IOF

V. IOF — DEDICATED TRANSPORT (JDPL Issues II-1-II-1-d; II-2-c-d; IV-30; IV-36)

Q. What do you address in this portion of the testimony?

A. We address AT&T/WorldCom's criticism of Verizon VA's IOF dedicated transport cost studies. In particular, we address their arguments that:

- Verizon VA used the wrong number of nodes per SONET ring when calculating its costs;
- the costs of DCS and multiplexing equipment should have been stated separately; and
- Verizon VA's EF&I factor is overstated.

A. VERIZON VA'S ASSUMPTIONS REGARDING THE NUMBER OF NODES PER SONET RING ARE REASONABLE

Q. What is a node on a SONET ring?

A. A node represents a point at which transport circuits may enter and exit a SONET ring, and it is typically located at a wire center. Each node on a SONET ring contains a piece of electronics equipment called an add/drop multiplexer (ADM), and the nodes on a ring are connected by fiber optic cables. Other types of equipment, such as digital cross-connect systems (DCS), are typically deployed at SONET nodes, as well. These systems facilitate the management of circuits entering and exiting the SONET rings. They also allow for more efficient interconnection between different SONET rings.

1 **Q. Could you please explain how the number of nodes per SONET ring is**
2 **relevant to the IOF study?**
3 A. As explained in the Verizon Panel Direct, Verizon's IOF UNE rates
4 consist of a fixed component, generally representing the cost of ADMs
5 and other necessary electronics equipment at the SONET nodes, and a
6 mileage-sensitive component, representing the costs of fiber cable,
7 structures, and any line electronics (such as amplifiers). When calculating
8 the fixed component of IOF UNE rates, Verizon VA used the average
9 number of nodes in a forward-looking SONET ring (6) to determine the
10 investment for ADMs and other equipment at each node. When
11 calculating the mileage-sensitive components of the IOF UNE rates,
12 Verizon VA multiplied the average number of nodes per SONET ring in
13 Verizon's existing network in Verizon VA's region by the average
14 distance between nodes to determine the average length of a SONET ring.
15
16 **Q. But AT&T/WorldCom contend that Verizon VA used the average of**
17 **3.79 nodes (rounded to the whole number 3) per SONET ring when**
18 **developing the fixed component of IOF UNE rates. Are they correct?**
19 **[AT&T/WorldCom Rebuttal Panel at 129.]**
20 A. No. Verizon VA assumed that, in a forward-looking network, SONET
21 rings would have an average of six nodes each, as noted above. Given the
22 maximum of 48 DS3 circuits per OC48 ring and the requirement of two
23 ports per circuit (for a total of 96 ports on each ring), Verizon VA

determined that each node would have 16 ports (representing 96 total ports divided by six nodes). Thus, contrary to AT&T/WorldCom's contention, Verizon VA correctly calculated the total number of ports per SONET ring based on the forward-looking assumption of *six* nodes per SONET ring.

Q. Why did Verizon VA assume that a forward-looking network would include more nodes per SONET ring than what is typically found in today's network?

A. The primary reason for assuming a larger number of nodes per ring is to reduce the costs of interconnecting rings in a SONET network. Increasing the number of nodes on a SONET ring in turn increases the probability that a DS3 circuit can be created between two offices without having to use more than one ring. For example, if a network uses only three-node rings (essentially the smallest number of nodes that is practicable), it would be necessary to build many overlaying rings to connect offices in various three-node patterns. In turn, many DS3s would have to travel across two or more three-node rings to connect the particular points required by customers. Because ring interconnection is a major cost in a SONET network, reducing ring interconnection requirements generally helps reduce overall transport costs.

Larger rings also reduce the network's sensitivity to demand uncertainty, thus reducing the need for spare capacity and capacity "chasing" across multiple rings to make connections. When designing and planning IOF networks, it is extremely difficult to predict the precise point-to-point demand for IOF circuits. Because demand variability increases as the number of nodes on a ring decreases, the forecasting problem becomes more difficult as the number of offices served by a single ring decreases. Moreover, the engineers must examine each ring and determine whether exhaust is likely in the next forecast period for that ring. If there were fewer nodes and thus more rings, engineers would have to produce a much greater number of correct forecasts, and this, combined with the less predictable demand characteristics of smaller rings, likely would increase greatly the chance of reaching exhaust capacity on any ring. This would leave engineers with two choices: they would have to either provide greater amounts of spare capacity in each ring across the network or risk having to route DS3 circuits around multiple rings to avoid congested rings. Either option produces economically inefficient results and supports an assumption of more than 3.79 nodes per ring.

