TESTIMONY AND THE ASSOCIATED COST STUDIES.

A. With respect to Verizon's access to OSS cost studies and pricing recommendations, we have reached the following major conclusions:

- The one-time development costs in Verizon's "access to OSS" study are caused by the transition to a competitive environment, not by new entrants' orders for UNEs. Therefore, it is inappropriate to recover these costs solely from new entrants.
- Because new entrants incur costs for their own portion of the electronic gateway between their operation and Verizon's OSS, the simplest competitively neutral mechanism for cost recovery is to require each company to bear its own costs for access to OSS.

- The Commission should hold Verizon to a strict burden of proof in justifying recovery claims for modifications to Verizon's OSS. Verizon has not met this burden.
- If the Commission authorizes any explicit access to OSS charge, it should be calculated as a competitively neutral surcharge on all Virginia telecommunications users. Based on Verizon's reported access to OSS costs, an eight-cent per month per line surcharge would be sufficient to recover all of the alleged costs over a ten-year period.
- Even the eight-cent per month surcharge figure is likely too high, because Verizon's access to OSS cost study reflects embedded, rather than forward-looking costs, probably some double-counting with Verizon's recurring costs, and the costs of potentially duplicative or obsolete systems. Of course, if the Commission adopts our primary recommendation to have each carrier bear its own access to OSS costs, there is no need to resolve these issues because Verizon will bear any costs attributable to its own inefficiencies.
- Ongoing OSS expenses are a normal cost of business and should be recovered in the same way Verizon captures all normal forward-looking recurring OSS expenses, through its annual cost factors.

Q. WHAT DOES VERIZON PROPOSE FOR "ACCESS TO OSS"?

A. Verizon proposes to apply a recurring "Access to OSS" charge of $0.87 per month per line to all UNE loops, UNE platforms and resale loops.[118] Verizon designed this charge to recover: "(1) initial development costs to make … access to Verizon VA's operations support systems possible; and (2) the associated recurring capital costs and ongoing maintenance expenses associated with provisioning OSS Access on an ongoing basis."[119] We will address separately the appropriateness of each of these categories of purported costs and Verizon's proposed recovery mechanisms.

1. VERIZON'S PROPOSED ACCESS TO OSS CHARGE DOES NOT RECOVER COMPETITION-ONSET COSTS IN A NEUTRAL FASHION

Q. WHAT INITIAL DEVELOPMENT COSTS HAS VERIZON INCLUDED IN ITS PROPOSED ACCESS TO OSS CHARGE?

A. Verizon estimates that it has incurred $227 million in one-time development costs over its entire Verizon–East footprint[120] for which it seeks recovery over a ten-year period. These one-time development costs account for 44% of Verizon's proposed Access to OSS charge. According to Verizon's cost panel, these one-time development costs include expenses associated with developing new system

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118 Verizon has proposed a separate Line Sharing OSS charge of $0.84 per line per month, which would apply to both line sharing and line splitting lines. The AT&T/WorldCom Panel on Non-Recurring Costs and Advanced Data Services addresses this proposed charge in its concurrently filed reply testimony.

119 Verizon Cost Panel Direct at 242-243.

120 *Id.* at 245.

interfaces or gateways and modifying the underlying core systems to accommodate the new interfaces/gateways (including capitalized software costs), as well as expenses associated with defining the methods and procedures for OSS access.[121]

Q. IS IT APPROPRIATE TO RECOVER THESE INITIAL DEVELOPMENT COSTS IN UNE CHARGES, AS VERIZON PROPOSES?

A. No. The initial development costs that Verizon included in its study are costs attributable to the transition from a monopoly to a competitive environment. The need to develop gateways arises from the legal requirement that incumbent local exchange carriers, who previously operated in a single carrier environment, open their existing OSS to access by multiple, competing carriers. In this case, the government mandate results in what can be called "competition-onset costs," (sometimes known as competition implementation costs). By attributing these costs solely to new entrants, Verizon, in effect, misidentifies the cost causers.[122]

Q. WHY IS IT INAPPROPRIATE FOR VERIZON TO RECOVER COMPETITION-ONSET COSTS THROUGH UNE CHARGES?

A. There are several reasons why the charges for unbundled network elements, whether recurring or non-recurring charges, should not provide for the recovery of Verizon's competition-onset costs. First, such charges would create a formidable

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121 *See id.* at 273.

