BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Investigation into pricing of unbundled network elements (Sprint/Verizon track).	DOCKET NO. 990649B-TP ORDER NO. PSC-02-1574-FOF-TP ISSUED: November 15, 2002

The following Commissioners participated in the disposition of this matter:

LILA A. JABER, Chairman
J. TERRY DEASON
BRAULIO L. BAEZ
MICHAEL A. PALECKI
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FINAL ORDER ON RATES FOR UNBUNDLED NETWORK ELEMENTS PROVIDED BY VERIZON FLORIDA

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ACRONYMS

LIST OF ACRONYMS AND ABBREVIATIONS USED IN THE ORDER:

AA	Allocation Area
AAIS	Assignment, Activation and Inventory Service System
ACG	Access Carrier Gateway
ACO	Area Central Office
ADSL	Asymmetrical Digital Subscriber Line
AIN	Advanced Intelligent Network
ALEC	Alternative Local Exchange Company
AM	Administrative Module
AO	Account Owner
APC	Assignment Provisioning Center
API	Application Program Interface
ASR	Access Service Request
ATCUP	Automated Tool for CLEC User Profile
ATM	Asynchronous Transfer Mode
ATP	Authorization to Proceed
AT&T	AT&T Communications of the Southern States
AWAS	Automated Work Administration System
B & C	Billing and Collection
BARRA	A financial data firm that provides beta estimates
BEX	Business Express
BFR	Bona Fide Request
BH Table	CLEC line Screening table
BR	Brief
BRI	Basic Rate Interface (i.e., Integrated Services Digital Network - ISDN-BRI)
BRPC	Business Response Provisioning Center
BST or BellSouth	BellSouth Telecommunications, Inc.
BSTLM	BellSouth Telecommunications Loop Model
BT	Building Terminal
BVT	Billing, Voucher, Treatment (System)
BZT	Business Zone Technicians
CABS	Carrier Access Billing System
Caller ID	Caller Identification
CAMS - CABS	Carrier Access Management System - Carrier Access Billing System

CAPM	Capital Asset Pricing Model
CBSS	Customer Billing Services System
CBSS CIA	CBSS Customer Information Application
CBSS MIS	CBSS Management Information System
CC	Common Carrier
CCS7	Common Channel Signaling Network
CDT	CLEC Dedicated Transport
CEV	Controlled Environmental Vault
CFR	Code of Federal Regulations
CKT ID	Circuit Identifier
CLASS	Custom Local Area Signaling Service
CLEC	Competitive Local Exchange Carrier
CLR/DLR	Circuit/Design Layout Reports
CMDS	Centralized Message Distribution System
CMP	Communications Module Processor
CNAM	Calling Name Database Service
CNAS	Circuit Network Administration System
CO	Central Office
CO I&M	Central Office Installation and Maintenance
COMPUSTAT	A financial database
COSS	CLEC Operational Support System
COT	Central Office Technician
CSA	Carrier Serving Area
CSI	Customer Service Inquiry
CSR	Customer Service Record
CZT	Customer Zone Technicians
DA	Directory Assistance or Distribution Area
DAML	Digital Added Main Lines
DBAC	Database Administration Center
DBM	Database Management
DCF	Discounted Cash Flow
DCOP	Dedicated Central Office Plant
DD	Due Date
DGF	Data Gathering Form
DID/DOD	Direct Inward Dialing/Direct Outward Dialing
DLC	Digital Loop Concentrator or Digital Loop Carrier
DLEC	Data Local Exchange Carrier
DLR	Design Layout Record
DN	Docket Number

DRC	Dispatch Resource Center
DRM	Division Resource Management
DSAL	Dedicated Switched Access Lines
DSAT	Dedicated Switched Access Transport
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Modems
DSX	Digital System Cross-Connect Frame
DT	Distribution Terminal
D&E	Development of new systems and enhancements to existing systems
d/b/a	Doing business as
EBAC	Equipment Billing Accuracy Center
ECT	Enhanced Copper Technologies
EDI	Electronic Data Interchange
EDS	Electronic Data Systems, Inc.
EDT	Express Dial Tone
EEL	Enhanced Extended Link
EF&I	Engineered, Furnished, and Installed
EIS	Expanded Interconnection Services
EMR	Exchange Message Record
EXACT/TUF	Exchange Access Control and Tracking/Translation to USOCS and FIDS
EXH	Exhibit
E&I	Engineer and Install
FCC	Federal Communications Commission
FCCA	Florida Competitive Carriers Association
FCTA	Florida Cable Telecommunications Association, Inc.
FDI	Feeder Distribution Interface
FIFO	First In First Out
FITL	Fiber-In-The-Loop
FLEC	Forward-Looking Economic Cost
FDN	Florida Digital Network, Inc.
FOC	Firm Order Confirmation
FPSC	Florida Public Service Commission
FRN	Facility Reservation Number
Ft.	Feet
F.S.	Florida Statutes
GAAP	Generally Accepted Accounting Principles
GIS	Geographic Information System
GOLD	Gathering On Line Data

GTEFL	GTE Florida Incorporated
HAI model	Formerly Hatfield model
HCPM	Hybrid Cost Proxy Model
HDSL	High Bit-Rate Digital Subscriber Line
IBES	Institutional Brokerage Estimate System
ICB	Individual Case Basis
ICM	Integrated Cost Model
ID	Identification
IDF	Intermediate Distribution Frames
IDLC	Integrated Digital Loop Carrier
IDSL	Integrated Digital Subscriber Line
IDST	Integrated Digital Service Terminal
IDT	Interoffice Dedicated Transport
ILEC	Incumbent Local Exchange Company
INC	Intra-building Network Cable
INP	Interim Number Portability
IOF	Interoffice Facility
IOSC	Item of Service Code
IR	Incident Report
ISDL	Integrated Services Digital Subscriber Line
ISDN	Integrated Services Digital Network
ISUP	Integrated Services Digital Network User Part
ITDP	Information Technology and Data Processing
IXC	Interexchange Carrier
kft	Kilofeet (Also Kft. and kf)
LBSC	Large Business Support Center
LCC	Line Class Code
LC&I PMO	Local Competition and Interconnection Program Office
LEA	Local Service Request Edit Application
LEC	Local Exchange Company
LFACS	Loop Facility Assignment Control System
LIA	Local Service Request Input Application
LIDB	Line Information Database
LIJ	Left-in-Jumper
LLR	Loaded Labor Rate
LMS	Link Monitoring System
LMU	Loop Make-Up
LNP	Local Number Portability

LSC	Local Service Confirmation
LSR	Local Service Request
LST	Line and Station Transfer
L&B	Land and Building
MARK	Mechanized Assignment & Record Keeping system
MDF	Main Distribution Frame
MDTE	Massachusetts Department of Telecommunications and Energy
MDU	Multiple Dwelling Unit
MGC	MGC Communications, Inc.
MLPQ	Mechanized Loop Pre-Qualification
MOG	Mass Order Generator
MOU	Minutes of Use
MPOE	Minimum Point of Entry to the Customer Premises
MRC	Monthly Recurring Charge
MSA	Metropolitan Statistical Area
MSRT	Minimum Spanning Road Tree
MST	Minimum Spanning Tree
MTU	Multiple Tenant Unit
MUTS	Mechanized Uncollectible Tracking System
NACC	National Access Customer Center
NASSC	National Access Subscription Services Center
NCAT	Network Cost Analysis Tool
NCBD	National Customer Bill Development
NGDLC	Next Generation Digital Loop Carrier
NID	Network Interface Device
NMC	National Market Center
NOCV	National Order Collection Vehicle
NOREC	National Order/Referral Entry Center
No.	Number
NRC	Non-Recurring Charge
NTW	Network Terminating Wire
OCS	Other Carrier Systems
OCSS	Other Carrier Settlement Systems
OMT	Open Market Transition
OSPE	Outside Plant Engineering
OSP	Outside Plant
OSS	Operation Support Systems
O&T	Originating Plus Terminating Usage

PBX	Private Branch Exchange
PCO	Plant Control Office
PIC	Primary Interconnection Carrier
POD	Production of Documents
PON	Purchase Order Number
POP	Point of Presence
POTS	Plain Old Telephone Service
Powerbase	Master Database of Customers fed by CBSS
PRI	Primary Rate Interface
PSC	Public Service Commission
PSE	Plant Specific Expense
PSP	Product Service Provider
PTD	Plant Test Date
QMR	Query Management Report
RAF	Regulatory Assessment Fee
RAO	Revenue Accounting Office
RBHC	Regional Bell Holding Companies
RC	Recurring Charge
RCF	Remote Call Forwarding
RCMAC	Recent Change Mechanized Assignment Center
RDM	Reporting and Distribution Module
RMA	Requiring Manual Intervention
RMG	Resource Management Group
RPMS	Retail PIC Management System
RRD	Revised Resistance Design
RT	Remote Terminal
RTU Fee	Right-To-Use Fee
S&P	Standard & Poor's Industry Survey
SAC	Service Advocacy Center
SAI	Serving Area Interface
SAIC	Science Applications International Corporation
SAR	Service Activation Report
SBC	Southwestern Bell Telephone Company
SCIS/IN	Switching Cost Information System/Intelligent Network
SCIS/MO	Switching Cost Information System/Model Office
SCP	Service Control Point
SCR	Selective Carrier Routing
SDSL	Symmetric Digital Subscriber Line

SEC	Securities and Exchange Commission
SE&P	Supporting Equipment and Power Loadings
SI	Service Inquiry
SIGS	Secure Integrated Gateway System
SIR	Systems Information Repository database
SL	Service Level
SM	Switch Module
SMEs	Subject Matter Experts
SMS	Service Management System or Switch Modules
SODA/DDM	Service Order Distribution and Analysis/Due Date Management system
SOE	Scheduler/Screener
SONET	Synchronous Optical Network
SOP	Service Order Processor
SORCES	Service Order Record and Computer Entry System
SPAG	Special Products Assignment Group
Sprint	Sprint-Florida, Incorporated
SRT	Service Readiness Testing
SS	Subscription Services
SS7	Signaling System 7
SSI&M	Special Services Installation & Management
STAR	Standard Time and Activity Reporting
STI	Standard Time Increment
STP	Signaling Transfer Point
SWC	Serving Wire Centers
TAS	Trouble Administration System
TBS	Telecom Business Systems
TCAP	Transaction Capabilities Application Part
TDO	Temporary Disconnect Order
TELRIC	Total Element Long-Run Incremental Cost
TFP	Total Factor Productivity
TN	Telephone Number
TNM	Total Network Management
TPI	Telephone Plant Index
TR	Transcript
TSLRIC	Total Service Long-Run Incremental Costs
UCL	Unbundled Copper Loop
UDC	Universal Digital Channel
UDF	Unbundled Dark Fiber

UDLC	Universal Digital Loop Carrier
UL	Unbundled Loop
UMS	Usage Measurement System
UNE	Unbundled Network Elements
UNE-P	Unbundled Network Element Platforms
USF	Universal Service Fund
USL-D	Sub-Loop Distribution
USL-F	Sub-Loop Feeder
USLC	Unbundled Subloop Concentration
USOA	Uniform System of Accounts
USTA	United States Telephone Association
Verizon	Formerly GTE Florida Incorporated
Verizon NS	Verizon Network Services
VerizonLD	Verizon Long Distance
VFAC	Virtual Facilities Assignment Center
VG	Voice Grade
WCC	Work Control Center
WDA	Work Distributor Application
WEFA	Wharton Econometric Forecasting Associates
WFA	Work Force Administration
WISE	Wholesale Internet Service Engine
WMC	Work Management Center
WMP	WISE Measurements of Performance
WorldCom	MCIMetro Access Transmission Services, LLC, and WorldCom Technologies, Inc.
xD Table	CLEC identification table
xDSL	"x" distinguishes various types of DSL
Zacks	A firm that provides earnings estimates

CASE BACKGROUND

The Federal Telecommunications Act of 1996 (Act) made sweeping changes to the regulation of telecommunications common carriers in this country. Of particular importance, it provided for the abolition nationwide of the incumbent local exchange carriers' monopolies over the provision of local exchange service. The Act envisioned three strategies for firms to enter the local exchange services market: (1) through resale of the incumbent's services; (2) via pure facilities-based offerings, thus only requiring a competitor to interconnect with the incumbent's network; and (3) through a hybrid involving the leasing of unbundled network elements (UNEs) of the incumbent's network facilities, typically in conjunction with network facilities owned by the entrant.

Although the Act generally spelled out the broad policy terms, the implementation details were left to the Federal Communications Commission (FCC). Specifically, the Act required that the FCC promulgate rules to implement the resale, interconnection, and UNE requirements within six months after passage of the Act. The rules subsequently established by the FCC provided detailed implementation requirements for pricing and provision of UNEs and services. Of importance to this docket, the FCC's Local Competition Order, released August 8, 1996, included in its pricing rules Rule 51.507(f), which requires each state commission to establish rate zones for UNEs, the deaveraging rule. That rule states:

> State commissions shall establish different rates for elements in at least three defined geographic areas within the state to reflect geographic cost differences.

Since their establishment, these pricing rules have been the subject of a number of court decisions and FCC actions, which have directly impacted this issue and its resolution.

Our proceeding was initiated on December 10, 1998, when a group of carriers, collectively called the Competitive Carriers, filed their Petition for Commission Action to Support Local Competition in BellSouth's Service Territory. Among other matters, the Competitive Carriers' Petition asked that we set deaveraged unbundled network element (UNE) rates.

On May 26, 1999, we issued Order No. PSC-99-1078-PCO-TP, granting in part and denying in part the Competitive Carriers' petition. Specifically, we granted the request to open a generic UNE pricing docket for the three major incumbent local exchange providers, BellSouth Telecommunications, Inc. (BellSouth), Sprint-Florida, Incorporated (Sprint), and GTE Florida Incorporated (GTEFL). Accordingly, this docket was opened to address the deaveraged pricing of UNEs, as well as the pricing of UNE combinations and nonrecurring charges. An administrative hearing was held on July 17, 2000, on the Part One issues identified in Order No. PSC-00-2015-PCO-TP, issued June 8, 2000. Part Two issues, also identified in Order No. PSC-00-2015-PCO-TP, were heard in an administrative hearing on September 19-22, 2000. On August 18, 2000, Order No. PSC-00-1486-PCO-TP was issued granting Verizon Florida Inc.'s (formerly GTEFL) Motion to Bifurcate and Suspend Proceedings, as well as Sprint's Motion to Bifurcate Proceedings, for a Continuance and Leave to Withdraw Cost Studies and Certain Testimony.

By Order No. PSC-01-1592-PCO-TP, issued August 2, 2001, the controlling dates for Phase III were established. By Order No. PSC-01-2132-PCO-TP, issued October 29, 2001, the issues were established and the Docket was divided into 990649A-TP, in which filings directed towards the BellSouth track would be placed, and 990649B-TP, in which filings directed towards the Sprint-Verizon track would be placed. An administrative hearing was held on April 29-30, 2002.

I. FACTORS IN ESTABLISHING RATES AND CHARGES

First, we have been asked to determine what factors should be considered in establishing rates and charges for UNEs, including deaveraged UNEs and UNE combinations.

We first consider Sections 252 (d)(1)(A) and (B) of the Telecommunications Act of 1996 (the Act), which states that network element rates

(A) shall be--

(i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of

> providing the interconnection or network element (whichever is applicable), and
>
> (ii) nondiscriminatory, and
>
> (B) may include a reasonable profit.

The appropriate methodology as determined by the FCC is set forth in 47 C.F.R. § 51.505(b). Section 51.505(b) defines TELRIC as

> . . . the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as a given the incumbent LEC's provision of other elements.
>
> (1) . . . The total element long-run incremental cost of an element 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 incumbent LEC's wire centers.

Section 51.505(b) further provides that a forward-looking cost of capital and economic depreciation rates must be used. Section 51.505(a)(2) provides that the forward-looking cost of a UNE should include "a reasonable allocation of forward-looking common costs. . . ."