The number of nodes per ring that Verizon VA could assume for a forward-looking model is limited by practical constraints, however. Any ring larger than three nodes requires careful planning and administration to achieve efficient fill, because the available capacity on a ring is limited by

the peak load between any two adjacent nodes on the ring. This fact has, in the past, limited the average ring size in the network. However, Verizon VA determined that, based on the enhanced capabilities of the latest generation of SONET technology and operations, a forward-looking SONET transport network could economically use rings with an average of six nodes.

Q. Is it reasonable, as proposed by the AT&T/WorldCom Rebuttal Panel, to change the number of nodes in the fixed component of the forward-looking model without changing any other parameters? [AT&T/WorldCom Rebuttal Panel at 130-32.]

A. Most certainly not. As explained below, the ring interconnection factor would have to be changed, as well. If this change were made, the result would be to increase, not decrease, IOF costs. The number of nodes per ring directly determines two other critical parameters that impact costs in the SONET ring model: the anticipated number of DS3s that can be loaded on the ring and the average number of ring interconnections that each DS3 circuit experiences. As explained previously, constructing rings with fewer nodes creates more uncertainty in forecasting capacity requirements. An architecture that averages three nodes per ring must have many more rings to connect the same set of nodes as a six-node architecture. The combination of fewer nodes per ring and more rings in the network increases the chance that a particular circuit will have to utilize more than

one ring. Furthermore, as noted above, demand is far more variable in a universe of three- or four-node rings than in a universe of six-node rings. To avoid outages and other service problems due to unexpected demand peaks, engineers try to provide increased spare capacity so that they do not have to route circuits through multiple rings to avoid a congested ring. Though Verizon has not performed a detailed study of the fill in such a network, current experience suggests that an average fill of 36 DS3s per ring is achieved when the average ring size is between three and four nodes.

An average ring size of three to four nodes also would greatly increase the probability of DS3 circuits needing to use several rings to complete the connection between two nodes. The current Verizon study assumes that an average of 0.75 ring interconnections are used by each DS3. This assumption is consistent with a forward-looking local SONET architecture, as assumed in the Verizon study, that employs a two-level ring architecture. In a two-level architecture, offices in a local cluster are connected by a local ring. This local ring also connects to a "hub" office that serves as an interconnection point for DS3 circuits that need to travel between local clusters. The hub offices are interconnected by a second level of SONET rings. In this architecture, DS3 circuits between offices on a local cluster stay on the local ring and thus require no ring interconnection resources. Any DS3 circuit between clusters must route

1 proposal of a multiplexing cost in this proceeding, calling it "unusual,"[134]
2 in fact both petitioners are well aware of Verizon VA's position, described
3 in the Direct Testimony on Mediation Issues, that multiplexing has not
4 been defined by the Commission as a UNE, and indeed could not meet the
5 "necessary and impair" standard of section 252(d)(2) under the Act.
6 While Verizon VA may choose to provide multiplexing voluntarily, the
7 service is not a UNE whose rates are at issue in these proceedings.
8 Similarly, the issue of whether DCS is a UNE — and thus must be
9 available separate from transport — has been addressed extensively in the
10 Direct Testimony on Mediation Issues; in that testimony, Verizon VA has
11 shown that it does not provide this functionality on a stand-alone basis, but
12 simply relies on DCS in its transport network.[135/] Verizon VA also has
13 shown why the discussion of Intellimux® is simply a non-sequitor.
14 AT&T/WorldCom have had their opportunity to address these issues in
15 their own direct and rebuttal testimony on mediation issues, and it is
16 simply inappropriate to seek a second bite at the apple in the cost
17 testimony. If the Commission ultimately agrees with Verizon VA on the
18 mediation issues relating to DCS and multiplexing, there is nothing to
19 AT&T/WorldCom's supposed "cost" testimony on either functionality;
20 the testimony raises no issue concerning the accuracy or logic of any
21 element of Verizon VA's related cost studies.