122 In addition, Verizon has not distinguished between the costs to develop access to OSS for resale and those for unbundled network elements. Therefore, competitors that purchase only unbundled network elements would have to bear the costs of developing resale OSS that they could not possibly have caused.

barrier to entry by allowing Verizon, solely because of its control over bottleneck monopoly inputs, to pass these costs on to new entrants who must also cover their own competition-onset costs.

Second, to allow Verizon to pass these costs on to new entrants allows Verizon to recover costs it inefficiently incurred. In this case, Verizon's expectation that it would be able to pass along OSS development costs to competitors created an incentive for it to comply inefficiently. Competitors should not now be asked to bear the cost of that inefficiency.

Third, Verizon's one-time development costs are not the forward-looking costs of providing an element, but rather costs Verizon has already incurred to transition to a competitive market.

Q. HOW WOULD ALLOWING VERIZON TO IMPOSE ITS COMPETITION-ONSET COSTS ON NEW ENTRANTS CREATE A BARRIER TO ENTRY?

A. Verizon's methodology would make new entrants and their customers entirely responsible for effectively paying the costs to make competition possible in Virginia. Requiring new entrants to shoulder all of Verizon's OSS-related costs for the transition to a multi-provider marketplace would impose a disproportionate burden on new entrants (who themselves concurrently incur costs to exchange pre-ordering, ordering, provisioning, maintenance and repair, and billing data with Verizon electronically). If Verizon's proposal was adopted with respect to gateway costs, *the new entrant would have to pay to develop two gateways, while Verizon would pay for none.* That is, new entrants would have to bear costs that Verizon did not and does not bear. This is the classic definition of a barrier to entry. Such a barrier would deter the very competitive entry that the legal requirement for access to Verizon's OSS is intended to foster.

Q. HOW CAN THE COMMISSION AVOID CREATING SUCH A BARRIER TO ENTRY?

A. The Commission can avoid creating an unnecessary barrier to entry by properly classifying Verizon's reported one-time developments costs for access to OSS as competition-onset costs and recovering those costs in a competitively neutral manner.

Q. CAN YOU PROVIDE EXAMPLES OF COMPETITIVELY NEUTRAL COST RECOVERY MECHANISMS BY WHICH TO RECOVER COMPETITION-ONSET COSTS?

A. Yes. The simplest and arguably most fair mechanism is to have each market participant bear its own costs for the gateway systems that are necessary to permit new entrants to access Verizon's OSS. As we have already noted, Verizon is not the only carrier that incurs costs to create the necessary electronic gateways; every new entrant that seeks to establish electronic access to Verizon's OSS also incurs costs for its end of the gateway and for training its personnel on the use of Verizon's systems. Thus, the Commission should not approve any explicit charge for access to OSS, but rather *have Verizon and each entrant bear its own costs* for the gateway(s).

In the alternative, the Commission could calculate a per-line surcharge that would be the equivalent of recovering Verizon's prudently incurred access to OSS costs from all Virginia end-users, whether they subscribe to Verizon's local exchange service or that of a competitor. New entrants would pay this surcharge to Verizon directly, on behalf of their end users. Verizon would have the option of absorbing its pro rata share of the competition-onset costs or seeking authority from state regulators to pass the surcharge along to its end-user customers in Virginia.

Q. IF EACH CARRIER PAYS THE COST OF CREATING ITS OWN GATEWAY, CUSTOMERS OF VERIZON WHO CHOOSE NOT TO SWITCH CARRIERS MAY BE ASKED TO BEAR COSTS FOR A GATEWAY DESIGNED TO PROMOTE COMPETITION. IS THIS REASONABLE?

A. Yes. The creation of a gateway is a necessary condition for the move to a multi-provider competitive local exchange market. All consumers, whether they choose to change carriers or not, will be the beneficiaries of the existence of local competition. Incumbents such as Verizon will have to compete on price and service quality with new entrants; customers who remain with Verizon will benefit from the lower prices, greater array of services, and more rapid introduction of technology that competition will compel. Thus, because all consumers – including those of Verizon – will benefit from ensuing competition, it is perfectly reasonable to expect them to bear some of the cost of the gateway that is a necessary adjunct to the creation of a competitive marketplace.