Verizon witness Trimble identifies the objectives that should be met in developing UNE rates. He states that "the Commission should consider the effect of UNE rates on the preservation and advancement of universal service and on the development of fair and efficient competition." To accomplish this task, witness Trimble opines that "UNE rates should reflect a reasonable share of common costs, and should be deaveraged only for those UNEs that exhibit material variations in cost based on geography." He argues that the costs of deaveraging and the potential for increased rate arbitrage must be weighed against expected consumer gains.

Witness Trimble states that the rate structure for UNEs should reflect a balance of:

- cost-causation principles (matching of costs to prices);
- ease of administration, such as the costs of billing;
- and the opportunity for cost recovery.

Witness Trimble contends that Verizon's proposed rate structures meet the first two of these three objectives. He argues that the objective of cost recovery will not likely be met, because "the proposed rate structures will, by their design, not give the Company an opportunity to recover its total costs because the proposed UNE rates do not reflect a rational relationship with current retail rate structures." He asserts that this will facilitate rate arbitrage, the targeting of low-cost, high-priced retail services, that will preclude Verizon's recovery of its costs.

Witness Trimble cites three major causes of the perceived imbalance between UNE rates and retail rates. First, retail rates were designed to recover actual costs, which may differ from total long-run incremental costs produced in the model. Second, retail rates were sometimes designed to support public policy objectives (*e.g.*, universal service), which could result in retail rates that are not reflective of their underlying cost characteristics. Third, the proposed UNE rates are based on estimates of TELRIC plus a share of forward-looking common costs that are not necessarily in line with actual costs.

Witness Trimble agrees that UNE prices are required to be based solely on TELRIC plus a share of forward-looking common costs under current FCC pricing rules. However, he notes that Verizon does not agree with the FCC's costing and pricing rules. He states that

> Verizon Florida continues to strongly oppose the use of proxy models or hypothetical cost studies for determining the costs and rates for UNEs. Permanent rates should reflect the actual forward-looking costs that Verizon Florida is expected to realize during the time period that UNE rates are in effect. . . . Verizon reserves the right to propose changes to its rates once the cost methodology question is settled at the federal level.

Z-Tel witness Ford provides a comparative cost analysis as a factor in setting rates. He argues that companies with similar costs should have similar rates. He uses the FCC's Hybrid Proxy Cost Model (HCPM), also called the Synthesis Model, to compare the costs of Verizon and BellSouth. He contends that Verizon's costs are actually lower than those of BellSouth. He notes that his comparative analysis does not produce specific rates, but rather it gives an indication of a "zone of reasonableness." He explains that the methodology is to produce a ratio of rates between two carriers in a state to approximate a ratio of costs. Witness Ford asserts that the FCC has used this approach in numerous 271 orders, and notes that while the rates would not necessarily be identical between two companies, they should be approximately the same.

Verizon witness Tardiff responds that the model used by witness Ford, "cannot identify differences between carriers providing UNEs in the same state, and [witness] Ford has put the Model to a use for which it was never intended." Witness Tardiff asserts that the FCC has never used this model in the manner suggested by witness Ford. He explains that the FCC uses the model to compare rates of the same ILEC across two states. He contends that "the FCC has never used, nor has it authorized the use of, the Synthesis Model to identify the relative cost differences between *two ILECs* operating in a *single state.*" (Emphasis by witness) He adds that rates that fall outside the range of reasonableness do not necessarily mean that the rates are unreasonable. Witness Tardiff also argues that witness Ford used calculations that were a guess, and did not accurately reflect the criteria set by the FCC.

Witness Tardiff further asserts that witness Ford "is generally unfamiliar with the Synthesis Model's platform and inputs." He contends that witness Ford used a version of the model that was outdated and contained errors.

Adding further support, Verizon witness Trimble argues that

> UNE rates are supposed to be company-specific, which means, in this case, based on costs Verizon will incur in providing UNEs in Florida with its network. The rates of other companies, regardless of the state in which they operate, are obviously not based on Verizon's costs. The

> Commission need not, and, indeed, cannot, look to other jurisdictions or use proxies to set Verizon's rates.

Witness Trimble cautions that there is a danger in considering rates set in other states, because they may be based on factors other than forward-looking pricing rules, such as political considerations.

To buttress this argument, Verizon witness Tucek notes, for example, that New York's rates are not reflective of New York's costs. He states that Verizon agreed not to challenge the New York UNE order in exchange for permission to rebalance rates; thus, the New York rates were based on a political process, rather than on the costs.

DECISION

We agree with Verizon that the FCC has not authorized the use of the Synthesis model in the manner that witness Ford advocates. For example, in the FCC's most recent 271 Order, FCC Order No. 02-147, Joint Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc. for Provision of In-Region, interLATA Services in Georgia and Louisiana, the FCC cautions:

> Although some benchmarking is advocated by some commenters, our analysis is complete if it reveals that there are no basic TELRIC violations or clear errors on substantial factual matters, and we do not proceed to determine TELRIC compliance on the basis of comparisons with other states, including those that have section 271 approval. To do otherwise would put the Commission in the position of establishing benchmark rates for the nation on the basis of a few states where the Commission, thus far, has found state commissions to apply TELRIC correctly. We see no reason to do this as it undermines the importance of state-specific, independent analysis of rates for UNEs.

FCC 02-147, ¶24. The FCC finds that reasonable applications of TELRIC principles can produce a range of rates and concludes, "[w]e do not, however, regard failure to meet a benchmark, by itself, as evidence that a state commission failed to reasonably apply TELRIC in setting UNE rates."

FCC 02-147, ¶25.

While rates clearly must be based on TELRIC costs to be compliant with the FCC's rules, that fact does not speak against comparing the rates of similarly situated companies in the same state. We agree with Verizon that rates set in other states may not provide a reasonable benchmark. However, rates set in the same state by the same commission may provide a gauge by which to measure whether the rates proposed by a company, in this case Verizon, are so totally beyond the realm of reason that they must be rejected. Caution must be exercised to make sure the rates include similar factors. Once it can be ascertained that the rates have been calculated in a similar fashion, there is no reason why such comparisons cannot prove useful.

UNE rates should be set using the forward-looking cost standards authorized by Section 252(d)(1) of the 1996 Telecommunications Act, the FCC's rules and orders implementing that section of the Act, and the court decisions that affect those rules and orders. We reject Z-Tel's sanity test based on rates set in other states. However, rates set within the state for other ILECs may prove useful as a gauge of reasonableness, so long as caution is used to ensure that such rates are truly comparable.

II(a). <u>METHODOLOGY AND RATE STRUCTURE FOR DEAVERAGED UNEs</u>

We next determine the appropriate methodology to deaverage UNEs and the appropriate rate structure for deaveraged UNEs.

Here, Verizon witness Trimble testifies that rates for UNEs should not be deaveraged where retail rate structures and price levels are not cost-based and deaveraged. He asserts that rates for business services and vertical features are priced significantly above cost, to support basic local service rates at below-cost levels. He also observes that retail rate averaging, where residential customers in low-cost, high density areas are charged the same price for basic local service as customers residing in high-cost, low density areas, also provides implicit support to sustain low local rates. However, witness Trimble contends that such implicit supports are not sustainable in a competitive environment and yield inefficient competition. He believes that such pricing practices result in ALECs targeting low-cost, high revenue business customers, while avoiding high-cost, low revenue residential customers.

Witness Trimble states that the FCC acknowledged the linkage between wholesale and retail deaveraging in its order staying Rule 51.507(f), the UNE deaveraging rule, until completion of the FCC's nonrural universal service proceeding. He notes that the FCC concluded that "[b]y linking the duration of the stay to the universal service proceeding, we afford the states and ourselves the opportunity to consider in a coordinated manner the deaveraging issues that are arising in a variety of contexts affecting local competition." Witness Trimble concludes that deaveraging UNEs should not be done in isolation, because of the linkage to universal service support issues and retail deaveraging.

Based largely on the above assertions, witness Trimble states that Verizon's preferred option is to establish a single companywide rate for each element. After having established cost-based UNE rates for BellSouth and Sprint, witness Trimble contends that we will then have complied with the FCC's deaveraging requirement because there will then be three cost-based UNE zones in Florida. He asserts that "[s]ince this option would result in UNE rates that are more rationally aligned with retail rates, it would mitigate the potential for undue CLEC rate arbitrage."

Witness Trimble asks that should we reject Verizon's preferred option, we should consider a three-zone proposal. In this proposal, Verizon first calculated the loop cost for each of its 90 wire centers. According to witness Trimble, wire center loop costs range from a low of less than $10 per line to a high of nearly $200 per line, with an overall average of $22.94. Second, wire centers were assigned to one of three zones based on the following formula: all wire centers whose average loop cost is less than or equal to the statewide average were mapped to Zone 1; wire centers whose average loop cost is between the statewide average and 200% of the statewide average were mapped to Zone 3; and wire centers whose average loop cost exceeded 200% of the statewide average loop cost were mapped to Zone 3. Third, the weighted average cost per loop for each of the three zones was computed.

Last, a uniform amount for recovery of common costs was added to each zone's average cost to yield Verizon's zone-specific rates.

According to Verizon witness Trimble's Exhibit DBT-3, 50% of the wire centers accounting for 67% of the access lines are assigned to Zone 1; 36% of the wire centers accounting for 31% of the access lines are assigned to Zone 2; and Zone 3 consists of the remaining 14% of the wire centers, containing 2% of the company's access lines.

In response to Verizon's positions, ALEC Coalition witness Fischer testifies that Verizon's statewide average rate proposal should be dismissed because we previously concluded in the BellSouth phase of this proceeding that the FCC's Rule 51.507(f) requires the establishment of deaveraged UNE rates in at least three geographic areas. He advocates that we again adopt the Sprint rate deaveraging methodology to arrive at UNE rate zones for Verizon. Under this approach, an initial set of zones are arrived at by grouping wire center level UNE costs into bands by setting the upper boundary of the band at 20% and the lower boundary at -20% of the average cost of the wire centers in the proposed rate band. This approach ensures that ". . . no wire center-level loop cost will exceed, or fall short of, the average loop rate within a rate group by more than 20%."

Witness Fischer applied the Sprint approach separately to Verizon's costs for a 2-wire loop and a DS1 loop. This methodology yielded eight rate zones for a 2-wire loop, and four zones for a DS1 loop. In addition, in recognition of our adoption of only three zones for BellSouth, the Coalition witness also submitted proposals where he collapsed his initial rate zones for these two elements to three zones. However, he believes that more than three zones should be approved for Verizon where cost differences warrant it. Witness Fischer contends that more than three zones are required in order to account for the level of variation in Verizon's 2-wire loop costs. He refers to Verizon witness Trimble's Exhibit DGT-3 and notes that under Verizon's alternative deaveraging proposal, 67% of the company's lines will be priced below the statewide average rate. However, when the Sprint methodology is applied to Verizon's cost results, as he proposes, 82% of Verizon's lines would be priced below the statewide average cost but split into three zones instead of Verizon's one zone. He concludes that although ". . .the Commission may not want to implement eight rate zones for policy reasons, certainly the range of cost differences between wire centers calls for more than three rate zones."

According to witness Fischer, we should recognize that economic efficiency will be best achieved when rates assessed for UNEs closely match the related costs. He contends that when disparate costs are averaged over a large geographic area, cost differences become less apparent. Where this occurs, market incentives will be distorted. In his opinion, we should prefer more deaveraging than less, because ". . . a greater degree of geographic deaveraging will enhance economic efficiency and the development of competition." Moreover, he asserts that economic efficiency is enhanced by sending ALECs proper pricing signals as to whether they should buy UNEs from the LEC or build their own facilities. Witness Fischer believes that greater deaveraging provides better information to an ALEC in arriving at his buy or build decision, which benefits both the ALEC's and society's best interests.

Witness Fischer also argues that where rates for UNEs in low-cost areas are priced higher than they should be because of excessive rate averaging, those customers who could be served with minimal outlay are effectively sheltered from competition. As a result, it becomes more difficult for ALECs to achieve the economies of scale and scope they need in order to extend the competitive services. The Coalition witness also states that a deaveraging approach that yields a small number of wire centers and access lines in the lowest priced zones will not promote competition. He therefore concludes that ". . . it is important that the Commission make a second-tier end-result evaluation for any methodology it approves to ensure that the competitive goals of the Act will be carried out and that the methodology adopted does not have arbitrary results."

In his surrebuttal testimony Verizon witness Trimble questions witness Fischer's observation that overly averaged rates are problematic because they are unrelated to an ILEC's cost to provide services. Witness Trimble contends that Verizon's proposed rates are not overly averaged, and that they reflect the cost of serving customers in the given zones. Witness Trimble observes that this statement only makes sense if an ALEC intends to target customers selectively.

Witness Trimble believes that one way to gauge whether a deaveraging approach is "fair" is to determine what percent of lines are priced above their cost due to averaging. According to his analysis, the results are very similar when comparing Verizon's 3-zone approach to witness Fischer's alternative 3-zone proposal: 51% for Verizon versus 47% for the Coalition proposal. However, he asserts that Verizon's proposal is somewhat better balanced, noting that almost an equal percent of lines are priced too low. Witness Trimble concludes that "Verizon's proposal thus mitigates more uneconomic arbitrage than does the ALEC Coalition's proposal."

We note that in their briefs, Covad and FDN adopted the position of the ALEC Coalition on this issue.

DECISION

FCC Rule 51.507(f) provides that "State commissions shall establish different rates for elements in at least three different geographic areas within the state to reflect geographic cost differences." Verizon witness Trimble essentially argues that we would be in compliance with this rule if we establish separate UNE rates for three distinct geographic areas within Florida - one set of averaged rates for the service territory of BellSouth, Sprint and Verizon. We disagree. We believe that it would be disingenuous to consider that the FCC's deaveraging rule envisioned allowing a state commission to mix and match the costs of various incumbent local exchange companies to achieve compliance. Accordingly, we reject Verizon's statewide average rate proposal.

Verizon and the ALEC Coalition differ as to the appropriate manner by which to carve out distinct UNE rate zones. If its recommendation to establish statewide average rates is not accepted, Verizon proposes to group wire centers with similar costs together and to calculate a weighted average cost for each of such grouping.

In contrast ALEC Coalition witness Fischer advocates that we should employ the Sprint rate banding approach that we adopted, with modifications, in the BellSouth phase of this proceeding. In that earlier proceeding, Sprint witness Sichter argued that rates should be deaveraged to the extent necessary " . . . to achieve a result wherein the averaged rate does not deviate significantly from the actual forward-looking cost of providing that element anywhere within the defined zone." Docket No. 990649-TP, Order No. PSC-01-1181-FOF-TP, p. 37. The Sprint witness claims that a difference between rates and costs exceeding 20% would be "significant." Using this 20% criterion, witness Sichter proposed that " . . . each incumbent LEC should be required to construct a deaveraged rate schedule such that the average rate in each zone is no more than 20% higher or 20% less than the forward-looking cost of providing that element." Id.

We did not adopt Sprint's proposal as filed in the BellSouth phase of this proceeding, finding that it ". . .creates too many zones, which would be administratively burdensome and is not necessary to reflect the level of variation in BellSouth's costs." Order No. PSC-01-1181-FOF-TP, p. 39. We believe that the circumstances in the current proceeding are quite similar to those in the previous BellSouth phase. Consistent with our decision there, we decline to adopt Verizon's proposed groupings of wire centers into zones; instead, we find that the Sprint rate banding approach shall be employed as a starting point to develop rate zones. According to ALEC Coalition witness Fischer's Exhibit WRF-2, strict application of the +/- 20% criterion to Verizon's cost results yields eight different rate zones. We do not believe that eight zones are necessary to capture the range of Verizon's loop cost variation. Not surprisingly, the bulk of Verizon's lines occur in a very few zones. For example, Zone 1 on witness Fisher has a single wire center and accounts for less than 3% of Verizon's access lines. At the other extreme, Zones 5 through 8 account for 18 wire centers (out of 90) but less than 5% of total access lines.