134/ AT&T/WorldCom Rebuttal Panel at 131.
135/ *Id.*

through the hub office and experience one or more ring interconnections: one if the cluster it routes to is served by the same hub, two or more if the DS3 must route through another hub. A conservative estimate is that "inter-cluster" DS3's will experience, on average, two interconnections. Therefore to achieve an average of 0.75 interconnections per DS3, 62.5% of all DS3s must stay within their local cluster.[133/] This is an extremely conservative estimate, even for an architecture with six nodes per ring. In an architecture with only three nodes per ring, the probability of connecting on a local ring would be very small, and the probability of requiring more than two interconnections would be large. Thus, if the three node per ring assumption were adopted as recommended by AT&T/WorldCom, the ring interconnection factor would have to be increased to at least two. Increasing the number of interconnections in the IOF model would, in turn, increase IOF costs.

Q. Why did Verizon VA use the actual number of nodes per SONET ring and not the forward-looking number of nodes per ring when calculating the mileage-sensitive component of IOF UNE rates?

A. Verizon VA used the actual number of nodes per ring to reflect the conservative assumption that, in a forward-looking network, the actual

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[133/] If inter-cluster circuits experience an average of two interconnections, and 37.5% of circuits were inter-cluster circuits, the average number of interconnections across all circuits would equal 2 X 0.375 = 0.75. The remaining 62.5% of circuits would stay within their local cluster.

length of Verizon VA's SONET rings would not change — or change much — even as additional nodes were added. Because Verizon VA does not maintain data concerning the average total length of existing rings, it was necessary to determine the average length of a ring using other data. The most readily available source of data was the average distance between nodes in the existing network, which could be multiplied by the average number of nodes in a ring in the existing network to determine the average length of a ring. This is how Verizon VA calculated ring length for purposes of determining the mileage-sensitive component of the IOF UNE rates. In reality, as additional nodes are added to existing rings to make entry and exit more efficient, the length of rings would likely increase at least to some degree, because additional nodes cannot always be added precisely on existing fiber routes. Nevertheless, Verizon VA made the conservative assumption that, in a forward-looking network, the average length of each SONET ring would not increase from existing lengths.

Q. What effect would it have on Verizon VA's IOF UNE rates if the number of nodes per ring were increased to [VERIZON PROPRIETARY BEGIN] [VERIZON PROPRIETARY END] in the mileage-sensitive calculations?

A. Naturally, increasing the number of nodes per ring in the mileage-sensitive calculations would increase the mileage-sensitive costs, unless the average

distance between nodes were reduced by a corresponding percentage. By using the actual number of nodes per ring when calculating the mileage-sensitive component, Verizon VA avoided overstating mileage-sensitive costs.

Q. So should the Commission adopt any of the changes proposed by AT&T/WorldCom to Verizon VA's assumptions concerning the number of nodes per SONET ring?

A. No. For the reasons explained above, AT&T/WorldCom's proposed changes are unsupported, and Verizon VA's assumptions provide a more reasonable, accurate, and conservative estimate of Verizon VA's IOF costs. Indeed, though AT&T/WorldCom's Modified Synthesis Model contains many flaws, it builds SONET rings with an average of 6.15 nodes each, thus supporting Verizon VA's assumption and undermining AT&T/WorldCom's contention that Verizon VA should have used 3.79 nodes throughout its IOF studies.

B. VERIZON VA'S EF&I FACTOR FOR IOF EQUIPMENT IS ACCURATE

Q. AT&T/WorldCom assert that Verizon VA's use of a 53.2% in-place (EF&I) factor for transport transmission equipment is too high, and states that in its experience the correct factor should be in the range of 30%. Is this appropriate? [AT&T/WorldCom Rebuttal Panel at 138.]

A. Not surprisingly, while claiming that "their" experience shows that the EF&I factor should be in the 30% range, AT&T/WorldCom provide not one shred of evidence or even a frame of reference to support or give any context to this figure. For example, it is not even clear whether, as is the case with their other EF&I proposals (such as digital switching), AT&T/WorldCom are seeking to rely on figures that are almost 10 years old. It is similarly not even clear whether this figure relates to a network in Virginia. In fact, parsing the sentence carefully, it is not even clear that either AT&T or WorldCom are claiming that an EF&I of 30% for transport transmission equipment actually exists — just that it *should*, in AT&T/WorldCom's view, exist.