Q. WOULD THE ALTERNATIVE END-USER SURCHARGE YOU DESCRIBE IMPOSE A DISPROPORTIONATE BURDEN ON VERIZON OR ITS VIRGINIA RETAIL CUSTOMERS?

A. No, it would not. Once again, all Virginia customers benefit from the creation of conditions that make local exchange competition in Virginia possible, whether they are Verizon customers or customers of a new entrant. The requirement that Verizon provide electronic access to its OSS to all local exchange providers is one of the conditions necessary to make a multiple provider environment workable, much like the requirement for number portability. The surcharge mechanism that we have described is analogous to competitively neutral mechanisms that have already been approved for the recovery of number portability costs, and does not impose a disproportionate burden on Verizon. If anything, because new entrants will have to bear all of their own costs for electronic access to OSS plus a share of the surcharge, Verizon's burden under this method of cost recovery is disproportionately light. That is one reason why our primary recommendation is for each company to bear its own costs.

Moreover, the Commission should recall that Verizon stands to benefit significantly from fulfilling the requirements of the competitive checklist for entry into the interLATA market. Providing access to its OSS is one such requirement. Passing through a small monthly surcharge to its local exchange customers is little or no burden on Verizon compared to the advantage of interLATA entry.

Q. WHAT LEVEL OF SURCHARGE WOULD BE NECESSARY TO RECOVER THE COSTS IN QUESTION?

A. For purposes of illustration, we will assume that all of the one-time costs reported in Verizon's access to OSS cost study are prudently incurred costs that should be eligible for recovery through an end-user surcharge (a conjecture that Verizon has by no means proven, as we discuss below). We will further assume that the surcharge will apply for ten years, the same period over which Verizon proposes to amortize its one-time development costs for access to OSS. Given Verizon's current number of access lines,[123] the initial monthly surcharge needed to recover all of Verizon's reported one-time development costs would be approximately $0.08.[124] Because Verizon's total one-time costs do not vary, the monthly surcharge would decrease over time as the number of access lines grows.

As this example demonstrates, a competitively neutral surcharge would impose a manageable price on all Virginia telecommunications users for the benefits of creating a competitive local exchange environment that can bring down prices and increase service quality and choices for all consumers. In contrast, Verizon's prohibitively high proposed charges would stifle competition.

Q. ARE THERE ANY PRECEDENTS FOR THE TREATMENT OF OSS GATEWAY COSTS AS COMPETITION-ONSET COSTS THAT SHOULD BE RECOVERED IN A COMPETITIVELY NEUTRAL MANNER?

A. Yes. There are at least three precedents. First, the California Public Utilities Commission has required Pacific Bell and GTE California, Inc. (now a Verizon affiliate), to seek recovery of their OSS gateway costs through competitively neutral local competition implementation charges, not charges to competitors.[125]

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123 We used Verizon's current number of access lines for June 2001 (*see* Verizon Maryland's Response to AT&T 6-53 and 6-54, Public Service Commission of Maryland Case 8879). Verizon has presented its access to OSS implementation costs on a regional basis and has proposed spreading some portion of the costs over the demand in Verizon-East-South and some portion over the demand for all of Verizon-East. For the purpose of this calculation, we have not changed Verizon's approach, just the demand over which the costs are spread.