Presumably acknowledging our earlier decision for BellSouth, ALEC Coalition witness Fischer has an alternative proposal where he has collapsed his eight rate zones into three zones. Under this collapsed rate design shown on his third exhibit, Zone 1(former Zones 1 and 2) would contain 15 wire centers and 23% of access lines; Zone 2 (former Zone 3), 41 wire centers and approximately 59% of access lines; and Zone 3 (former Zones 4 through 8), 34 wire centers and 18% of access lines.

Using the data from witness Fischer' exhibit 2, it is possible to generate a four zone rate structure, that would split Zone 3 on Exhibit WRF-3 into two zones. Here, new Zone 3 would be Zone 4 from Exhibit WRF-2 (which consists of 16 wire centers and around 14% of access lines), and new Zone 4 would collapse Zones 5 through 8 (consisting of 18 wire centers and about 5% of access lines). The impact of four zones would be a significant increase in the Zone 4 rate, with a modest decrease in the new Zone 3 rate.

Of the options presented in this proceeding, on balance we believe that the ALEC Coalition's three zone proposal is the most reasonable proposal, as it adequately reflects Verizon's loop cost variation and minimizes administrative burdens associated with maintaining numerous rate zones. While we approve adoption of the Coalition's three zone proposal, our assignment of wire centers to rate zones (shown in Appendix C) will not necessarily match the assignment shown on the witness's third exhibit. Variations may occur due to use of our approved loop costs, rather than Verizon's, to perform the +/- 20% analysis and subsequently collapsing into three zones.

The ALEC Coalition's three-zone deaveraging proposal, modified as necessary to acknowledge use of our approved loop costs, shall be adopted. The assignment of wire centers to rate zones is shown in Appendix C.

II(b). UNES SUBJECT TO DEAVERAGED RATES

We next consider the appropriateness of setting deaveraged rates for all loops, local switching, interoffice transport (dedicated and shared) and other UNEs, including combinations.

Verizon witness Trimble testifies that only loop prices are viable candidates for deaveraging because only they exhibit significant cost variations between geographic areas. He states that while switching costs do vary somewhat as a function of switch size and traffic volumes, witness Trimble does not believe such variations are significant enough to justify deaveraging. He also notes that Verizon's proposed rate structure for interoffice transmission facilities captures distance, traffic and volume characteristics, so the interoffice TELRICs for these items sponsored by Verizon witness Tucek effectively yield deaveraged prices.

However, witness Trimble notes that Verizon does not propose to deaverage all items that the FCC considered to be part of the definition of a loop in Order FCC 99-238 (the UNE Remand Order). In the UNE Remand Order the FCC modified its definition of a loop ". . . to include all features, functions, and capabilities of the transmission facilities, including dark fiber and attached electronics (except those used for the provision of advanced services, such as DSLAMs) owned by the incumbent LEC, between an incumbent LEC's central office and the loop demarcation point at the customer premises." FCC 99-238, ¶167. Witness Trimble observes that this definition includes such items as: inside wiring; loop conditioning; dark fiber; multiplexing; high-capacity loops; private line and special access facilities; and cross-connects. He states that Verizon is not proposing deaveraged prices for inside wiring, loop conditioning, dark fiber, multiplexing, or cross-connects, none of whose costs, he believes, varies geographically. Witness Trimble contends that only 2-wire, 4-wire and DS-1 UNE loops are candidates for deaveraging, as well as UNE combinations that include these loop types. In its brief Verizon clarifies that it also proposes to deaverage subloops.

ALEC Coalition witness Fischer testifies that we should require, at a minimum, the geographic deaveraging of those UNE loop rates that were deaveraged in the BellSouth phase of this proceeding. He asserts that it is essential that loops be deaveraged ". . . because the loop is the primary bottleneck facility required by ALECs for competitive entry, and it is subject to significant cost differences based on customer density and distance." In its brief the ALEC Coalition specify that all loops, subloops and UNE combinations containing loops and subloops should be deaveraged.

In their respective briefs Covad and Z-Tel adopt the Coalition position on this issue.

<u>DECISION</u>

In Order No. PSC-01-1181-FOF-TP issued on May 25, 2001 in the BellSouth phase of this proceeding, we concluded:

> Upon consideration, we find that all varieties of loops, subloops, and combinations containing loops, shall be deaveraged in this proceeding. All parties now are apparently in agreement on this point. We find no compelling reason in the record to differ from this consensus. We note that while BellSouth proposes to deaverage all loops below DS3, all other parties merely contend that "loop" be deaveraged. Since the rate structure for loops and local channels whose bandwidth is DS3 and above resembles that of interoffice transport in that it is priced on a mileage-sensitive basis, we find that it is sufficient to deaverage only loops below DS3.

Order No. PSC-01-1181-FOF-TP, p. 40.

In the instant proceeding it appears that all parties are also in agreement that the same loops, subloops and loop combinations should be deaveraged. Accordingly, we find that the recurring costs of all varieties of loops and subloops below DS3, and combinations containing such loops, shall be deaveraged.

III.(a) and (b). <u>xDSL CAPABLE LOOPS AND COST STUDY DISTINCTIONS</u>

We are next asked to define xDSL capable loops, and whether a cost study for xDSL-capable loops should make distinctions based on loop length and/or the particular DSL technology to be deployed.

As Verizon witness Trimble testifies,

> Simply stated, an xDSL-capable loop is a basic 2-wire or 4-wire UNE loop that possesses the electrical characteristics that allow for the transmission of xDSL-based technology signals.

Witness Trimble notes that loops may require conditioning to assure the technical parameters of Digital Subscriber Line (DSL) technology can be achieved over the specific individual loop. The witness asserts that in some cases, it may be impossible for Verizon to assure that a specific loop can meet the technical parameters required to provision a specific digital service. For example, the loop length may be too long to technically support the desired service. In those cases, the specific loop, whether conditioned or not, will be unable to support the provision of a digital service.

Verizon witness Dye testifies that under the FCC's Line Sharing Order, Incumbent Local Exchange Companies (ILECs) are required to condition loops to allow requesting carriers to offer advanced services. Verizon witnesses Dye and Richter explain that loop conditioning is the removal of load coils and/or bridged tap or electronics from the loop at the Competitive Local Exchange Company's (CLEC's) request to allow line sharing to occur. The witnesses note that while load coils and bridged tap have been, and for some loops, continue to be, an integral part of the copper voice grade network, they impede the transmission of digital signals. For example, Asymmetrical Digital Subscriber Line service cannot be provided over a loop that contains a load coil. If the CLEC requires copper pairs without load coils or bridged tap, the CLEC has the option of ordering loop conditioning from Verizon at non-recurring rates. However, witness Dye asserts that Verizon will not provide loop conditioning in cases where the conditioning significantly degrades traditional voice service that Verizon offers its end-users. In support of this position, witness Dye refers to the FCC's *Line Sharing Order*, which states that "if conditioning a particular loop for shared-line xDSL will significantly degrade that customer's analog voice service, incumbent LECs are not required to condition that loop for shared-line xDSL."

Both witness Trimble and Verizon witness Dye testify that xDSL-based services require that the end-user be provisioned with copper facilities. While witness Trimble acknowledges that some fiber-fed next generation digital loop carrier vendors have recently developed plug-in cards that can be used at the Digital Loop Carrier (DLC) location to provide xDSL service to customers served by DLCs, the witness asserts that Verizon is only trialing this technology in limited areas. Additionally, witness Trimble notes that plug-in cards are not readily available and much is yet to be understood regarding the technology. Moreover, witness Trimble notes that Verizon has not received any Alternative Local Exchange Company (ALEC) requests for xDSL loops served by DLCs.

Witness Trimble testifies that there are three primary considerations in determining whether a UNE loop is capable of transmitting xDSL services. These considerations are: 1) the loop length, 2) the gauge of the copper that makes up the loop, and 3) the presence of load coils or bridged tap, which are necessary for the efficient provision of voice-grade service. Each of these attributes can affect and potentially degrade the quality of the xDSL service. If load coils or bridged taps affect the required transmission characteristics of a specific loop (to facilitate the provision of any proposed service), the company will attempt to condition the loops in order to transform them into "clean" copper facilities that have the appropriate transmission characteristics.

Additionally, witness Trimble asserts that, as a matter of public policy, the characteristics of a specific technology should never be considered a driver for the price of the underlying UNE facility. He proffers that loops are loops and must be service-independent in the UNE world. Witness Trimble argues that the specific technology that a CLEC intends to put on a UNE loop should have no bearing in the pricing of that loop. The witness believes that this potential deaveraging of loop prices only leads to increased arbitrage and, if taken to the extreme, would be an administrative nightmare. Witness Trimble notes that UNE loops that have the technical parameters for xDSL transmission also have the technical parameters for plain-old voice transmission. The witness concludes that purchasers of UNE loops would never pay a geographic zone-based average rate for a two-wire UNE loop if there was an alternative loop-length-derived rate schedule developed to support some technology-specific requirement. "Technologies come and go, but the underlying UNE loop remains relatively unchanged."

Regarding loop length, witness Trimble argues that loop length should never drive rate deaveraging unless it is accompanied by significant differences in customer density within the wire center. He proffers that such will simply result in another mechanism to facilitate rate arbitrage.

Witness Trimble asserts that if density characteristics are relatively similar, then the average cost in a particular density area is the real concern in the setting of competitively efficient and neutral rates. "Loop-length characteristics (or even basic loop technology characteristics) should not create rate differentials that result in one customer being more coveted by

CLECs than another, identical customer in a given homogeneous area."

Furthermore, witness Trimble alleges that any proposal to deaverage UNE loops based on length considerations appears to be inconsistent with FCC rules. He notes that the FCC requires geographically deaveraged rate zones. Witness Trimble argues that a loop length-based pricing proposal would not establish rate zones and would not establish geographically deaveraged rates. "Instead, it would establish length-based rates that would result in different rates for the same UNE loops within the same geographic area, based solely on what equipment is used with the loop."

Also, witness Trimble argues that loop-length derived prices would not address the effect of loop-length specific UNE prices on retail costing and pricing issues, or on universal service support issues. The witness asserts that if wholesale rates are based on loop length, then so should retail rates, including any universal support. Otherwise, arbitrary and inconsistent wholesale and retail rate structures would be exacerbated, perpetuating arbitrage and economically inefficient rate structures.

Finally, witness Trimble asserts that loop-length based pricing structures have historically turned into administrative nightmares. The end result has been that service representatives resort to assuming most loops fall in the shortest-length category. The witness, therefore, concludes that administration of such a pricing mechanism is not reasonable or efficient.

Witness Trimble opines that CLECs do not desire any form of geographic deaveraging, as it concerns xDSL-capable loops. CLECs desire deaveraging based on facility make-up (i.e., copper versus fiber), which they relate to geographic deaveraging through the use of hypothetical, non-existent network assumptions.

Covad states in its brief that it agrees with Verizon regarding the basic definition of an xDSL-capable loop and that xDSL loop pricing should not be based on loop length or technology. However, while Covad provided no testimony addressing this issue, Covad's brief notes that xDSL-capable loops are any loops that ALECs qualify for themselves as being capable of supporting xDSL services. Covad advances in its brief that DSL providers should be able to determine for themselves, based on accurate loop make-up information obtained from the Incumbent Local Exchange Company (ILEC), their own equipment and technical requirements, whether the facility is indeed an xDSL-capable loop. After reserving and ordering the loops the ALEC has qualified, the ALEC needs those loops to be marked so the loop selected and ordered will not be rolled to another facility, such as fiber. Covad recommends that it is appropriate, as we decided last year in the BellSouth Telecommunications, Inc. UNE Order, to require Verizon "to provision [a 2-wire loop] and guarantee not to roll it to another facility, or, in other words, guarantee not to convert it to an alternative technology." Covad argues that in this way, xDSL providers and their customers will not be inadvertently rolled from a loop that supports xDSL (all copper) to a loop that does not support xDSL (copper and fiber). While we may find some merit to Covad's theory, the Verizon record evidence is not sufficient to reach this determination. No witness testified supporting this conclusion.

DECISION

All parties agree that an xDSL-capable loop, for the purposes of this proceeding, is a basic copper 2-wire or 4-wire UNE loop possessing the characteristics that allow for transmission of xDSL-based technology signals. Furthermore, while it may be reasonable for loop prices to vary by loop length, the parties agree that a cost study for copper-based xDSL-capable loops need not make distinctions based on loop length or the particular DSL technology an ALEC intends to put on the loop. Moreover, the proposal made by Covad in its brief that we should order Verizon, as we did for BellSouth, to guarantee that loops ALECs reserve and qualify for the provision of xDSL services be marked so they will not be rolled to another facility, such is fiber, are unfortunately not adequately supported by evidence presented in this proceeding. No testimony was presented and no cross-examination was conducted regarding the ALEC desire or need for such a guarantee.

As such, for the purposes of this proceeding, xDSL-capable loops are all copper loops that do not contain any impediments such as repeaters, load coils, or excessive bridged tap. Moreover, while it may be reasonable for loop prices to vary by loop length, it is not necessary that a cost study for copper-based xDSL-capable loops make distinctions based on loop length or the particular DSL technology an ALEC intends to put on the loop.

IV(a). UNBUNDLING AND SETTING PRICES FOR SUBLOOPS

Here, we answer the question of which subloop elements, if any, should be unbundled in this proceeding, and how should prices be set?

The FCC defines subloops "as portions of the loop that can be accessed at terminals in the incumbent's outside plant." FCC 99-238[1], ¶ 206. The FCC believes "that a broad definition of the subloop that allows requesting carriers maximum flexibility to interconnect their own facilities at these points where technically feasible will best promote the goals of the Act." ¶ 207. The FCC concludes that "access to the subloop, will facilitate rapid development of competition, encourage facilities-based competition, and promote the deployment of advanced services." ¶ 207.

Verizon witness Trimble states that Verizon is willing to provide the following subloop elements:

- Intra-building House Cable
- Intra-building Riser Cable
- 2-wire Feeder
- 2-wire Distribution
- 2-wire Drop
- 4-wire Feeder
- 4-wire Distribution
- 4-Wire Drop
- Dark Fiber Feeder
- Dark Fiber Distribution

In his testimony, witness Trimble defines feeder as the part of the loop that goes from the central office's main distribution frame (MDF) to the feeder distribution interface (FDI). He defines

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[1]*In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Notice of Proposed Rulemaking, (November 5, 1999)

distribution as the part of the loop that extends from the FDI to the network interface device (NID) or minimum point of entry (MPOE). The drop is the part of the network that extends from the pedestal or terminal to the NID or MPOE. Intra-building house and riser cable is the part of the loop that extends from the building's MPOE to the actual physical location of the customer.

When asked why Verizon had not proposed any additional subloop elements, witness Trimble responded that Verizon's proposal covers the entire loop, is consistent with FCC Order 99-238, and covers any request for subloops that a CLEC would have. In an interrogatory response, Verizon stated that it had not received any requests for subloop elements other than the ones it proposed.

The ALEC Coalition did not take a position on this issue except for stating that any cost studies for these elements should be based on forward-looking economic cost, which assumes the most-efficient telecommunications technology currently available and lowest-cost network configuration. The ALEC Coalition did not file any testimony relevant to this issue.

DECISION

In the last two years, Verizon has not received any requests for subloop elements other than the ones it proposes. Additionally, Verizon believes that its proposed subloop elements cover the entire loop. Thus, since there is no testimony to the contrary, and Verizon's proposal appears to be reasonable, we find that Verizon shall be required to unbundle the following subloop elements:

- Intra-building House Cable
- Intra-building Riser Cable
- 2-wire Feeder
- 2-wire Distribution
- 2-wire Drop
- 4-wire Feeder
- 4-wire Distribution
- 4-Wire Drop
- Dark Fiber Feeder
- Dark Fiber Distribution

We find that the prices proposed by Verizon for these subloop elements shall be modified to reflect our changes in all other applicable sections addressed in this Order.