In contrast, Verizon VA's EF&I factors are based on the company's actual experience in 1998, using the discounted material prices at that time and the actual installed equipment. Such data is certain to be more relevant and more accurate than anything AT&T/WorldCom propose with respect to an unidentified network, an unspecified era, and a nameless geographic location. Indeed, it should go without saying that Verizon VA's own EF&I experience will be more reflective of what Verizon VA should expect going forward than some other company's alleged experience or preference.

1 **Q. AT&T/WorldCom argue that Verizon VA has not separately**
2 **identified the "installation and miscellaneous costs that go into its in-**
3 **place factor." [AT&T/WorldCom Rebuttal Panel at 138.] Is this**
4 **unusual?**
5 A. No. The complaint is rather bizarre. None of Verizon VA's EF&I factors
6 separately identify the costs of engineering, furnishing, or installation;
7 there is nothing unusual about this fairly common practice in the industry.
8 AT&T/WorldCom may be confused by the use of the term "in-place" to
9 describe the EF&I factor for transport equipment, but this in-plant factor is
10 no different from any other EF&I factor. The support for this factor was
11 provided with Verizon VA's cost filing on CD#2, part G, under
12 Investment Loadings.
13
14 **Q. AT&T/WorldCom contend that the 53.2% EF&I for Virginia must be**
15 **too high, because the one Verizon used in its New York UNE**
16 **proceeding was only 36.4%. [AT&T/WorldCom Rebuttal Panel at**
17 **138.] Does this make sense?**
18 A. No, it does not. The EF&I factor that Verizon used in its New York UNE
19 proceeding was based on equipment placed in 1997. As noted, the
20 Virginia EF&I is based on equipment placed in 1998. As explained in the
21 Panel Direct and in this testimony, when equipment prices decrease, as
22 they have tended to do year by year, the EF&I factor gets higher, to reflect
23 the fact that the installation costs (which do not decrease simply because

the equipment price has decreased) are likely to constitute a greater percentage of the overall installed material investment. If AT&T/WorldCom wish to use the lower EF&I factor from the New York proceeding, they should be prepared, as well, to use the architecture and price lists of the transport transmission equipment installed in 1997. It would otherwise be entirely nonsensical to simply substitute the lower 1997-based EF&I factor in these cost studies. Moreover, New York and Virginia are different markets in different regions; the relative amounts of transmission electronics in the two areas would not necessarily be identical, and thus, neither would the related EF&I factors.

C. THE COSTS OF DCS AND MULTIPLEXING EQUIPMENT ARE NOT AT ISSUE IN THESE PROCEEDINGS

Q. The remainder of the AT&T Recurring Cost Panel's criticism of Verizon VA's IOF costs and studies appear to argue that DCS and multiplexing should be provided as stand-alone services distinct from transport. Are these appropriate cost issues for these proceedings?

A. No. These issues are being squarely addressed in the non-cost side of the case; indeed, they are expressly discussed in Verizon VA's August 17, 2001 Direct Testimony on Mediation Issues (Categories I and III through VII), Unbundled Network Elements, at pages 3-5. Thus, while AT&T/WorldCom express wonder about the absence of Verizon VA's

Q. Thus, should the Commission accept any of AT&T/WorldCom's proposed changes to the IOF (dedicated transport) studies?

A. No. As discussed, AT&T/WorldCom themselves propose rings with a number of nodes similar to the six nodes used by Verizon VA in analyzing certain IOF costs; their proposal to convert all Verizon VA node assumptions to 3.79 thus makes no sense. Verizon VA's assumptions are reasonable and produce reasonable results. Verizon VA's EF&I factor for transport equipment similarly is accurate and AT&T/WorldCom's criticisms make no sense. Finally, AT&T/WorldCom's efforts to argue for treatment of DCS and multiplexing to be treated as independent UNEs have no place here; those services are not UNEs and determination of stand-alone rates for them is not appropriate in these proceedings.