124 This estimate incorporates corrections to Verizon's factors discussed elsewhere in this testimony.

125 CPUC D.98-12-079 at 47-48 (footnote omitted). A settlement allowing Verizon to recover a part of its claimed one-time local competition implementation costs through a surcharge on all of its customers is now pending before the California PUC. The (footnote continued)

A second precedent for requiring incumbents to bear the costs of their own OSS gateways is an order of the New York Public Service Commission ("NYPSC"). In its Opinion No. 97-19, the NYPSC agreed with AT&T that "the law [the Telecommunications Act of 1996] would have required these steps [enhancements to OSS to permit multi-provider access] even if no CLEC were to use OSSs."[126] Moreover, although the NYPSC did not issue a final ruling on the cost recovery issue because it disallowed all of New York Telephone's proposed costs for access to OSS pending a further showing, it noted that "the recommended decision [of the Administrative Law Judge in the same proceeding] found a 'fair case' for spreading OSS development costs over the entire industry, incumbent carriers included, rather than recovering them solely from competing local exchange carriers."[127]

Finally, the treatment that we propose for OSS gateway costs is directly analogous to the treatment that the Commission has prescribed for number portability costs. In its Third Report and Order in CC Docket No. 95-116, the Commission directed that incumbents may recover their costs of implementing local number portability from their end-users. Incumbents are not to recover local number portability implementation costs from the new entrants. Like number portability, the OSS gateway is a cost that an incumbent such as Verizon must

assigned Administrative Law Judge issued a draft decision approving the settlement on August 16, 2001.

126 NYPSC Opinion and Order in Phase 2 of Cases 95-C-0657 *et al.*, at 14.

127 *Id.* at 15.

incur to meet its legal obligations to enable local competition – in other words, a competition-onset cost. The Commission has applied a two-pronged test to determine whether both interim and long-term number portability costs are being borne in a competitively neutral manner.[128] The test requires that the method for recovering costs: "(1) must not give one service provider an appreciable, incremental cost advantage over another service provider when competing for a specific subscriber; and (2) must not disparately affect the ability of competing service providers to earn a normal return."[129] Our proposal for recovering the costs of OSS gateways meets these criteria because all carriers will bear the costs of their own OSS gateways and have to recover those costs from their retail customers, whereas Verizon's proposal does not.

Q. ARE THERE OTHER REASONS THAT THE COMMISSION SHOULD NOT ALLOW VERIZON TO FORCE NEW ENTRANTS TO PAY FOR ITS COMPETITION-ONSET COSTS?

A. Yes. If new entrants were to pay for Verizon's competition-onset costs, including the gateway Verizon developed, there is virtually no chance that Verizon would select the most efficient means for complying with the mandate to open its markets to competition. Verizon does not want entry. If it can comply with the mandate at high cost but force new entrants to pay the cost, it is much less likely to face effective competition. The only way to create an incentive for Verizon to

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128 Third Report and Order, *In the Matter of Telephone Number Portability*, CC Docket No. 95-116, adopted May 5, 1998, rel. May 12, 1998, ¶¶ 53-4.

129 *Id.* at ¶ 53.

comply with the mandate to open its markets to competition in the most efficient manner possible would be to force Verizon to bear the cost of creating its own gateway.

In this case, Verizon's expectation that it would likely be able to pass along its costs of developing new gateways created such an incentive for inefficiency. Indeed, Verizon did not proceed with development as efficiently as it might have. Instead, it resisted the development of gateways and functionalities for competitors repeatedly, slowing and complicating their development. Competitors should not now be asked to bear the cost of that inefficiency. Furthermore, Verizon now has an incentive to inflate the magnitude of the costs it incurred to develop the gateways. Verizon's documentation in this proceeding is far from sufficient to determine if Verizon has acted on that incentive. Any costs for elements that Verizon expects to impose solely on competitors are an opportunity for it to disadvantage competitors, and, as such, require a much higher level of scrutiny than Verizon has allowed here.

Q. DO THE INITIAL DEVELOPMENT COSTS PRESENTED BY VERIZON COMPLY WITH FORWARD-LOOKING ECONOMIC PRINCIPLES?

A. No. Verizon's study unquestionably violates TELRIC principles in fundamental respects. First, it measures *actual incurred* costs rather than the forward-looking costs that would be incurred in a reconstructed network. Verizon's study is based for the most part on costs that were actually incurred in 1996, 1997, 1998 and 1999. Nonetheless, the company asserts these "costs were forward-looking at the time they were incurred"[130] and therefore are appropriate for inclusion in a forward-looking study. This statement reveals a deep misunderstanding of the economic meaning of forward-looking costs. Under this logic, it is difficult to see what embedded investment Verizon would not consider to be "forward-looking." Yet that clearly is not the intent of the Commission's TELRIC methodology. Ms. Murray discusses Verizon's misunderstanding of TELRIC in her concurrently filed rebuttal testimony on economic and policy issues.