IV (b). ACCESS AND PRICING OF ACCESS TO SUBLOOPS

We next address how access to such subloop elements should be provided, and how should prices be set.

Concerning access to subloops, the FCC, in Order FCC 99-238[1] stated that:

> We conclude that incumbent LECs must provide unbundled access to subloops. Applying our unbundling analysis, we conclude that lack of access to unbundled subloops at technically feasible points throughout the incumbent's loop plant will impair a competitor's ability to provide services that it seeks to offer. We agree with commenters that self-provisioning subloop elements, like the loops itself, would materially raise entry costs, delay broad-based entry, and limit the scope and quality of the competitive LEC's service offerings. In addition, we find that access to the subloop elements promotes self-provisioning of part of the loop, and thus will encourage competitors, over time, to deploy their own loop facilities and eventually to develop competitive loops where it is cost efficient to do so.

¶ 209.

The FCC defines an accessible terminal as:

> [A] point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. These would include a technically feasible point near the customer premises, such as the pole or pedestal, the NID or the minimum point of entry to the customer premises (MPOE). Another point of access would be the feeder distribution interface (FDI), which is where the trunk line, or "feeder" leading back to the central office, and the "distribution" plant, branching out to the subscribers,

> meet, and "interface." A third point of access is, of course, the main distribution frame in the incumbent's central office.
>
> We believe that a broad definition of the subloop that allows requesting carriers maximum flexibility to interconnect their own facilities at these points where technically feasible will best promote the goals of the Act.

In regards to the presumption of the accessibility of subloop elements, the FCC Order states:

> [W]e establish a rebuttable presumption that the subloop can be unbundled at any accessible terminal in the outside loop plant. If the parties are unable to reach an agreement pursuant to voluntary negotiations about the availability of space or the technical feasibility of unbundling the subloop at one of the points identified above, the incumbent will have the burden of demonstrating to the state, in the context of a section 252 arbitration proceeding, that there is no space available or that it is not technically feasible to unbundle the subloop at these points.

FCC 99-238, ¶ 223.

When asked how ALECs gain access to the 2-wire, 4-wire, or dark fiber subloop facilities, Verizon witness Trimble responded that "[t]he existence of and ability to access subloop elements is very customer-specific and must be evaluated on a case-by-case basis." Access to subloop elements may occur at a MDF, the FDI, or at the terminal serving the customer's premises.

In order to gain access to a subloop element, the ALEC must establish a point of connection (POC) where the access is requested. To initiate the process to establish a POC, the ALEC must submit an application to Verizon. This process will also determine whether or not the requested subloop is technically feasible.

In addition to the application process, Verizon requires the ALEC to collocate at the Verizon central office where the MDF is located and to either collocate or otherwise establish a presence at the FDI or terminal. The application process to establish a POC or collocation is used to determine the costs, such as labor and capital, that are the ALEC's responsibility, and establish the time frame for the creation of a point of connection with the ALEC.

When asked how ALECs gain access to intra-building house and riser cable facilities, witness Trimble responded that with the lease of a UNE loop or UNE distribution subloop, the ALEC automatically receives access to any house and riser cable it requires, but notes that the ALEC will have to pay the monthly recurring cost (MRC) for the house and riser cable it leases.

If an ALEC has its own distribution plant going into a building and Verizon owns the house and riser cable, the ALEC must locate a terminal block that is compatible to Verizon within cross-connect distance of the MPOE for the cable. Verizon also requires that only Verizon personnel will perform provisioning work on Verizon owned equipment.

In response to an interrogatory asking for a breakdown of the various access points to available subloop elements, Verizon explained that subloop feeder is accessed by the ALEC at both the central office and the cross-connect or FDI. The subloop distribution element is accessed at the FDI. Verizon responded that it is technically feasible to access a subloop at the FDI, remote terminal (RT) (if either a cross-connect or FDI is located within the RT), network interface device, or a terminal type pedestal.

Verizon also stated that it is not technically feasible to provision subloops using Verizon's main distribution frame (MDF) as a point of interface. Verizon pointed out that the FCC's definition of a subloop supports the fact that subloops are not accessed at a central office.

The FCC gives the following definition of a subloop in 47 C.F.R. 51.319 (2): "The subloop network element is defined as any portion of the loop that is technically feasible to access at terminals in the incumbent LEC's outside plant, including inside wire."

Besides technical feasibility issues, Verizon also has safety and network reliability concerns stemming from introducing copper facilities into the network, and believes that these concerns should be taken into consideration when determining technical feasibility. The FCC acknowledges that reliability concerns are relevant evidence of technical infeasibility as long as they are specific, significant, and demonstrable. This is of concern to Verizon since it is a carrier of last resort, and having facilities in its network that it does not own and cannot control, undermines Verizon's management and control over its own network.

When asked to elaborate on the safety and reliability concerns of introducing copper facilities into the network, witness Trimble responds that there have been problems with ALECs wanting to drop copper off in places other than their collocation cages. Further, ALECs have requested that copper be terminated, by Verizon, on Verizon's main distribution frame. As the witness understands it, there are various technical issues, including an increased fire hazard, from such practices.

Witness Trimble acknowledges that Verizon does place copper in its network, but points out that it is responsible for the copper that it lays and knows how those copper facilities are protected. In short, Verizon is requesting is that in order for the ALEC to gain access to facilities from the MDF, those facilities be terminated at the ALEC's collocation cage.

The ALEC Coalition did not take a position on this issue except for stating that the Coalition believes any cost studies for these elements should be based on forward-looking economic cost, which assumes the most-efficient telecommunications technology currently available and the lowest-cost network configuration. The Coalition did not file any further testimony on this issue.

DECISION

The FCC makes it clear that access to subloops must be provided anywhere it is technically feasible. The FCC also puts the burden of proof on the incumbent carrier to demonstrate that access to a subloop at a specific point is not technically feasible, and that any disputes are to be handled by the states in a section 252 arbitration proceeding.

We acknowledge Verizon's concerns about network safety and reliability that could stem from ALECs introducing additional copper facilities into Verizon's network. The FCC agrees that ALECs should not have access to an ILEC's network at locations where they could threaten network reliability and security. We find merit in Verizon's argument that ALECs should not be allowed access to Verizon's network where there are network security and reliability concerns.

Concerning the issue of accessing subloop elements on the MDF in Verizon's central offices, the FCC acknowledges that there are feasibility issues due to capacity concerns and that certain lines "cannot be accessed at that point, but must be accessed closer to the end user." FCC 99-238, ¶ 206, footnote 399. While the FCC does not specifically address Verizon's concerns with technical issues, including the fire hazard, associated with copper being terminated on the MDF, it does not require subloops to be accessed where there are network safety and reliability concerns. Therefore, Verizon shall be required to allow ALECs to access subloop elements on the MDF, when there is not a concern over feasibility, network safety, or reliability.

Thus, we find that Verizon shall be required to provide access to subloop elements at any technically feasible point, including the main distribution frame, that does not threaten network reliability and security. Due to the customer-specific nature of providing access to subloop elements, prices for access to subloops shall be set on an individual case basis with this Commission arbitrating any disputes of technical feasibility, network reliability, and pricing in arbitration proceedings. These rates shall be filed with us in the appropriate interconnection agreements or amendments to such agreements on a going forward basis.

V. RATES FOR SIGNALING NETWORKS AND CALL-RELATED DATABASES

We next determine for which signaling networks and call-related databases should rates be set.

The FCC rules contained in 47 C.F.R §51.509(e) describe the obligations that an ILEC has to provide access to signaling networks and call-related data bases on an unbundled basis. Three categories of databases are discussed: signaling networks, call-related databases, and service management systems. Signaling networks include signaling links and signaling transfer points. An incumbent is required to provide access to signaling networks in the same manner as it obtains access itself. 47 C.F.R. §51.509(e)(1)(i).

The rules define call-related databases as "databases, other than operations support systems, that are used in signaling networks for billing and collection, or the transmission, routing, or other provision of a telecommunications service." 47 C.F.R §51.509(e)(2). Such databases include Calling Name Database (CNAM), 911 Database, E911 Database, Line Information Database (LIDB), Toll Free Calling Database (800, 888, and other toll-free numbers), Advanced Intelligent Network (AIN) Databases, and downstream number portability databases by means of physical access at the signaling transfer point linked to the unbundled databases. 47 C.F.R. §51.509(e)(2)(i). CNAM databases are used to provide Caller ID and related telecommunications services, and the 911 and E911 databases are telecommunications services used to provide emergency assistance. Order FCC 99-238, CC DN 96-98, ¶406. AIN databases allow centralized control of call processing and network information processing, so that such functions do not have to be performed at each switch. Other databases provide information and instructions used in call processing. Order FCC 96-325, CC DN 96-98, ¶¶457-459.

Service management systems are computer databases that perform various data processing functions. 47 C.F.R. §51.509(e)(3). Operator services and directory assistance are also defined:

> Operator services are any automatic or live assistance to a consumer to arrange for billing or completion, or both, of a telephone call. Directory assistance is a service that allows subscribers to retrieve telephone numbers of other subscribers.

47 C.F.R. §51.509(f).

An ILEC is only required to provide unbundled access to operator service or directory assistance "where the incumbent LEC does not provide the requesting telecommunications carrier with customized routing. . . ." 47 C.F.R. §51.509(f).

Verizon witness Trimble states that "Verizon Florida is proposing TELRIC-based prices for access to its SS-7 signaling network and for the databases enumerated by the FCC, with one exception." He notes that "[s]ince customer requirements are highly variable, Verizon Florida is not proposing prices for access to the Verizon AIN service creation environment and associated databases. Verizon Florida proposes to establish these arrangements on a case-by-case basis."

Though no other party addressed this issue in testimony, the ALEC Coalition took a position in its brief with regard to subloops. No analysis of its position was provided. Subloops are the subject of Issue IV and were addressed there as appropriate.

The ALEC Coalition states in its brief that Verizon's proposed rate structure is unacceptable. However, there is no discussion of this in the record or in the briefs. As a result, it is not possible to analyze the ALEC Coalition's position. Z-Tel took no position in its brief, and Covad adopted the position of the ALEC Coalition.

DECISION

Upon consideration, we accept Verizon's proposal as it pertains to the UNEs to be offered, but not as to the rates. The rates may be impacted by findings made in other sections of this Order.

VI. RECOVERING NON-RECURRING COSTS THROUGH RECURRING RATES

We are next asked to determine under what circumstances, if any, is it appropriate to recover non-recurring costs through recurring rates.

Verizon witness Dye believes it is inappropriate to recover one-time, non-recurring costs through recurring rates, unless parties agree to do so or the cost object has a reasonably definite revenue-producing life and can be reused by different customers. Witness Dye further explains:

> It is generally not appropriate to recover one-time customer-specific costs for nonreusable assets or services through recurring rates. If a cost is incurred once for

> a specific customer it should be recovered through a concurrent one-time payment from that customer. This would include one-time costs associated with processing service orders and connecting the service. Recovering the service in a recurring rate structure would put recovery of those costs in jeopardy since there is no assurance that the customer will continue to use the service over the recovery period. Likewise, services or customers that do not cause the cost to be incurred should not be responsible for recovery of the costs in the recurring rates.

Witness Dye maintains that "this one-time pricing structure is used because it best matches the cost to the cost causer. In fact, if the ILEC were required to charge a monthly recurring charge for a special facility and the customer subsequently abandoned the plant, the ILEC would suffer a "stranded cost" that would ultimately be borne by its other customers."

However, witness Dye contends that there are two exceptions to the above general principles. First, parties sometimes agree to recover non-recurring costs through a monthly recurring rate. In such instances, however, the parties' contract contains an early termination provision, under which the buyer must pay its bill in full or continue to make monthly payments (plus appropriate interest) even if it discontinues operation. Second, a company may charge a monthly recurring price for a non-recurring cost where the cost object has a reasonably certain revenue-producing life and is expected to be reusable by different customers.

The ALEC Coalition claims that costs incurred for the benefit of many customers or that provide future value should be recovered through recurring rates. ALEC Coalition witness Ankum states:

> Nonrecurring cost should only be recovered through nonrecurring charges if the costs are a direct cost to a specific unbundled network element that is ordered and provisioned. If the nonrecurring cost is a common cost then the ordering and provisioning of all network elements, such costs should be recovered through recurring charges.

> Direct cost associated with the ordering and provisioning of a specific unbundled network element should be recovered from the ALEC customer ordering and using the network element: that is, the cost must be recovered from the cost causers. Common costs, on the other hand, are not caused by an individual ALEC customer, but rather by all customers collectively. It is appropriate, therefore, to spread these costs over the total projected output of all network elements in the form of recurring charges. This ensures that the totality of the cost is recovered without disproportionately burdening some customers (ALEC) more than others. That is, by including the common cost in recurring charges for unbundled network elements, each ALEC customer will pay for unbundled charges for unbundled network elements, each ALEC customer will pay for a share of the common cost of ordering and provisioning processes that is directly proportional to the length of time that the unbundled elements are used by the customer.

Covad did not file any testimony on this issue; however, in its post-hearing brief Covad noted that, according to the FCC, loop rates that pose a barrier to entry are statutorily precluded under the Telecommunications Act. Further, Covad contends that Verizon's proposed rates are "unjustified, unsupported, and dramatically out-of-line with the rates set in other parts of Florida." The matter of appropriate rates is addressed in other issues in this docket and is beyond the scope of the issue at hand.

DECISION

The FCC's Local Competition Order allows a state commission "to permit incumbent LECs to charge initial entrants a proportionate fraction of the costs incurred, based on a reasonable estimate of the total demand by entrants for the particular interconnection service or unbundled rate elements." CC Docket No. 96-98, FCC Order 96-325, ¶750. Additionally, a state commission may require ILECs to recover nonrecurring costs through recurring charges over a reasonable period of time. CC Docket No. 96-98, FCC Order 96-325, ¶749. By definition non-recurring costs are the efficient, one-time costs associated with establishing, disconnecting or rearranging unbundled network elements purchased from an ILEC at the request of a customer (e.g., ALEC). We believe that FCC rules allow state commissions to require recovery of non-recurring costs over time:

> State commissions may, where reasonable, require incumbent LECs to recover nonrecurring costs through recurring charges over a reasonable period of time. Nonrecurring charges shall be allocated efficiently among requesting telecommunications carriers, and shall not permit an incumbent LEC to recover more than the total forward-looking economic cost of providing the applicable element.

47 C.F.R. §51.507(e). Such an arrangement would decrease the size of an entrant's initial capital outlay, thereby reducing financial barriers to entry. At the same time, any such reasonable arrangement should ensure that incumbent LECs are fully compensated for their nonrecurring costs. Local Competition Order, ¶749. We note that in the BellSouth phase of this docket, we ruled that if a non-recurring charge poses a barrier to entry, it may be dealt with in one of two ways: 1) through the use of a term payment or installment plan; or 2) by including the cost in recurring UNE charges. Order No. PSC-01-1181-FOF-TP, p. 124. Verizon witness Dye contends that the issue of the term over which payments for non-recurring charges should be made may be best left to negotiations between the parties, so that they may select a payment plan that best fits individual needs. Whether the magnitude of a given non-recurring charge erects a barrier to entry should be determined on a case-by-case basis.

DECISION

We may set recurring rates that recover a portion of non-recurring costs through recurring charges. The inclusion of non-recurring costs in recurring rates shall be considered where the resulting level of nonrecurring charges would constitute a barrier to entry.

VII(a). ASSUMPTIONS AND INPUTS OF NETWORK DESIGN FOR UNE COST STUDIES

Here we must determine the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies.