Switching

VI. SWITCHING COSTS
(JDPL Issues II-1-II-1-D; II-2-C-D; IV-30; IV-36)

Q. Please summarize this section of the Panel Surrebuttal Testimony.

A. This section responds to AT&T/WorldCom's criticisms of Verizon VA's proposed switching costs. Their claims are flawed for the following reasons:

- AT&T/WorldCom incorrectly state that Verizon VA assumed only growth switch discounts in its cost studies. In fact, Verizon VA assumed an appropriate mix of new and growth discounts that accurately reflects Verizon VA's forward-looking mix of switch purchases.

- AT&T/WorldCom's assertion that a proper forward-looking cost study should assume that Verizon VA purchases only new switches is wrong. As Drs. Shelanski, Gordon and Tardiff explain, AT&T/WorldCom's claim is inconsistent with proper forward-looking principles. Moreover, even if the Commission were to adopt AT&T/WorldCom's switch discount theory, there is no reason to assume that Verizon VA would be able to replace its entire switch network simultaneously at the current new switch discounts. Under this scenario, vendors would likely increase switch prices to account for this increasing demand and decreasing supply of switches.

- Contrary to AT&T/WorldCom's claims, the SCIS model does not model the costs of only new switches. Rather, the SCIS model can be used to develop growth or replacement costs, or a combination thereof. The SCIS model is further explained in the surrebuttal testimony of Verizon VA witness David Garfield.

- Verizon VA applied the appropriate discount, which reflects new and growth switch discounts, to all switching investments. AT&T/WorldCom's claim that Verizon VA always receives a new switch discount for certain components, such as "getting started" costs, is simply wrong. Verizon VA routinely upgrades and grows switches by replacing "getting started" components such as switch processors, and receives a growth discount for these purchases.

- AT&T/WorldCom grossly overstate the amount of GR-303 switch technology that should be assumed in Verizon VA's cost studies. Verizon VA has no immediate plans to deploy GR-303 in its switching network. Verizon VA's assumption that 10% of the switches will be GR-303 is therefore aggressively forward-looking, and tends to understate costs. Verizon VA also correctly assumed a 3:1 line concentration ratio for GR-303 switches.

- AT&T/WorldCom's criticisms of Verizon VA's port utilization inputs reflect a misunderstanding of Verizon VA's cost studies. Contrary to

AT&T/WorldCom's claims, Verizon VA did account for the breakage included in SCIS by increasing the utilization rate included in the VCost model. Moreover, Verizon VA must account for utilization in both SCIS and VCost to fully reflect Verizon VA's utilization assumptions. Setting the utilization to 1.0 in VCost, as AT&T/WorldCom propose, would understate costs, since utilization is not fully accounted for in the SCIS inputs.

- AT&T/WorldCom's criticisms of Verizon VA's feature port additive costs are baseless. Verizon VA's feature usage assumptions reflect its many years of experience in providing features to end users. AT&T/WorldCom provide no support for their attacks on these usage assumptions, nor do they offer any alternatives, even though AT&T/WorldCom both provide features to end users and presumably have their own usage data.

- Verizon VA has correctly identified switching costs as traffic-sensitive or non-traffic-sensitive. AT&T/WorldCom, in stark contrast, misidentify usage-driven costs in an attempt to shift most of the switching costs to the port rate element. In addition, AT&T/WorldCom's claim that "getting started" costs and EPHC costs are not traffic-sensitive is plainly wrong. Although switch capacity is also limited by ports, usage is by far the predominant driver in determining "getting started" and EPHC costs. Verizon VA witness

David Garfield also addresses traffic-sensitive versus non-traffic-sensitive costs in his surrebuttal testimony.

- Contrary to AT&T/WorldCom's claims, Verizon VA's proposed Right to Use (RTU) fees are well documented and supported by the record. Verizon VA also properly identified these costs as traffic-sensitive.

- AT&T/WorldCom's attacks on Verizon VA's engineering, furnished, and installed (EF&I) switching factor reflect a deep misunderstanding of how this factor is developed. It is developed from Verizon's DCPR data, which reflects, among things, the costs to install switching equipment throughout the Verizon footprint in 1998. This factor estimates the cost to install digital switching equipment based on the relationship between material investments and installation costs that existed in 1998. Using an EF&I factor from 1992, as AT&T/WorldCom propose, is inappropriate because it reflects the architecture in place in the 1990-91 time frame, the discounts available to Virginia in this time frame, and the outdated mix of technology, demand, demographics and other considerations.