Instead, Verizon should have determined the forward-looking costs that an efficient provider would incur to build its OSS using the best available technology. In a reconstructed local network, Verizon would design its OSS to accommodate multiple providers from the start. Neither the entire capital cost of those OSS nor the ongoing maintenance cost for such systems would be attributable solely to competitors.

Q. WHAT ARE THE DOCUMENTATION PROBLEMS TO WHICH YOU ALLUDED?

A. The information provided by Verizon is woefully insufficient to permit parties or the Commission even to verify the level of the claimed costs, much less to determine their appropriateness. Verizon has provided access to OSS cost data only on the most aggregate level. It has made no attempt to break out the costs associated with particular efforts or projects. Verizon's own witness on its

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130 Verizon Cost Panel Direct at 247.

proposed access to OSS cost study, Mr. Minion,[131] has not reviewed the proposed costs for reasonableness. Mr. Minion recently filed similar testimony on Access to OSS costs[132] in Public Service Commission of Maryland Case 8879 as part of a two-witness panel. In that case, Verizon admitted "[n]either Mr. Minion nor Ms. Prosini reviewed any documents that were specific to the reasonableness of the costs associated with capabilities of individual systems."[133]

Apparently, Verizon would have this Commission rely, as its own witness did, "upon Verizon's accounting processes, wage/bill/and voucher verification and approval processes and internal project controls to ensure the accuracy and reasonableness of the expenditures."[134] We are less convinced in infallibility of Verizon accounting processes in evaluating the appropriateness of costs. These same accounting processes seem to have failed Verizon even on the level of compiling the costs for this study. While some of dollar values presented by Verizon in the access to OSS cost study (Verizon Exhibit Part F-5) claim to be based on "company records," others are based on "company estimates." Verizon was forced to "estimate" many costs, apparently because Verizon does not or did not track the relevant information. For example, when asked for a breakdown of costs by its own "access to OSS" tracking codes, Verizon replied:

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131 Verizon Cost Panel Direct at 3.

132 Because Verizon has developed these costs on a regional basis, the cost filed in Maryland is fundamentally the same as Verizon has presented here.

133 *See* Verizon Maryland's Responses to AT&T 7-18, 7-24, 7-27, 7-30, 7-33, and 7-37.

134 *See id.*

> In conducting its study, the company relied upon a different categorization of expenditures. As such, historical information is not readily available by [Keep Cost Orders] before 1999.[135]

Finally, Verizon has provided no evidence that the costs it reports were tracked properly to "access to OSS" projects. As we have already explained, Verizon has every incentive to load as many costs into accounts that it believes it might ultimately be able to recover solely from competitors. A careful review of detailed cost break-out might reveal costs that were not prudently incurred or were not relevant to OSS access or perhaps were even related to gathering information for regulatory filing in which Verizon resisted implementation of non-discriminatory OSS. Unfortunately, Verizon does not seem to have made such a review. Nor does Verizon seem to have educated its employees on the importance of tracking these costs properly. Verizon was unable to produce instructions to the employees responsible for logging charges to the Access to OSS accounts.[136]

Q. HAS VERIZON SHOWN ITS CLAIMED ACCESS TO OSS COSTS TO BE APPROPRIATE FOR RECOVERY?

A. No. Verizon's presentation here fails to address key issues related to the appropriateness of recovering these costs from new entrants. Verizon's determination to recover already-incurred costs precludes its study from being

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135 Verizon Maryland's Responses to AT&T 6-30 and 6-31, Public Service Commission of Maryland Case 8879. *See also*, Verizon Exhibit Part F-5, Tab WP4 PG1 and Tab WP4 PG6, OngInv for further examples.