(a) network design (including customer location assumptions);

Witness Tucek sponsors Verizon's long-run forward-looking recurring cost studies in this proceeding, which are produced using a Florida-specific version of the company's Integrated Cost Model (ICM-FL). Witness Tucek states that the version of ICM-FL filed in this docket has two major refinements. The first change pertains to ICM-FL's loop model. Previously, ICM modeled the number and location of DLC sites and associated feeder routes so as to satisfy a user-identified maximum copper loop length (either 12 or 18 kilofeet). For this filing, this option was disabled, and the locations of DLCs are based on Verizon Florida's current network and instead are inputs to the model.

According to witness Tucek, the second modification concerns the inputs to ICM's Transport Module. He testifies that the assignment of end offices to particular SONET rings formerly was made without regard to the actual assignments in the existing network. While witness Tucek notes that end office assignments are still made outside of the model, in ICM-FL they more closely reflect Verizon Florida's network design. In the modeled network not all SONET rings connect to the Tampa access tandem switch; where this occurs, a large central office on the ring serves as the hub.

Verizon witness Tucek asserts that we should endorse the use of ICM-FL to derive Verizon Florida's costs of UNEs because it ". . . provides estimates of the forward-looking costs of provisioning telecommunications services out of the Company's own network in Florida, as opposed to the costs produced by a proxy model based on assumptions and input values that are not company-specific. ICM-FL estimates the forward-looking costs of provisioning telecommunications services out of the Company's own network by reflecting Verizon's engineering practices and operating characteristics, and by relying on the Company's Florida costs for material and labor." According to witness Tucek only a cost model that reflects Verizon's engineering practices and operating characteristics can yield realistic estimates of the Company's forward-looking costs. ICM-FL satisfies this requirement because it models a forward-looking loop network based on Verizon's engineering practices and guidelines; bases its switching costs on Verizon Florida's existing host/remote configurations and technology mix, at switch prices Verizon is presently and prospectively able to obtain; and incorporates material input values based on vendor contracts and labor costs reflective of the actual cost of labor activities performed in Florida.

Witness Tucek cites as features of ICM-FL that it is testable, flexible, open to inspection, and is internally integrated. He enumerates six ways that the model can be tested: (1) sensitivity analyses can be performed, changing model inputs assumptions; (2) the model is capable of providing output reports of the results of intermediate calculations; (3) it incorporates an integrated database query function; (4) ICM-FL's database files and query results can be exported to other programs, such as a spreadsheet; (5) the model can generate graphical representations of the network modeled in specific wire centers; and (6) in conjunction with the visual interface, a user can inspect detailed intermediate outputs associated with the wire center area map displayed on the screen.

The Verizon witness contends that ICM-FL is flexible because it is able to derive either total element long-run incremental cost (TELRIC) results for setting UNE rates, or total service long-run incremental cost (TSLRIC) results for setting retail rates. Moreover, he notes that the Mapping/Report module of ICM-FL enables an analyst to define new UNEs or services by combining user-specified combinations of basic network functions. Witness Tucek observes that ICM-FL is open to inspection, as its processes, inputs, outputs, and many intermediate outputs can be viewed at low levels of detail. ICM-FL is integrated in that it combines all network components into a single model. By being integrated, this ". . . modular approach provides a consistency within the model with respect to inputs, programming logic, and assumptions. This not only makes the model easier to use but, more important, it makes the cost studies internally consistent."

ICM-FL calculates the TELRIC of UNEs or the TSLRIC of retail services by designing and constructing ". . . the network all at once, using currently available, forward-looking technology and the prices for labor, material and equipment that Verizon is actually able to obtain. The network is modeled so that it is capable of serving one hundred percent of current demand, and its components include all network elements Verizon is required to unbundle (e.g., loops, switches, transport)." The model consists of six modules:

Loop, Switch, Interoffice Transport, Signaling System 7, Expense, and Mapping/Reporting. Witness Tucek testifies that the first four modules yield the forward-looking investments associated with UNEs, while the Expense module derives the capital cost and operating expense factors needed to convert the investments into monthly recurring costs. Capital costs include a return on and return of investment, property taxes, and income taxes. Operating expenses include costs of operating and maintaining the network, carrying costs of general support assets (e.g., motor vehicles, general purpose computers), and any marketing and billing and collection expenses attributable to a given UNE. The Mapping/Reporting module applies the factors from the Expense module to the investments in the four investment modules, maps the network component costs onto UNEs, and generates output reports of the recurring cost of each UNE.

Witness Tucek provides a description of each of ICM-FL's modules:

> ICM-FL's Loop Module estimates the investments needed to construct the loop - that portion of the local exchange telephone network that extends from the Main Distribution Frame in the wire center to the Network Interface Device at the end user's location. These investments include items such as telephone poles, manholes, copper and fiber optic cables, and conduit. ICM-FL builds the loop from existing wire center locations to customer locations determined through the use of detailed census information, actual line counts, tariffed exchange boundaries, and road length data.
>
> The Switch Module calculates the investment needed to provide the circuit connections for completing telephone calls. The switch module designs a network based on Verizon's existing wire center locations, host/remote relationships, and the digital switch types that Verizon deploys in its network. Costs are based on the current prices Verizon pays for initial switch placements and expansions.
>
> The Interoffice Transport Module designs the facilities needed to carry traffic among Verizon offices and between

> Verizon's network and the rest of the public switched network. These facilities consist of specialized transmission equipment within wire centers and outside plant facilities that carry communication signals between hosts, remotes, and tandem offices. ICM-FL models the investments associated with these facilities using the most efficient fiber optic equipment and technologies.
>
> The SS7 Module calculates the investments needed for a stand-alone signaling network. This signaling network, via connections at end office and tandem switches, governs the operation of the switched telephone network by setting up calls and ensuring efficient utilization of facilities.
>
> The output of the four modules described above represents the investment needed to build a modern, efficient telephone network. The Expense Module determines the factors and ratios used to calculate the costs of operating this network. Nonrecurring costs of establishing or terminating service and common costs are <u>not</u> included in the development of expenses. In addition, the Expense Module calculates the capital cost ratios (depreciation, return on investment, and taxes) associated with the network investments.
>
> The Mapping/Report Module applies the factors and ratios developed in the Expense Module to the investments generated by the other four modules. This module also aggregates the cost of Basic Network Functions (BNFs - e.g., network access channels, line terminations, call setup and minutes of use) to TSLRICs of services and TELRICs of unbundled network elements and develops detailed output reports. BNF reports are also generated, which include a cost for every network function. Output reports can be aggregated at the wire center level, groups of wire centers, or at statewide weighted average totals.

Since ICM-FL generates cost results at the wire center level, these results can be aggregated to yield, e.g., deaveraged results by rate zones or bands.

Witness Tucek identifies seven major assumptions that are incorporated into ICM-FL. First, it is assumed that the network modeled is constructed instantaneously, using all new equipment and current technology, to serve 100% of existing demand. This characteristic is often referred to as "scorched earth"; where a model assumes that switches are placed where they currently exist, such a model is known as a "scorched node" model. Second, ICM-FL assumes that customer locations below the wire center level can be estimated based on the percentage of road mileage in a small given geographic area. Third, it is presumed that the cost study reflects forward-looking capital costs. Fourth, the mix of structure deployed (i.e., the amount of plant that is aerial versus buried versus underground) and how much of structure is shared with other providers, is based on Verizon Florida's actual experience. Fifth, model inputs for the costs of materials, equipment and labor are based on those experienced by Verizon. Six, the sizing of cables in the modeled outside plant follows Verizon's engineering guidelines. Seven, common costs and one-time costs associated with connecting and disconnecting service are not included in the model.

Witness Tucek emphasizes that the network modeled by ICM reflects neither Verizon Florida's existing network nor how networks are actually constructed. For example, he notes that Verizon's actual network was deployed over time, and no firm would immediately replace its existing facilities when a new technology became available. The witness offers various reasons why the cost results from ICM-FL should be considered as a lower bound for the company's incremental costs of providing UNEs to ALECs. Witness Tucek observes that in the real world, demand in a given area materializes over time, not all at once; thus, the economies of scale and scope implicit in the modeled network would be greater than what actually can be achieved. As a related example, he states that while the model assumes that pole lines are on only one side of a street, the actual network may require lines on both sides due to network clearance requirements; hence, the model assumes a less costly, more efficient configuration than may be achievable in an actual network.

Witness Tucek also notes that certain of the assumptions in long-run cost models do not acknowledge the constraints under which ILECs will operate during the next few years, especially costs related to transitioning from existing technology to that reflected in the model. He explains:

> For example, in Verizon's network, many end users are served by integrated pair-gain devices, via a trunk-side connection to the switch, because this is the most economical way of providing service to these end users. If such an end user decides to leave Verizon in favor of a CLEC, and if the CLEC only orders an unbundled loop in order to provide service to that end user, then Verizon must terminate that end user's loop at the mainframe in order to hand it off to the CLEC. A cost model that assumes all new plant and technology does not capture these transition costs.

Witness Tucek testifies that in ICM-FL the location of switches and current host/remote relationships are retained, and switching costs are based on the switch types that Verizon purchases. He notes that ICM-FL similarly models the types and sizes of digital loop carrier (DLC) equipment deployed by the company. Witness Tucek states that the transport module in ICM-FL models a transport network based on Verizon's current tandem switches, and clusters end offices on SONET rings based on their distances from tandems.

Verizon witness Tucek stresses that it is important that the Verizon Florida's cost studies reflect the company's actual operating characteristics and its costs for materials, equipment and labor, in order for the study results to truly reflect Verizon's forward-looking costs. In particular, he contends that it is essential that ICM-FL properly account for Verizon's structure mix (i.e., relative mix of aerial, buried, and underground outside plant) and the extent to which its structures are shared with other providers. Witness Tucek states that witnesses in other proceedings have alleged that significantly greater opportunities for structure sharing will exist in the future and thus these prospective sharing percentages should be reflected in cost studies. Verizon witness Tucek disagrees, stating that these allegations disregard the fact that Verizon's network actually is in place:

> They assume that Verizon (or other utilities) would have the foresight to install poles and conduit systems that were large enough to accommodate these greatly expanded levels of sharing. With respect to buried cable, these parties apparently believe that Verizon will dig up its existing cable in order to immediately rebury it in a

> shared trench. Even if one takes the position that it is the costs of some hypothetical new entrant that is going to rebuild the entire network that should be modeled, greatly increased levels of sharing still cannot be supported. Even under this hypothesis, the required coincidence of wants in space and time among the sharing utilities must be assumed as well. However, there is no hypothetical new entrant that will completely rebuild the electric power and cable TV networks in Verizon's serving areas. Like Verizon, their networks are already in place along with sharing arrangements that made sense at the time.

ICM-FL's Loop Module has four basic aspects: a uniform demand unit, Electronic Serving Area/Cluster development, local loop network design, and detailed network engineering. ICM's uniform demand unit is a grid standardized to 1/200th degree by 1/200th area. Although this demand unit is not constant as to size, it is constant in terms of degrees; as such, it specifically defines a geographic area. To each demand unit various types of data are mapped, including the number of residential and business lines, road-feet, and topographical data (e.g., bedrock depth, water table depth).

Stopwatch Maps took estimates of line counts by census block provided by PNR Associates and assigned customer lines to ICM's demand unit, based on the ratio of the number of road feet in the grid to the total road feet in the wire center in which the grid is located. Data on road feet was obtained from the US Census Bureau's Topologically Integrated Geographic Encoding and Reference (TIGER) files; these road feet data pertain to the types of roads along which it is presumed that residences and businesses would be located. The various demand units are assigned to wire centers based on Verizon Florida's exchange boundaries; the total lines of the grids mapped to the wire center are trued up to the wire center's actual line counts.

An Electronic Serving Area (ESA) is an area in which all subscribers can obtain a local loop capable of providing digital services. The size of an ESA is a function of the maximum copper loop length that provides for specified data transmission rates and analog voice levels. ICM "develops loop costs based on a network that uses existing feeder routes and DLC locations as an initial starting point. . . . the resulting network provides digital service capabilities for many, but not all customers. The loops are provisioned with 24-gauge copper cable, and also utilize DLC extended loop cards for long loops requiring additional gain."

The local loop network consists of feeder and distribution components. The feeder network contains both fiber and copper cable; fiber feeder connects the wire center to digital loop carriers (DLCs), while copper backbone cable connects the DLCs or the wire center switch (in the core area surrounding the switch) to cross-connect boxes in four different directions. The distribution network has two components, local distribution and backbone, both of which are copper-based. The backbone distribution connects the local distribution portion to the cross-connect boxes, whereas the local distribution portion extends from the backbone cable to the end user.

The routing of the copper feeder and backbone distribution cable is determined by a Constrained Minimum Spanning Tree (CMST) algorithm. This algorithm

> . . ., finds a set of paths between each site so that every site is connected to the main site and the total path length is minimized. If unconstrained, the algorithm would tend to generate a network in which each site has one path entering and one leaving. This tendency, when realized, produces a network that does not resemble the cable pattern typically found around a wire center. To ensure that this tendency is not realized, the constrained algorithm incorporates dummy sites called Junction Nodes. The Junction Nodes, which are pass-through sites on the x and y-axes, allow plant to be placed in each of the four basic cardinal directions around the wire center without violating the basic assumptions of the algorithm.
>
> The underlying CMST algorithm used by ICM begins with a network consisting of the wire center and the DLC locations, which are referred to as the Supplier Nodes. Additional nodes are attached to the network using a minimum distance criterion. The first step of the process involves finding the demand unit, which is referred to as

> a node, to a supplier node.[sic] At each subsequent step, the algorithm determines which of the nodes not yet in the network is closest to any attached node. That node is then added to the network by attaching it to the closest attached node. The algorithm proceeds in this manner until all of the nodes are attached to the network. ICM's CMST algorithm results in a network in which the nodes are connected using right angle, or rectilinear, links parallel to the axes.

The local distribution network is designed based on user-input templates. These templates "allow the user to emulate some of the thought processes that go into designing a network, based on the characteristics of a demand unit." ICM uses nine different templates, that vary based on ranges of road feet in a demand unit. As the number of road feet in a demand unit increases, the number of cable sections increases, reflecting more complex, dense street patterns.

According to the ICM documentation, an Individual Plant Identification (IPID) indicates the length of cable between splices, as contained in Verizon's cable records. ICM models one splice, separately for fiber and copper cable, based on the IPID length.

Residential drop wire investment varies according to whether the demand unit is assumed to contain single family or multi-family buildings. If there are fewer than 500 residential units in a demand unit, it is assumed that single family dwellings exist and ICM models one drop wire per residential unit; the size of the drop wire is a user input. However, if the number of residential units exceeds 500, multi-family units are assumed and 25 pair entrance cables are assumed.

Business drop wire investment is determined in a similar manner. The model places drop wires where the number of business units in a demand unit is less than 500. Where there are between 500 and 1250 business units, 25 pair entrance cables are assumed; where the demand unit contains more than 1250 units, 50 pair entrance cables are used.

Drop and entrance cable lengths are computed by first determining the average lot size, by dividing the area of the demand unit by the quantity of residential and business units in the demand unit. It is then assumed that drop wire runs from the corner of a lot to the center of the lot; the drop length is then computed geometrically. However, the minimum and maximum drop lengths in a demand unit can be constrained via user inputs.

Determining the sizing and location of serving area interfaces (SAIs) is a function of whether the cluster is a core cluster (which is the cluster that surrounds the wire center and is served by copper cables) or a non-core cluster, and several user inputs. Under certain circumstances, ICM may install a secondary SAI along a route. The model accumulates demand from the end of a cable route toward the origin of a cluster. A core cluster does not have a primary SAI because it is assumed to be served off of the main distribution frame; however, it may have a secondary SAI. Primary SAIs for non-core clusters are placed adjacent to the cluster's DLC. If a user-specified demand level is triggered and a minimum distance requirement is satisfied, a secondary SAI may be placed.

ALEC Coalition witness Ankum raised several criticisms pertaining to ICM-FL and recurring costs which are addressed in other issues (drop length, UDLC v. IDLC, etc.). To avoid redundancy, only those arguments that are not dealt with elsewhere are discussed here.