A. VERIZON VA USES AN APPROPRIATE FORWARD-LOOKING SWITCH DISCOUNT

1. Assumption of New and Growth Switch Purchases

Q. Did Verizon VA include a growth-only discount in calculating switching costs, as AT&T/WorldCom claim? [AT&T/WorldCom Rebuttal Panel at 97-104.]

A. No. The Verizon VA switching discount is based on a mixture of new, growth, and upgraded switching equipment. As Verizon VA explained in direct testimony, Verizon VA based its projected switch discount on the effective discount that it received based on actual purchases in 2000 from both Lucent and Siemens.[136/] Verizon VA serves over 96%[137/] of its switched lines on Lucent and Siemens switching technology (5ESS and EWSD, respectively).

Importantly, the Lucent data for 2000 data includes the discount received for two ***new*** 5ESS switches (Benning, DC **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** and Brookland, DC **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**); the updated Siemens data includes

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136/ *See* VZ-VA Panel Direct at 190-192.

137/ VZ-VA CS, Vol. IX, VA Switch Mix Support Data (5ESS 86.00%0 + EWSD 10.35%).

the discount for one new switch (Falls Church, VA **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**).[138]

Q. How was the Nortel discount calculated?

A. Verizon VA developed the effective discount for the Nortel switches using Nortel's current contract with Verizon. Notably, although this contract specifically addresses growth equipment, the effective discount Verizon VA used in the cost study is 4.27%[139] ***greater*** than the discount based on actual 2000 Nortel purchases, which included the purchase of three new Nortel DMS-100 switches (in Athol, MA **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**, Eastwick, PA**[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**, and Chester, PA **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**).

Q. Do you agree with AT&T/WorldCom's claim that TELRIC principles require that Verizon VA use only a replacement switch discount in calculating switching costs? [AT&T/WorldCom Rebuttal Panel at 96-99.]

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[138] Data regarding this new switch was not originally included in Verizon VA's cost study, but has since been provided by Siemens. Verizon VA explains the impact of this new data later in this testimony.

[139] *See* Attachment M.

A. No. As Drs. Shelanski and Gordon stated in their direct testimony, and as Dr. Tardiff explained in his rebuttal testimony, TELRIC principles do not require that Verizon VA use only a replacement switch discount in calculating forward-looking switching costs.[140] Drs. Shelanksi and Tardiff further address this issue in their surrebuttal testimony.

Q. Is it realistic to assume that the price for a one-time replacement of all of Verizon's switches would be lower than the prices that it currently pays?

A. No. There is no basis for assuming that if Verizon VA replaced ***all*** of its switches at the same time, it would be able to do so at the current new switch discounts.

The problem is clearly illustrated by the Ford - Bridgestone/Firestone tire recall, in which the industry was forced to replace, in a very short timeframe, 6.5 million tires. In an attempt to speed up the replacement, Bridgestone/Firestone even commissioned its competitors, including Goodyear, Michelin, and Uniroyal, to manufacture replacement tires. The entire recall was announced on August 9, 2000 and has not yet been completed even with four of the world's biggest tire manufactures maximizing production, and despite serious safety concerns

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[140] *See* Shelanski Direct at 25; Gordon Direct testimony at 22-23; and Tardiff Rebuttal at 50-51.

although initial predications were that it would be completed by *Spring 2001*.[141] It is unrealistic to believe that the recall is going to cost Bridgestone/Firestone incrementally less per tire than it would to manufacture replacement tires under normal circumstances. In fact, it has been estimated that it will cost an additional $60 per tire to airlift them from Japan and there will be an additional premium of $350 million resulting from the speed with which the recall must be completed.[142]

In short, Verizon VA's vendors would ***not*** be able to offer steep discounted prices if Verizon VA were to assume the replacement of all its switches at one point in time. More likely, vendor costs would be substantially higher in order to meet the demand requirements of such a massive undertaking.

Q. Please explain the impact on Verizon VA's proposed switching costs of including the new Siemens switch installed in Falls Church, VA.

A. Verizon VA calculated its switching discounts based on the effective discount that it actually receives. For Lucent and Siemens, this calculation was based on data provided by the vendor for purchases during 2000. For Nortel, this calculation was based on current contracts.