136 *See* Verizon Maryland's Responses to AT&T 6-30 and 6-31, PSC of Maryland Case 8879, in which Verizon stated that "[n]o such explicit instructions exist."

forward-looking, as we have already discussed. But Verizon has also not shown, for example, that the costs were efficiently and prudently incurred and that they benefit new entrants exclusively. Nor has Verizon shown that the costs reflect no duplication of effort across projects or that there was no duplication of functionality amongst the interfaces. Verizon has not even established that all of its claimed costs were incurred to provide functionality that ultimately became or will become available to competitors; Verizon may have included cost for projects that did not come to fruition. Similarly, some of the multiple interfaces and gateway systems developed by Verizon may have been interim solutions that have been, or soon will be, replaced.

In particular, Verizon has made no attempt to prove that none of the costs were incurred as a result of the merger between NYNEX and Bell Atlantic. Verizon is required to provide uniform OSS interfaces pursuant to the Commission's merger conditions. Competitors should not be made to pay for any costs of comporting legacy or gateway systems between the companies, which were imposed by Commission mandate as a price that Verizon had to pay to complete its merger. Yet Verizon's approach may very well include such costs in its Access to OSS charge. At any event, Verizon has not given any reason to believe they are not. Furthermore, Verizon has supplied no evidence that the systems it developed in the East - South region were not replaced (or will soon be replaced) by systems developed in the East - North region, or vice versa.

Verizon has not demonstrated that these so-called access to OSS costs have not already been recovered, in whole or in part, through previously adopted recurring prices. For example, Verizon has not shown that it had backed any such costs out of its expense factors for previously adopted recurring prices. If those prices were based on expenses for 1996 or later and the costs of OSS development were not excluded from the calculation of expense factors, then Verizon has been recovering the costs of OSS access through UNEs in the meantime. And, despite its claims to the contrary, Verizon has failed to ensure that its current submission represents no potential double-recovery of OSS costs. (We discuss this point in more detail below.)

Finally, Verizon has not shown that the OSS projects for which it seeks special cost recovery placed an unusual burden on its Information Management organization, i.e., that it was in any way out of the ordinary course of business. For example, Verizon does not plan to reduce the number of employees in its Information Management and Network organizations once significant one-time development of OSS for UNE services is complete.[137]

For all of these reasons, if the Commission were – inappropriately – to allow Verizon to impose its initial development cost for OSS access solely on new entrants, it should not rely on Verizon's cost estimates.

The difficult task of determining the extent of imprudent or non-forward-looking costs exists only if the Commission chooses to authorize an explicit "access to OSS" charge to new entrants or to create a surcharge on all Virginia

[137] Verizon Maryland's Response to AT&T 7-43, Public Service Commission of Maryland Case 8879.

telecommunications users to recover Verizon's asserted costs. If, instead, the Commission adopts our primary recommendation to have each competitor bear its own costs for access to OSS, Verizon will have the correct incentive to minimize or eliminate inefficient costs and the Commission will not be placed in the unenviable position of having to determine Verizon's prudently incurred costs for its gateway systems, a task made more difficult by virtue of Verizon's failure to meet its burden of establishing which of its costs were prudently incurred.

2. VERIZON PROPOSES EXCESSIVE AND IMPROPER RECOVERY OF ITS ONGOING OSS MAINTENANCE AND CAPITAL COSTS.

Q. WHAT ONGOING COSTS HAS VERIZON INCLUDED IN ITS PROPOSED ACCESS TO OSS CHARGE?

A. Verizon has included $50 million in ongoing costs per year for its entire Verizon–East footprint.[138] These ongoing costs account for 56% of Verizon's proposed Access to OSS charge. Verizon's estimate of ongoing costs includes costs of software maintenance, as well as capital and maintenance costs associated with the computer hardware.[139]

Q. HOW HAS VERIZON ESTIMATED ONGOING SOFTWARE MAINTENANCE EXPENSES ASSOCIATED WITH ACCESS TO OSS?

A. Verizon did not estimate ongoing costs directly, but instead Verizon assumed that annual software maintenance costs associated with "work done to improve

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138 *Id.* at 245.

139 Verizon Cost Panel Direct at 284.

software performance, adapting software to changes in its environment, and correcting operational faults"[140] would be 15% of the initial development costs. Verizon does not track costs for the initial development separately from these supposed maintenance costs;[141] to compensate for this omission, Verizon has assumed a portion of its 1998 incurred access to OSS costs were in fact the costs of upgrading and maintaining the systems built in 1996 and 1997, and that a portion of its 1999 incurred access to OSS costs were in fact the costs of upgrading and maintaining the systems built in 1996, 1997 and 1998. Verizon used the assumed 15% maintenance factor to approximate these "ongoing" expenses. Verizon classified the remainder of the expenditures for those years as one-time development costs.