Witness Ankum testifies that the CLEC industry is at a critical point in its brief history, and it is crucial that we establish TELRIC-based UNE rates for Verizon. He notes that from December 31, 1999 through April 23, 2001, the equity market capitalization of CLECs has declined by $122 billion, or 69%. Although he acknowledges that there are a variety of factors that account for this decline, witness Ankum contends that one important reason is that CLECs pay too much to ILECs for UNEs and collocation.

Coalition witness Ankum states that in evaluating Verizon's cost studies and proposed UNE rates, efforts should be made to recognize that Verizon is the nation's largest local exchange carrier. He asserts that since the merger, the former GTE companies now operate under the Verizon umbrella and acquire facilities and network components under Verizon contractual arrangements. Accordingly, the new combined company should operate more efficiently and at lower costs than the pre-merger entities, due to

". . . implementing best practices and leveraging its buying powers associated with large volume purchases." Witness Ankum then concludes it is important for us to compare Verizon Florida's studies filed in this docket to those made in other jurisdictions for comparable elements. He contends that comparing rates in various Verizon states can reveal possible inconsistencies. Witness Ankum believes that ". . ., given that the former GTE operations now operate as part of Verizon, the studies and rates should be evaluated not just against the FCC's TELRIC standard but against Verizon filings in other states as well as those of similar large ILECs such as BellSouth." Witness Ankum considers such comparisons are valid as a "sanity check." Based on a comparison of Verizon Florida's proposed rates to Verizon rates in New Jersey (commission approved) and New York (ALJ recommended), he concludes that the Verizon Florida proposed rates are "unreasonably high."

The ALEC Coalition witness contends that allegations that Verizon Florida has higher costs than other Verizon entities should be discounted; he offers three arguments why one should be suspicious of such claims. First, he states that other Verizon companies have tried to make the same argument in other states. Second, witness Ankum asserts that such a claim is questionable as it pertains to switching costs and service ordering. Prospectively, switch purchases will be made under a Verizon umbrella contract that reflects the greater purchasing power of the firm. Moreover, since real estate prices are lower in Florida than, e.g., in Manhattan, he concludes that switching costs should at least be comparable to those in New York, if not lower. Regarding the costs of service ordering and similar functions, witness Ankum contends that cost studies for these items should capture the efficiencies associated with Verizon's scale of operations, rather than the smaller (former) GTE operations. The Coalition witness conjectures that since the (former) GTE service ordering centers will or should be consolidated with the Verizon centers, service ordering costs should be virtually uniform throughout Verizon's local operating companies. He states that many of Verizon's nonrecurring costs should be no greater than those we approved for BellSouth, given the overall size of Verizon's operations.

Third, Coalition witness Ankum states that an "apples-to-apples" comparison between UNE rates in Florida with those in various other states should be able to be made, as long as UNE rates are "appropriately" deaveraged in Florida. He questions ". . . why Verizon's proposed loop rates in the rural areas (Zone 3) should be *more than seven times as high* as Verizon's loop rates in wooded, remote, mountainous, rural New Jersey. One is left wondering: how wild and uncultivated does Verizon think rural Florida is?" Witness Ankum concludes that it is not appropriate for Verizon Florida's cost studies to reflect that ". . . they are for a smaller more rural local exchange company that may need protection in order to preserve universal service, . . . Verizon is the largest ILEC in the nation - the Commission should treat it as such."

The ALEC witnesses also offered specific criticisms of Verizon's Cost Studies. In particular, they contend that ICM-FL is not open and verifiable. Witness Ankum states that in a procedural order specifying how it would conduct arbitrations under the Act, the FCC directed that any computerized cost models filed in an arbitration proceeding by a party be in a form that allows for a user to modify inputs and be able to determine the impact on cost estimates. He alleges that ICM is not an open model and it would require extraordinary effort to thoroughly audit the model's algorithms. Further, he asserts that "certain types of assumptions are essentially "embedded" in the software program and cannot be altered without rewriting and recompiling the programming code."

ALEC Coalition witness Ankum disputes Verizon witness Tucek's claim that ICM is open to inspection and review, countering that "[b]eing open to inspection and being open to review is not the same as being sufficiently open to allow for a complete audit of the model's algorithms and results." He notes that while ICM's code is observable, an analyst cannot easily change the code and determine the effect of such changes. ICM is written in the Delphi programming language and uses Paradox data tables,and witness Ankum contends that this software ". . . is not sufficiently flexible to allow model auditing and inputting of different assumptions in order to compare various possible outcome scenarios." Witness Ankum states that in other Verizon territories, Excel spreadsheet-based models are instead used. In contrast to ICM, he believes that Excel-based models are completely open and can be audited cell by cell. He reiterates that ICM embeds certain assumptions in the program, and these assumptions cannot be readily altered by an analyst. As an example, the witness notes that ICM has built into it the assumption that digital loop carrier (DLC) equipment instead of copper cable is installed beyond a specified fiber/copper breakpoint. He alleges that in some instances only a few customers may be served by a DLC and that it would be more cost-effective to assume they were served by an alternative configuration. Witness Ankum contends that where spreadsheet-based models are used, it is much easier for participants in a proceeding to unearth errors; with ICM he states that no such audit is possible. Instead, ". . . the Commission is asked to take it on faith that Verizon's analysts have made no errors in their programming of the ICM." However, due to the differences between Verizon Florida's proposed UNE rates and those prevailing in other Verizon states, the Coalition witness opines there are reasons to suspect that ICM must be "riddled with errors."

The ALECs also argue Verizon's fill factors are too low. These arguments are addressed in Section VII(g) of this Order. ALEC arguments that ICM should model loops using IDLC, rather than UDLC, are addressed in Section VII(m) of this Order, while arguments on drop lengths are discussed in Section VII(k) of the Order.

The ALECs also contend that ICM's network architecture is not forward-looking least cost. ALEC Coalition witness Ankum testifies that are there various errors and inconsistencies in ICM that result in the model's loop costs being too high. First, he observes that ICM does not build its network to actual customer locations but instead ". . . assumes that demand will be dispersed across an arbitrary grid structure and then "constructs" its network to provide service to these surrogate locations." Witness Ankum considers use of this "gridding" approach a major flaw of ICM. In contrast, he notes that the HAI model uses geocoded customer location data and builds its network to these actual locations, as does the BSTLM, BellSouth's loop model. The Coalition witness alleges that ". . . the Commission would be delinquent if it were to adopt an inferior cost model such as Verizon's ICM to develop UNE rates."

Second, witness Ankum contends that ICM does not adequately acknowledge that fiber optic cables are relatively cheap in comparison to copper cables. He testifies that if a fiber-fed DLC system is to be deployed, the fiber cable should be constructed as far into the local distribution area as is feasible, in order to minimize the use of more expensive copper feeder and distribution facilities. Witness Ankum states that a Verizon witness in a Massachusetts proceeding testified that it is always appropriate to extend a fiber-fed DLC remote terminal as close as possible to the customer, as long as a site for the RT can be acquired at a reasonable price and the achieved fill of the DLC system exceeds a target level. Witness Ankum asserts that ICM fails with respect to this condition because it always assumes that copper feeder facilities comprise part of a loop, even if the loop is served by a fiber-fed DLC. Moreover, he contends that ICM often places a secondary serving area interface (SAI), which practice also tends to increase the deployment of copper facilities. The Coalition witness concludes that ICM is defective because it does not attempt to place the SAI and the RT close to customers, which would maximize the use of fiber cables while minimizing the use of copper facilities.

Third, witness Ankum states that the ICM never assumes that where a large concentration of customers exist, that a DLC RT is placed in a building. He testifies that where this assumption is made, expensive copper feeder and distribution facilities are no longer needed. The ALEC Coalition observes that in Massachusetts and New York Verizon has assumed that there are instances where a RT would be placed on the customer premises.

The ALECs also argue that the rates for DS-1 unbundled loops are excessive. We address this concern in section VII(r) of this Order. The ALEC arguments that Enhanced Extended Link (EEL) rates are too high, as well as their critique of the switching cost studies, are addressed in Sections XII(b) and VII(o) respectively.

In response to these criticisms, Verizon witness Tucek testifies that ALEC Coalition witness Ankum's rebuttal testimony is rife with flaws, both technical and conceptual. Witness Tucek cites as the fundamental flaw associated with witness Ankum's recommendations "that Dr. Ankum advocates basing TELRIC estimates and UNE rates on a network that is disconnected from the real world, and that is completely unlike the network from which the UNEs will be provisioned. Dr. Ankum's disregard for the characteristics of the real network indicates that he is unconcerned with the costs that Verizon will incur in provisioning UNEs." The Verizon witness cites as an example of witness Ankum's disregard for Verizon's actual network his various fill factor recommendations, which witness Tucek contends bear no linkage to Verizon Florida's network and reflect a network operating nearly at maximum capacity.

Witness Tucek argues that Coalition witness Ankum relies on an excerpt from ¶685 of the FCC's Local Competition Order, FCC 96-325 to support his view that switch prices in a TELRIC study should be based solely on the prices of new switches. However, the Verizon witness counters that when the entire paragraph is read in context, it is evident

> that the FCC intended TELRIC to estimate the costs ILECs expect to incur in providing UNEs out of their own networks, not out of some fantasy or hypothetical network. To argue that the inputs for switch prices - or any other input - must be developed as if the network is built all at once just because the FCC only specified that wire center locations must be fixed, is both self-serving and plainly contrary to the FCC's intent. This is true even if the model employed designs the network all at once - to be useful, costs must be grounded in reality and model inputs must reflect actual experience.

Witness Tucek states that although ICM-FL does not completely model Verizon Florida's existing network, he asserts that it comes closer than any alternative filed with us. Moreover, contrary to ALEC Coalition witness Ankum, he notes that ICM-FL does not yield excessive costs. As a measure of reasonableness, witness Tucek compares ICM-FL's modeled sheath feet of fiber and copper cable to the actual amounts in Verizon Florida's network. He states that overall ICM-FL models 22% fewer sheath feet than are currently in place, and concludes that ICM-FL models a smaller, less costly network.

Verizon responds to the allegation that ICM is not open and verifiable by disputing ALEC witness Ankum's claim that although he has access to the model's code, ICM-FL is inflexible and does not allow for auditing and substituting of alternative assumptions. The Verizon witness contends that "nearly all" of the model's inputs are user-adjustable. He acknowledges that it is not possible to vary 100% of the model's inputs and assumptions without modifying the underlying code, and alleges that models sponsored by AT&T in other proceedings could not satisfy such a stringent standard. According to witness Tucek, "not every underlying input or assumption in a model needs to be user-adjustable in order for AT&T and MCI to support its use."

The Verizon witness counters that witness Ankum's bemoaning the fact that ICM-FL is not spreadsheet-based, conflicts with AT&T's actions in other venues. Witness Tucek states that ICM-FL is written in Delphi Pascal, and notes that the code was been made available in text and .pdf form. He opines that while witness Ankum may not have the ability to modify ICM-FL's code, it is doubtful that no employee or consultant of AT&T or WorldCom has this ability. Witness Tucek testifies that in other jurisdictions AT&T and WorldCom have sponsored a modified version of the HCPM, the FCC's universal service cost model, where the loop portion of this model was altered. However, the loop portion of the HCPM that was modified by AT&T is written in Turbo Pascal, an outdated predecessor to Delphi Pascal. The Verizon witness infers that "The fact that a model's platform is code-based certainly has not prevented some members of the ALEC Coalition from advocating its use when it suited their purposes."

Witness Tucek challenges Coalition witness Ankum's claim that there are critical assumptions associated with controversial issues embedded in ICM-FL's code, that cannot be readily altered. The Verizon witness states that in his experience the most controversial issues in dispute concerning the TELRIC approach typically are:

- modeling of customer locations;
- assumptions of fill factors;
- inputs dealing with depreciation and the cost of money;
- inputs dealing with placement and material costs; and
- network design assumptions.

Witness Tucek asserts that with respect to the first two items, with one minor exception, no assumptions are embedded in the ICM-FL code. Similarly, he notes that inputs for depreciation, cost of money, placement costs, and material costs are readily adjustable by the model user. The Verizon witness contends that disputes surrounding network design typically arise regarding structure sharing, the proper DLC configuration to model for the provision of UNEs, and the choice of switching technology; none of these items are hardwired in the model's code.

ICM's network architecture is not forward-looking, least cost:

Verizon witness Tucek identifies several "misstatements of fact" that he contends that witness Ankum makes. In response to witness Ankum's claim that use of a secondary SAI increases use of copper facilities, he provides an example to demonstrate that just the opposite is the case.

> . . .suppose that there are three 50-pair copper cables, each serving 26 customers and that each of these cables meets at an SAI as we trace their route from the end-users to the wire center. The SAI, also called a cross-connect box, allows the three 50-pair cables to be terminated, with their working loops being served by one or more larger cables. In this example, beyond the SAI, the 78 working lines would be served by a single 100-pair cable, instead of the three 50-pair cables.

Next, witness Tucek states that witness Ankum erroneously contends that ICM-FL assumes that customers are uniformly distributed throughout an arbitrary grid and the model builds plant to locations where customers are not located. The Verizon witness counters that "ICM-FL models the amount of copper distribution and feeder plant based on the amount of road feet in a given wire center, where the road feet measure includes <u>only</u> those types of roads along which one would expect end users to be located." Witness Tucek again observes that ICM-FL builds fewer sheath feet than are actually deployed in Verizon Florida's network, "hardly the result one would expect if ICM-FL built plant to locations where no customers exist." He reiterates that ICM-FL "uses the lines and road feet for each grid to model the cost of the copper distribution plant needed to serve the customers based on the user inputs in the Fltemplt.db table." The amount of copper and fiber cable deployed in a wire center is limited to the total road feet in the wire center.

Verizon witness Tucek disagrees with Coalition witness Ankum that geocoding of customer locations resolves virtually all key modeling problems. He notes initially that geocoding can be quite costly, and observes that the geocoded data used in the HAI model, which are based on a 1997 Metromail address list, have not been updated. The Verizon witness also states that typically significantly less than 100% of customer locations can be successfully geocoded. He testifies that the HAI model's overall geocoding success rate for Florida is 70%, ranging from a low of 55% for BellSouth to a high of 79% for Verizon. If 100% geocoding cannot be achieved, an alternative approach must be developed to yield "surrogate" locations for those customers who were not geocoded. Witness Tucek contends that the HAI model proponents initially assumed that surrogate locations would be uniformly distributed along census block (CB) boundaries, but now assume that surrogate locations are uniformly distributed along the roads within a census block. Neither of these surrogating treatments is perfect, he states. Placing surrogate points along CB borders may result in "placing" customers where roads may not exist because the perimeters of CBs are often political boundaries or rivers. Alternatively, witness Tucek maintains that distributing surrogate locations uniformly along the road network effectively "places" customers between actual houses and businesses.

Verizon witness Tucek maintains that achieving a high level of geocoding accuracy is important in order to arrive at reasonable results using such data. He asserts that it is not possible to assign a latitude and longitude to an address that consists of an post office box or a rural route; thus, such addresses will be assigned a surrogate location. Witness Tucek thereby concludes that "it is almost a certainty that Dr. Ankum's HAI standard is building plant to locations where no customers exist, the very charge he has leveled against ICM-FL."

However, the Verizon witness alleges that the HAI model does not actually "build" plant to the geocoded locations it identifies. He testifies that "[t]he basic unit of analysis in the HAI Model is the "cluster" which is a rectangular area in which the customer locations are effectively assumed to be evenly distributed. The cluster is the most granular level of location information for which the HAI Model designs outside plant." Witness Tucek states that while the HAI Model uses fewer than 2,100 of its clusters to model Verizon Florida's network of approximately 2.5 million access lines, ICM-FL uses over 23,000 of its demand points.