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[141] See Attachment N.
[142] *See id.*

1 Verizon VA recently learned that the Siemens data provided by the
2 vendor did not include the purchase of a new switch installed in the Falls
3 Church wire center and paid for in 2000. Verizon VA also recently
4 obtained the Siemens 2000 purchase data for the Verizon – East footprint,
5 rather than just for Virginia.[143] Verizon VA has therefore recalculated its
6 Siemens discount. The effective discount is shown in Attachment O.
7
8 This additional Siemens data does not have a significant impact on
9 Verizon VA's forward-looking switching costs.[144] Lucent switches
10 account for over 86% of Verizon VA's switched lines, and the Lucent data
11 is complete. Verizon VA plans, moreover, to incrementally upgrade and
12 develop its switching network primarily through switch modifications and
13 additions, as opposed to large-scale replacements of switches.
14
15 **Q. Do you agree with AT&T/WorldCom's claim that using one year's**
16 **worth of discount data is inappropriate? [AT&T/WorldCom**
17 **Rebuttal Panel at 100.]**

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[143] Verizon deploys Siemens switches in Virginia, West Virginia, New Jersey, Pennsylvania, and Maryland. The Siemens data for these other states should be included to increase the sample size. The Lucent and Nortel discounts already reflect purchases made throughout the Verizon East footprint. (Attachment O.)

[144] Verizon VA is in the process of adjusting its studies to reflect the new discount date, and will provide a revised cost summary exhibit prior to the hearings.

A. No. What Verizon VA experiences in the most recent calendar year is predictive of what it will experience in future years. As explained in Verizon VA's direct testimony, Verizon VA believes this mix of growth additions and new switch purchases to be the most accurate indicator of the mix of switching equipment it intends to deploy in the network over the planning period.

Moreover, the 2000 data represent a very large sample size, including over **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** worth of switching equipment purchases for Lucent, and over **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** worth of switching equipment purchases for Siemens. For Nortel, the sample represents Verizon's commitment to purchase over **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** worth of switching equipment over the three life years of the contract. Verizon has estimated it will spend a similar amount in 2001 **[BEGIN VERIZON PROPRIETARY** **[END VERIZON PROPRIETARY]** for Lucent equipment; $340 for Nortel equipment; and **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** for Siemens equipment).

Verizon VA's use of 2000 data is appropriate, reflecting a reasonable mix of new and replacement switch discounts, and is an accurate predictor of forward-looking costs. In fact, the use of 2000 data is conservative considering that at the present time Verizon's current plans include the purchase of only one new digital end-office stand-alone and/or host switch in 2001.[145/]

Q. How much does Verizon intend to spend on switching equipment purchases over the planning period?

A. Verizon's former Bell Atlantic territories spent **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** for switching equipment in 2000; and have **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** budgeted for 2001; **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** for 2002; and **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** in 2003.

Q. Please respond to AT&T/WorldCom's use of an alleged new switch discount it received in a recent New Jersey cost proceeding. [AT&T/WorldCom Rebuttal Panel at 104 n. 79.]

145/ Charleston, WV.

A. As stated in response to AT&T data request 9-4, Verizon VA competitively bids its very limited number of new switch purchases, and does not make these purchases from any of its current switch contracts. Therefore, the "replacement" contract discounts are irrelevant to both the New Jersey proceeding and this proceeding. This is also stated in Verizon NJ's revised response to AT&T-74[146] and Verizon NJ's response to AT&T-13.[147]

2. SCIS Model

Q. Do you agree with AT&T/WorldCom's claim that using a growth discount is inappropriate because SCIS is a "static" model designed to compute the costs of a new switch? [AT&T/WorldCom Rebuttal Panel at 101-103.]

A. No. AT&T/WorldCom's claim makes no sense. SCIS is not a "static" model. Rather, it can be used to develop growth or replacement costs, or a combination thereof. The SCIS model in fact allows the input of more than one material discount (*i.e.*, by direct line-by-line modification of the investment tables), although it is less cumbersome if a single discount is utilized. If a single discount is used, SCIS applies that discount to all material investments associated with the entire switch to calculate a switch investment. As long as the proper total discount is entered into SCIS, the proper total investment will be developed.

146/ *See* Attachment P.

147/ *See* AT&T/WorldCom Rebuttal Panel, Attachment 3.