Q. DOES IT MAKE SENSE TO RECOVER SOFTWARE MAINTENANCE EXPENSES THROUGH AN EXPLICIT OSS SURCHARGE?

A. No. Once again, Verizon is attempting to impose the costs of a multi-provider environment solely on the end user of new entrants. Software maintenance is a normal part of Verizon's business and should be treated as such.[142] Indeed, given the manner in which Verizon has calculated the costs of ongoing maintenance, as

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140 *Id.* at 288.

141 *Id.* at 276.

142 As another incumbent, Pacific Bell (a subsidiary of SBC), explained when discussing similar costs: "[u]pgrades or enhancements to capabilities were not included in Pacific's implementation cost filing.... These upgrades and enhancements would be part of the normal course of business." Pacific Bell Response to AT&T Set 5, No. 88, Implementation Cost Phase of California Public Utilities Commission's Local Competition Docket R. 95-04-043, I. 95-04-044.

a fixed amount keyed to already-incurred development costs, implies that those costs will not vary with competitive local exchange carrier demand. Furthermore, Verizon does not track these maintenance costs separately from other OSS expenditures. In many cases, Verizon modified its existing systems to accommodate multiple providers. Work on the core systems accounts for a substantial portion of Verizon's initial development costs, approximately 78%. It is entirely unclear how Verizon can now reasonably segregate some portion of the cost of maintaining its core systems and assign it solely to competitors.

Even assuming that Verizon's approach had appropriately identified the causers of the costs it is intended to recover – which it has not – Verizon's proposed mechanism to recover those costs is clumsy and inappropriate at best. Verizon asks this Commission to fix an Access to OSS charge for ten years into the future and beyond, based on a speculative approximation of costs it does not (and perhaps cannot) track separately, without any regard for changing circumstances over that time period such as efficiency or productivity gains. Verizon has not even, as far as we are aware, proposed any mechanism to true-up recovery based on actual recovery.

Q. HOW HAS VERIZON ESTIMATED ONGOING CAPITAL COSTS ASSOCIATED WITH ACCESS TO OSS?

A. Verizon based its capital investment on actual purchases for 1996 and 1997, and budget estimates for 1998 and 1999 expenditures that were made in late 1998.[143]

Q. IN WHAT WAYS DO VERIZON'S REPORTED ONGOING CAPITAL COSTS FOR ACCESS TO OSS EXCEED EFFICIENT, FORWARD-LOOKING COSTS?

A. As we note above, Verizon has based its "forward-looking" costs on actual purchases (that is, its embedded network) and forecasts estimates that were made in late 1998. These estimates have nothing to do with the forward-looking investment that access to OSS might require. Moreover, forward-looking costs are the costs that an efficient provider would incur to meet the total demand for a product, service or function using the best available technology *costed out at the cost for the pricing period*, not some vintaged cost. Where prices are either rising or falling significantly over time, use of vintaged cost estimates will dramatically misstate forward-looking costs. Verizon's own testimony quantifies a substantial decrease in OSS computer costs from 1996 through 1999 (from $3,000 per GIG to $600 per GIG and from $25,000 per MIPS to $10,000 per MIPS, for 1996 and 1999 respectively).[144] These reductions apply to mainframe equipment; similar reductions have occurred for mid-range equipment such as that included in the OSS interface or gateway. According to Verizon's cost panel, Verizon did at least

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[143] Verizon Maryland's Response to AT&T 6-45, Public Service Commission of Maryland Case 8879.

[144] Verizon Cost Panel Direct. at 286.

cost some of the hardware at 1999 prices.[145] However, applying the forward-looking methodology, Verizon should have costed out computer equipment at 2002 prices (or, at the very least, the best prices of 2001), rather than reflecting the actual prices paid for equipment purchased in earlier years.