The Verizon witness acknowledges that BellSouth's loop cost model uses geocoded data, and observes that it is "superior to the HAI Model, since it does not condense the geocoded locations into clusters before modeling the network." However, he notes that to achieve this superiority requires a model run time of over 10 hours; he contends he can ICM-FL in 11 minutes on his computer.

Witness Tucek states that Coalition witness Ankum erroneously claims that ICM-FL models less fiber cable than it should because it assumes a part of the feeder is always copper. The Verizon witness notes that while this is true, it is only where customers are not served by DLCs but instead are served directly from the central office (core clusters), or it is the connection between the DLC and the distribution plant. He also states that the excerpt from Verizon testimony from a different jurisdiction on which witness Ankum relies for his chastising Verizon Florida for not assuming DLCs may be deployed in buildings, was taken out of context. Witness Tucek testifies that the referenced discussion pertained to the cost of placing a DLC in a building as opposed to a underground controlled environmental vault, and that there is no evidence that this configuration would be cheaper than the two options modeled in ICM. While the Verizon witness acknowledges that the option to deploy a DLC in a building is not available in ICM-FL, he notes that none of the prevalent cost models, including HAI, have this feature.

DECISION

Section 252(d)(1) of the Act specifies the pricing standards to be applied by a state commission when determining just and reasonable rates for interconnection and UNEs. This section provides that rates

> (A) shall be --
>
> (i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the interconnection or network element (whichever is applicable), and
>
> (ii) nondiscriminatory, and
>
> (B) may include a reasonable profit.

To implement this provision of the Act, in 1996 the FCC promulgated rules in its First Interconnection Order, Order FCC 96-325. In this

Order the FCC adopted a forward-looking economic cost standard as the basis to be used to set rates for interconnection and UNEs. This standard, Total Element Long-Run Incremental Cost (TELRIC), is defined in 47 C.F.R §51.505(b):

> *Total element long-run incremental cost.* The total element long-run incremental cost of an element is the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as a given the incumbent LEC's provision of other network elements.

To this incremental cost-based standard, the FCC added the following key provision, §51.505(b)(1):

> *Efficient network configuration.* The total element long-run incremental cost of an element 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 incumbent LEC's wire centers.

Under the FCC's pricing rules, the appropriate price for an unbundled network element is equal to the sum of the element's TELRIC (§51.505(a)(1)), plus "a reasonable allocation of forward-looking common costs. . . ." 47 C.F.R. §51.505(a)(2).

The efficient network provision, often referred to as the "scorched node" assumption, has engendered significant controversy and legal challenges since it was promulgated. In Verizon Communications, Inc. v. FCC, 152 L. Ed. 2d 701, 122 S.Ct. 1646 (2002), the United States Supreme Court earlier this year provided further clarification regarding the TELRIC pricing standard. The Eighth Circuit Court of Appeals had previously concluded that §252(d)(1) was ambiguous and upheld the FCC's decision to implement this statutory provision through use of a forward-looking incremental cost standard. However, the Eighth Circuit further concluded that use of a forward-looking cost methodology must be "based on the incremental costs that an [incumbent] actually incurs or will incur in providing . . . the unbundled access to its specific network elements." Verizon, p. 24. The Supreme Court observed that

> the Eighth Circuit held that §252(d)(1) foreclosed the use of the TELRIC methodology. In other words, the court read the Act as plainly requiring rates based on the "actual" not "hypothetical" "cost . . . of providing the . . . network element," and reasoned that TELRIC was clearly the latter.

Id. Verizon and other ILECs appealed the Eighth Circuit's decision, arguing that use of a forward-looking cost methodology was an erroneous reading of the statute, while the FCC appealed the Eighth Circuit's decision, seeking the Supreme Court to overturn the lower court's invalidation of the TELRIC methodology. In pertinent part, the Supreme Court reversed the Eighth Circuit and reinstated TELRIC, stating that:

> We cannot say whether the passage of time will show competition prompted by TELRIC to be an illusion, but TELRIC appears to be a reasonable policy for now, and that is all that counts. . . The incumbents have failed to show that TELRIC is unreasonable on its own terms, largely because they fall into the trap of mischaracterizing the FCC's departures from the assumption of a perfectly competitive market (the wire-center limitation, regulatory and development lags, or the refusal to prescribe high depreciation and capital costs) as inconsistencies rather than pragmatic features of the TELRIC plan. Nor have they shown it was unreasonable for the FCC to pick TELRIC over alternative methods, or presented evidence to rebut the entrants' figures as to the level of competitive investment in local-exchange markets. In short, the incumbents have failed to carry their burden of showing unreasonableness to defeat the deference due the Commission. We therefore reverse the Eighth Circuit's judgment insofar as it invalidated TELRIC as a method for setting rates under the Act.

Id, p. 52.

Coalition witness Ankum asserts that we should compare UNE cost studies filed by Verizon in other states to the studies submitted in this proceeding by Verizon Florida, and suggests presumably this can be done by comparing rates approved in other states. He considers doing this one way to discern inconsistencies and that it is a "sanity check." While we may agree that it might be reasonable to compare, with caution, Verizon's UNE rates to those established for other LECs in Florida, we question the merit in examining UNE rates in other states. Absent access to the complete record on which such other decisions were made, it would be at best mere conjecture to conclude anything substantive from such an analysis. We note that witness Ankum contends that the UNE rate comparisons he advocates are possible as long as UNE rates are "appropriately" deaveraged in Florida. This condition probably is impossible to fulfill, again because we have no inkling as to how other states chose to derive deaveraged UNE rates.

Coalition witness Ankum argues that ICM-FL is not sufficiently open and verifiable, and that a user thus cannot thoroughly analyze the model. He notes that "[b]eing open to inspection and being open to review is not the same as being sufficiently open to allow for a complete audit of the model's algorithms and results." He alleges that key assumptions are embedded in the program code and are not user-adjustable. Witness Ankum seems to imply that only spreadsheet-based models (e.g., those that are Excel-based) are truly open. In response Verizon witness Tucek admits that not all model algorithms and inputs can be readily modified by a user, but states that nearly all inputs are user-adjustable. Moreover, the Verizon witness notes that AT&T has sponsored cost models in other proceedings (e.g., a variant of the HAI model) that are not easily verifiable to the extent desired by witness Ankum. On the one hand, we agree that ICM-FL is not an easy model with which to work and analyze - but to some extent all complex cost models suffer from this flaw. ICM-FL's labyrinthine structure does not simplify a review process. On the other hand, we tend to agree with the implication that can be drawn from witness Tucek's surrebuttal testimony that it is disingenuous for AT&T to raise this claim against ICM-FL, if its own models cannot satisfy it either. Moreover, we are unaware of any FCC or FPSC rule or order that mandates filing requirements for cost studies in TELRIC proceedings.

Coalition witness Ankum also identifies what he claims are errors in ICM-FL that result in the model's network design not being truly forward-looking, least cost. First, he states that ICM-FL does not build plant to actual customer locations but instead ". . . assumes that demand will be dispersed across an arbitrary grid structure and then "constructs" its network to provide service to these surrogate locations." Witness Ankum believes this approach is inferior to a model that uses geocoded data and builds plant to actual locations. Verizon witness Tucek replies that the Coalition witness mischaracterizes ICM-FL, stating that ICM-FL "models the amount of copper distribution and feeder plant based on the amount of road feet in a given wire center, where the road feet measure includes only those types of roads along which one would expect end users to be located." Further, witness Tucek states that using geocoded data is not necessarily the panacea that witness Ankum believes it to be. Geocoding customer locations is expensive and it is rare that all locations can be successfully geocoded; for known customers who cannot be geocoded, some method of generating surrogate points must be employed. The Verizon witness also contends that the HAI model mentioned by the Coalition witness does not truly build plant to actual customer locations, either.

We agree that ICM-FL, strictly speaking, does not design and construct outside plant to actual customer locations, in part because it does not use geocoded customer data. Rather, ICM-FL uses a "gridding" approach whereby it estimates customer locations based on overlaying grids that are 1/200th of a degree longitude by 1/200th of a degree latitude on census blocks (CBs) to which data on access lines, terrain data, etc., have been associated. The model then essentially allocates the key data known by census block to the grids overlaid on a given CB, based on the percentage of road feet in a grid to the total road feet in the CB. The model then constructs feeder and distribution plant to groupings of grids. While we agree that a cost model employing geocoded data to which geocoded locations plant is actually constructed would be superior, we do not believe that a model that employs a gridding technique needs to be rejected solely on this basis. We take some comfort in Verizon witness Tucek's testimony that ICM-FL builds some 20% less sheath feet of cable than exist in the actual network. Moreover, we note that in Docket No. 980696-TP, the Universal Service docket, we adopted at that time a model to estimate the costs of providing universal service that incorporated a gridding technique similar to that used in the ICM-FL.

Second, witness Ankum asserts that ICM-FL should maximize the deployment of fiber optic cable, while minimizing use of copper cables, by extending fiber cable as far as possible into the network. This claim is addressed in other sections of this Order, primarily Section VII(m). The witness also alleges that ICM-FL's practice of deploying a secondary serving area interface, under certain circumstances, increases the amount of copper cable built. Verizon witness Tucek responds that witness Ankum is in error, because a secondary SAI can actually reduce the amount of copper cable deployed between the SAI and the wire center, by using fewer, larger sized cables. We agree.

Third, Coalition witness Ankum complains that Verizon never models the situation where a digital loop carrier remote terminal is placed within a building; had they done so, he believes that less feeder and distribution facilities would need to be constructed. Witness Tucek admits this is the case, but notes there is no evidence that this deployment option would yield cost savings in comparison to Verizon's deployment options (either pole-mounted or placed on concrete pads, depending on size of DLC). While we agree in principle that DLC deployment in a building could be a more cost-effective configuration in certain instances, there is inadequate record support as to what those circumstances are, what cost savings could inure, and whether such circumstances occur in Verizon Florida's service territory.

While we do not believe that the ALEC Coalition witness presented compelling testimony, we have concerns as to whether ICM-FL in fact is fully TELRIC-compliant, in light of the Supreme Court's decision in Verizon. As noted above, the Court overturned the Eighth Circuit's view that the correct cost standard should reflect the incumbent's actual incremental cost of providing a given UNE, and instead deferred to the FCC's use of a "hypothetical" standard with pragmatic constraints. However, it appears that certain of the modeling assumptions incorporated into the ICM-FL could be more reflective of Verizon's "actual" costs than envisioned by either the FCC or the Court. For example, Verizon acknowledges that in its switching analysis, the ICM-FL places the same type of switch at each of its existing wire center locations. Similarly, in discovery, our staff inquired whether DLCs are constructed at locations where a DLC presently exists. Verizon responded:

> The development of DLC inputs started with the existing DLC locations. The modeled DLC locations do not always correspond to existing locations in Verizon's Florida network. In order to preserve existing feeder routes, additional locations were modeled in some instances, and some existing locations were moved to the end of a route. Also, some DLCs (e.g., those dedicated to a business customer) were removed in order to develop more representative core area costs.

Further, the Verizon witness alleges:

> that the FCC intended TELRIC to estimate the costs ILECs expect to incur in providing UNEs out of their own networks, not out of some fantasy or hypothetical network. To argue that the inputs for switch prices - or any other input - must be developed as if the network is built all at once just because the FCC only specified that wire center locations must be fixed, is both self-serving and plainly contrary to the FCC's intent.

Prior to the Supreme Court's decision witness Tucek's view was supported by the Eighth Circuit's decision; we believe this is no longer the case, and question whether on balance it can be concluded that ICM-FL yields costs based on "the most efficient telecommunications technology currently available and the lowest cost network configuration, . . ." (§51.505(b)(1)) Although we have concerns as to the extent to which it approximates its current network in some respects, we believe that ICM-FL should nevertheless be accepted as the basis for setting UNE rates for Verizon in this proceeding, for the following reasons. First, there is no viable alternative basis upon which rates can be set. To completely reject Verizon's model would require Verizon to refile studies at a future time, using a modified model; however, there is little meaningful record support for what specific refinements should be made. Second, we take some comfort that ICM-FL does not fully replicate Verizon's existing network, in that it models fewer sheath feet of cable than currently exist. Third, due to the various modifications to Verizon's model inputs approved in other sections of this Order, we believe that the rates yielded by ICM-FL on balance are reasonable. Accordingly, we find that the network design reflected in ICM-FL shall be accepted for purposes of establishing recurring UNE rates in this proceeding, subject to our adjustments in other sections of this Order.

VII(b). ASSUMPTIONS AND INPUTS OF DEPRECIATION FOR UNE COST STUDIES

Here we look at the appropriate assumptions and inputs for depreciation to be used in the forward-looking recurring UNE cost studies.

Depreciation is one of the inputs in Verizon's Integrated Cost Model (ICM). According to the model documentation, depreciation inputs are specifically used in the expense module to develop capital cost factors that are designed to recover the cost associated with cost of capital, depreciation expense, property taxes and state and federal income taxes. The ICM calculates and applies three separate factors to the modeled investment within ICM to determine the amount of necessary costs associated with each investment to be recovered. The Depreciation and Return factor includes both a return on and a return of invested capital. The return on component relates to the cost of capital discussed in Section VII(c). The return of component represents depreciation expense resulting from economic lives and salvage inputs.

Two witnesses testified on the appropriate depreciation lives and salvage values to use in Unbundled Network Element (UNE) calculations. Direct and surrebuttal testimony was presented by witness Sovereign on behalf of Verizon; rebuttal testimony was presented by witness Ankum on behalf of the ALEC Coalition. Verizon's recommended depreciation inputs reflect those it uses for financial reporting purposes. The ALEC Coalition recommends that Verizon's depreciation inputs be predicated on the range of Federal Communications Commission (FCC)-approved lives and salvage values, although no specific values were given. Alternatively, the ALEC Coalition recommends that the lives and salvage values adopted in our Order No. PSC-01-1181-FOF-TP for BellSouth be approved for Verizon to use as inputs in developing UNE prices in this proceeding. All other parties support the ALEC Coalition's position. We illustrate a comparison of the lives and salvage values proposed by the parties and those we consider appropriate for use in UNE calculations, in Tables 7(b)-1 and 7(b)-2.

Verizon's witness Sovereign testifies that the depreciation lives Verizon proposes for use in its cost studies conform to Generally Accepted Accounting Principles (GAAP) and thus are the best available estimates of the lives of Verizon's assets. The lives and salvage values are the same as those Verizon uses in its financial reporting to its stockholders. Witness Sovereign explains that these lives and salvage values were developed by considering historical information and the impacts of future technological changes, competition, and service demographics. Witness Sovereign asserts that Verizon's forward-looking approach produces a more accurate estimate of asset economic lives than an outdated, historical approach. Lastly, witness Sovereign claims that Verizon's recommended lives are comparable to the lives of its competitors.

Witness Sovereign asserts that the economic life of an asset is the period of time over which that asset is used to provide economic value. Both increased competition and technological change can shorten the economic life. The witness argues that traditional life estimation techniques are used to estimate an asset's physical life, not its economic life. While the physical life of an asset ends upon the asset's retirement, witness Sovereign claims that the economic life can be affected when no retirements are evident.

> For example, a 1,200 pair cable that was used to provide service to 1,000 customers prior to the 1996 Telecommunications Act, may now only provide service to 500 customers due to competition.

As a result, witness Sovereign argues that only 50% of the cable now has economic value, even though no-retirements have taken place.

Witness Sovereign asserts that establishing the proper economic lives for the major technology-sensitive accounts (copper cables, fiber cables, digital switching, and circuit equipment) is critical to determining economic depreciation in a forward-looking cost study. This is because these accounts comprise the majority of the plant investment.

When estimating economic lives, witness Sovereign explains that Verizon (a) evaluates the criteria that are used to establish the retirement lives of assets, (b) considers industry benchmark comparisons, and (c) considers the effect the evolving competitive market will have on the economic lives of many of Verizon's assets. According to the witness, Verizon first considers the traditionally accepted factors (physical, functional, and contingent) that cause property to retire. Witness Sovereign asserts that these factors can be used to help estimate an asset's economic life only after allocating "proper weighting" to the factors. The witness argues that functional factors are sensitive to competition and technological change and are given substantially more weight in establishing economic lives for Verizon's assets. Witness Sovereign acknowledges that the weighting referenced is based on judgment regarding technological change and competition.