Furthermore, Verizon's study fails to demonstrate that the costs identified are necessary to serve actual and reasonably expected demand.

Q. DOES IT MAKE SENSE TO RECOVER VERIZON'S ESTIMATED CAPITAL EXPENSES THROUGH AN EXPLICIT OSS SURCHARGE?

A. No. It is difficult to isolate the computer investment that is used exclusively to meet competitor demand, and Verizon has not provided enough information to really do so. Verizon acknowledges, for example, that "[s]ince mainframe equipment is purchased in bulk, it is not always possible to correlate actual purchases with the demand that caused the purchase."[146]

Q. HOW SHOULD VERIZON RECOVER ITS ONGOING OSS COSTS?

A. For all of the reasons we have enumerated, the ongoing costs of the systems developed to allow 4access to Verizon's OSS should not be handled as a part of Verizon's competition-onset costs or through a separate OSS surcharge. Verizon should capture these expenses in the same way it captures all normal forward-looking recurring OSS expenses, through its annual cost factors.

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145 *Id.*

146 Verizon Maryland's Response to AT&T 6-45, Public Service Commission of Maryland Case 8879.

Verizon has adjusted its "other support" factor to account for these ongoing costs. Therefore, in our restatement of the "other support" factor, presented elsewhere in this testimony, we have reversed Verizon's proposed adjustment to that factor, which has the effect of increasing the factor. We recommend that the Commission remove the "ongoing" portion of Verizon's proposed Access to OSS charge entirely and adopt an "other support" factor of **[BEGIN VERIZON PROPRIETARY] *** [END VERIZON PROPRIETARY]** All of the restatements presented in this testimony are calculated using that "other support" factor. [147]

Q. SHOULD THE COMMISSION RELY ON VERIZON'S ESTIMATES OF ONGOING ACCESS TO OSS COSTS?

A. No. If the Commission were – inappropriately – to allow Verizon to impose its ongoing development cost for OSS access solely on new entrants, it cannot rely on Verizon's cost estimates. Verizon's estimate of the ongoing software costs suffers from the same deficiencies as its estimate of one-time development costs, in particular because the maintenance costs are merely calculated as a percentage of the initial development costs. To the extent that Verizon has included inappropriate costs in its estimates of one-time costs, they would inflate the purported ongoing maintenance costs. Verizon has also not attempted to identify

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[147] Consequently, if the Commission were to reject our recommendation regarding the ongoing costs of OSS access, then it must also re-adjust the "other support" factor to avoid double recovery of those costs and recalculate all of the UNE prices. In that case, the "other support" factor would be **[BEGIN VERIZON PROPRIETARY] *** [END VERIZON PROPRIETARY]**

which systems might reasonably be expected to need continuing updating and/or maintaining. For example, systems that have become obsolete since their development as a result of either one of Verizon's mergers or the evolution of the market will presumably not need to be maintained in the future.

Q. YOU INDICATED ABOVE THAT VERIZON HAS NOT ELIMINATED THE POSSIBILITY OF DOUBLE-RECOVERY THROUGH ITS "ACCESS TO OSS" CHARGE. WHY IS VERIZON'S EXCLUSION OF "ONGOING MAINTENANCE" COSTS FROM THE "OTHER SUPPORT" FACTOR INSUFFICIENT TO PRECLUDE DOUBLE-RECOVERY OF "ACCESS TO OSS" COSTS?

A. Verizon has estimated that a portion of the OSS costs incurred in 1999 (the year on which the other support calculation was based) were actually costs necessary to maintaining the systems that were developed in earlier years *(i.e.,* 1996, 1997 and 1998). The remaining costs Verizon attributes to "one-time development." Verizon has excluded the ongoing maintenance portion of the OSS costs from Information Management expenses that are included in the other support factor calculation. Verizon was forced to estimate the portion of the costs that were ongoing maintenance expenses, because, as the Verizon's cost panel indicated, "[t]he mechanisms Verizon VA used to track the expenses associated with access to OSS do not differentiate between development and maintenance."[148] How is it, then, that the maintenance costs could have been in the expenses used to calculate the other support factor, *if the one-time development expenses were not included as well?*

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[148] Verizon Cost Panel Direct at 276.