Another guideline Verizon uses in developing economic lives of its assets is benchmarking or comparing against the lives used by Verizon's competitors for depreciation purposes. Witness Sovereign asserts that benchmarking helps quantify Verizon's professional judgment as to the appropriate lives. According to the witness, benchmarking affords a validation of the reasonableness of Verizon's recommended depreciation lives.

In its benchmarking analysis, Verizon reviewed the depreciation lives of AT&T, MCI WorldCom, cable television providers, industry studies performed by Technology Futures Inc. (TFI), and a number of ALEC discovery responses submitted in the BellSouth phase of this docket (Florida Digital Network, Intermedia Communications, Rhythms Links, and Time Warner Telecom of Florida). Witness Sovereign concludes that because Verizon's proposed depreciation lives are the same or longer than the lives used in the benchmarking comparison, Verizon's lives are therefore appropriate.

Witness Sovereign testifies that he has no knowledge as to the basis of the various company depreciation lives used in the benchmarking comparison, stating that he did not perform the analysis. In fact, the witness argues that it is not necessary to understand all the assumptions underlying the lives used in a benchmark comparison. He believes simply that the lives various companies use is the most important indicator.

However, the ALEC Coalition's witness Ankum counters that it is important to understand the basis of the depreciation lives used in the benchmarking analysis before such a conclusion can be made. Witness Ankum asserts that depreciation lives of a Competitive Local Exchange Company (CLEC) typically have a very different purpose and may be driven by tax implications. Additionally, knowledge of the technology mix underlying the CLEC's depreciation life is important. A given company's plant could include equipment that is manufactured discontinued, in which case the life would be expected to be much shorter than state-of-the-art equipment. Moreover, broad categories such as "communications and network equipment" do not provide a clear indication of the specific plant included. For these reasons, witness Ankum argues that an apples-to-apples comparison of Verizon's recommended depreciation inputs cannot be made with those of competitors as reported in annual reports to their stockholders. Further, the witness asserts that Verizon provided no analysis sufficient to make an apples-to-apples comparison between the lives Verizon recommends and those used by competitors. When there is a lack of information regarding the basis for the lives being benchmarked, witness Ankum agrees with our decision in the BellSouth phase of this proceeding in Order No. PSC-01-1181-FOF-TP, where we concluded that benchmarking is not appropriate.

With regards to a comparison with cable television (CATV) operators, Verizon witness Sovereign admits that CATV operators do not have copper cables. Finally, TFI addresses lives for outside plant cable, central office switching, and circuit equipment. While witness Sovereign asserts that Verizon's depreciation lives are in line with the TFI recommended life ranges, we believe that, with the exception of digital switching, its recommended lives are also in line with TFI's lives.

The ALEC Coalition's witness Ankum recommends using depreciation inputs that are either within the Federal Communications Commission (FCC) approved ranges or those inputs approved for BellSouth by Order No. PSC-01-1181-FOF-TP. The witness asserts that Verizon does not face more risk than BellSouth.

In response, Verizon witness Sovereign argues that the FCC's ranges are outdated and not appropriate in a competitive environment. Witness Sovereign also refutes the ALEC Coalition witness Ankum's recommendation to use the economic lives and salvage values approved for BellSouth by stating that the recommendation is not based on any analysis, but solely on the assumption that Verizon could not face more risk than BellSouth. As such, witness Sovereign argues that Verizon's recommended depreciation lives reflect the economic lives of its assets and therefore are the appropriate values to use in a forward-looking economic cost study. If we consider the depreciation inputs approved for BellSouth, witness Sovereign asserts that those be considered as a starting point for Verizon's inputs, and then adjusted downward to reflect the competitive risk Verizon faces in its serving territory.

In its brief, the ALEC Coalition cites to the U. S. Supreme Court decision where Verizon's arguments regarding the rapid obsolescence of loop facilities and the inappropriateness of the FCC's prescribed life and salvage ranges were dismissed. Specifically, the court found:

> The incumbent's fallback position, that existing rates of depreciation and costs of capital are not even reasonable starting points, is unpersuasive. As to depreciation rates, it is well to start by asking how serious a threat there may be of galloping obsolescence requiring commensurately rising depreciation rates. The answer does not support the incumbents. The local-loop plant makes up at least 48 percent of the elements incumbents will have to provide . . . and while the technology of certain other elements like switches has evolved very rapidly in recent years, loop technology generally has gone no further than copper twisted-pair wire and fiber optic cable in the past couple of decades. . . . We have been informed of no specter of imminently obsolescent loops requiring a radical revision of currently reasonable depreciation. This is significant because the FCC found as a general matter that federally prescribed rates of depreciation and counterparts in many States are fairly up to date with the current state of telecommunications technologies as to different elements.

<u>Verizon Communications, Inc., et. al. v. Federal Communications Commission, et. al.</u>, 152 L. Ed. 2d 701, 122 S. Ct. 1646 (2002).

Witness Ankum argues that the projection lives prescribed by the FCC are forward-looking. As support, the witness notes that the FCC began to put less emphasis on historical data in estimating depreciation lives and more emphasis on company plans, technological developments, and other future-oriented analyses in 1980. Additionally, he explains that the FCC reaffirmed its forward-looking position in 1995 in establishing ranges of projection lives and salvage values to simplify the depreciation prescription process.

DECISION

The purpose of this docket is not to direct Verizon to use specific depreciation rates for pricing its retail business, but instead to establish the appropriate cost inputs to be incorporated in the capital cost factor for UNEs specific to Florida. This proceeding does not involve Verizon obtaining regulatory approval of its depreciation rates, but involves determining the reasonableness of the assumptions regarding depreciation expenses to be included in the cost study used for setting UNE rates.

Neither Verizon nor any ALEC submitted a depreciation study to support their respective recommended depreciation inputs. While Verizon argues in its brief that the ALEC recommendations are devoid of any support, the same could be said of Verizon's recommendations. Verizon did not produce any corroborating evidence that it has begun to, or has budgeted plans for, the replacement of its copper cables. Verizon also states it does not have any specific replacement strategies. Further, witness Sovereign acknowledges that Verizon's retirement plans were not considered in the determination of the economic lives for the technologically driven accounts. The witness argues that planned retirements for technology on a short and long-term basis are not relevant in the determination of appropriate depreciation inputs to be used in this proceeding. In fact, witness Sovereign states that he has no knowledge of Verizon having any planned program for retirements. Finally, witness Sovereign admits he has no knowledge of the basis or assumptions underlying the depreciation lives used by the various companies in Verizon's benchmarking comparison. In fact, witness Sovereign acknowledges that Verizon did not request such information from the benchmarked companies.

Regarding the comparison to CATV equipment, witness Sovereign advances that coaxial cable used by CATV operators in the distribution network has more capability than the twisted pair that Verizon uses. For this reason, the witness concludes that Verizon's depreciation lives for copper cables should be shorter than the CATV coaxial cable.

Finally, witness Sovereign admits that his testimony reflects support offered for the lives of the technology-sensitive accounts only, since those accounts comprise the majority of the investment. Verizon offered no support, either through testimony or through discovery, for its recommended lives for the other non-technology driven accounts.

As noted in Order No. PSC-01-1181-FOF-TP, we found that while competitors' lives may be useful,

> . . . it is important to understand the underlying assumptions and the basis for those lives, including whether technological obsolescence, wear and tear, or tax considerations are the driving forces for those lives. We believe that without a complete understanding of how competitors determine their life projections, as well as an understanding of each company's equipment and how that equipment is used, an apples-to-apples comparison cannot be made. . . . There is no record evidence regarding the basis for the competitors' lives that BellSouth asserts the Commission should consider as a benchmark for its lives. For this reason, we believe that using these lives as a benchmark is dangerous and incorrect.

Order No. PSC-01-1181-FOF-TP, p. 171.

While Verizon's witness Trimble testifies that comparing UNE rates from other states is dangerous without a complete understanding of the context in which they were adopted, witness Sovereign disagrees that the same would hold true for depreciation inputs. We do not share witness Sovereign's assertion. An apples-to-apples comparison between Verizon's proposed lives and those of other competitors cannot be made in this proceeding due to the lack of record evidence regarding an understanding of the basis of those lives.

Regarding Verizon's recommended salvage values, witness Sovereign admits that Verizon has provided no support. Again, the reason proffered by the witness is that salvage has little impact and, therefore, Verizon chose not to analyze it. In fact, witness Sovereign admits that Verizon performed no salvage analyses or study in support of its recommended salvage values.

We are in a quandary regarding depreciation inputs. On one hand, Verizon has not provided sufficient evidence that its proposed inputs are appropriate. Indeed, Verizon only offered support regarding the economic lives of the technology-sensitive accounts. On the other hand, we are hesitant to rely solely on the FCC-approved life and salvage ranges as proposed by the ALEC Coalition. On balance, we believe the ALEC Coalition's alternative proposal, to use the depreciation inputs approved for BellSouth by Order No. PSC-01-1181-FOF-TP, represents a good compromise.

Thus, we find that it is reasonable to assume that similar plant exposed to similar factors of obsolescence such as technology, market competition, and physical wear and tear would exhibit similar depreciation lives and salvage values. Therefore, we approved the inputs as shown in the Commission column of Tables 7(b)-1 and 7(b)-2.

Table 7(b)-1: Economic Lives			
	Verizon	**ALEC**	**Commission**
	(Yrs.)	(Yrs.)	(Yrs.)
Motor Vehicles	8	7.5	8
Special Purpose Vehicles	12	7	7
Garage Work Equipment.	12	12	12
Other Work Equipment	12	15	15
Buildings	35	45	45
Furniture	15	11	15
Office Support Equipment	8	10.5	11.5
Computers	5	4.4	4.5
Digital Switching	10	16	13
Operator Systems	10	10	10
Radio	5	7	9
Circuit Equipment	9	6	8
Station Apparatus	8	8	6
Other Terminal Equipment	7	6	6
Poles	30	35	35
Aerial Cable Metallic	15	18	18
Aerial Cable Fiber	20	25	20
Undg. Cable Metallic	15	23	23
Undg. Cable Fiber	20	25	20
Buried Cable Metallic	15	18	18
Buried Cable Fiber	20	25	20
Submarine Cable Metallic	15	18	18
Submarine Cable Fiber	20	20	20
Intrabldg. Ca. Copper	15	20	20
Intrabldg. Ca. Fiber	20	20	20
Conduit	50	55	55

Source: EXH 39, AES-2; EXH 61, AHA-12; Order No. PSC-01-1181-FOF-TP, pp. 172-174; Order No. PSC-01-2-51-FOF-TP, p. 31.

Table 7(b)-2: Salvage Values			
	Verizon	ALEC Coalition	Commission
	(%)	(%)	(%)
Motor Vehicles	15	16	16
Special Purpose Vehicles	0	0	0
Garage Work Equipment	0	0	0
Other Work Equipment	0	0	0
Buildings	0	0	0
Furniture	0	10	10
Office Support Equipment	0	5	5
Computers	0	2	2
Digital Switching	2	0	0
Operator Systems	0	0	0
Radio	0	(5)	(5)
Circuit Equipment	2	2	0
Station Apparatus	0	0	0
Other Terminal Equipment	0	5	5
Poles	(75)	(55)	(55)
Aerial Cable Metallic	(10)	(14)	(14)
Aerial Cable Fiber	(10)	(14)	(14)
Undg. Cable Metallic	(10)	(8)	(8)
Undg. Cable Fiber	(10)	(8)	(8)
Buried Cable Metallic	(5)	(7)	(7)
Buried Cable Fiber	(5)	(7)	(7)
Submarine Cable Metallic	(10)	(5)	(5)
Submarine Cable Fiber	(10)	(5)	(5)
Intrabldg. Ca. Copper	(15)	(10)	(10)
Intrabldg. Ca. Fiber	(10)	(10)	(10)
Conduit	(10)	(10)	(10)

Source: EXH 39, AES-2; EXH 61, AHA-12; Order No. PSC-01-1181-FOF-TP, pp. 172-174; Order No. PSC-01-2-51-FOF-TP, p. 31.

VII(c). ASSUMPTIONS AND INPUTS OF COST OF CAPITAL FOR UNE COST STUDIES

We next determine the appropriate assumptions and inputs for cost of capital to be used in the forward-looking recurring UNE cost studies.

Four witnesses offered testimony regarding the forward-looking cost of capital input for Verizon's cost model. Verizon witness Vander Weide recommends 12.95% as the forward-looking cost of capital based on a cost of equity of 14.75%, a cost of debt of 7.55% and a capital structure consisting of 75% equity and 25% debt. Z-Tel witness Ford recommends a forward-looking cost of capital of 8.50% based on a cost of equity ranging from 10.0% to 10.1%, a cost of debt ranging from 6.10% to 6.25%, and a capital structure consisting of 60% equity and 40% debt. ALEC Coalition witness August Ankum recommends that we set Verizon's cost of capital no higher than the 10.24% approved for BellSouth and no lower than the 8.8% approved for Verizon in New Jersey. He recommends an equity ratio no higher than 60%. Staff witness Draper recommends 9.63% as the appropriate forward-looking cost of capital based on a cost of equity of 11.49%, a cost of debt of 7.43%, and a capital structure consisting of 60% equity and 40% debt.

A. COST OF EQUITY

As part of the economic principles upon which he bases his testimony, Verizon witness Vander Weide stresses that the forward-looking cost of capital should be based on market values. According to witness Vander Weide, the forward-looking cost of capital should not be based on traditional regulatory principles, such as the use of an embedded cost of debt.

Regarding risk, witness Vander Weide estimated Verizon's cost of capital based on a UNE cost scenario he believes is less risky than the hypothetical, efficient network upon which Verizon's cost model is based. He states his cost of capital therefore will understate UNE costs.

Also regarding risk, witness Vander Weide notes that Verizon faces extensive local exchange competition from CLECs in Florida and that rapidly changing technology increases risk for the incumbent

LEC. Further, he states that the risk of providing UNEs is greater than the risk of providing local exchange service.

Witness Vander Weide estimates the cost of equity by applying a quarterly DCF model to a proxy group of companies consisting of the Standard and Poor's Industrials (S&P Industrials). He believes the risk of investing in facilities to provide UNEs is at least as great as investing in the S&P Industrials. He only includes in this proxy group companies with a reported stock price, that pay dividends, that have a positive growth rate, and that have at least 3 long-term growth rates from analysts. He eliminates results that are below the March 2001 yield for Moody's A-rated industrial bonds or that were above 20%. The growth rates for dividends in his DCF analysis are earnings growth rates provided by I/B/E/S. The result of this analysis is a market-weighted average DCF cost of equity of 14.75%.

Using similar inputs, witness Vander Weide also applies a quarterly DCF model to a group of 4 telecommunications companies that provide local exchange service. The result of this analysis is 15.52%. His recommended cost of equity is 14.75%.

Z-Tel witness Ford bases his recommended cost of equity on the cost of equity we set for BellSouth in Order No. PSC-01-1181-FOF-TP, issued May 25, 2001. Specifically, he employs a CAPM to determine his recommended cost of equity. Witness Ford believes there are irregularities in the inputs used for the CAPM in the BellSouth Order. He provides corrections to those inputs.

For the risk-free rate, witness Ford uses 5.31% based on the yields on U.S. Treasury bonds from October 2001 to December 2001. Witness Ford uses 8.34% as the market risk premium, which is based on the 20-year period from 1982 to 2001. Witness Ford believes historical risk premiums are appropriate. He notes that there are many methods for estimating the market risk premium and that Verizon witness James Vander Weide used a 7.8% risk premium in his testimony in the recent Florida Power rate case, Docket No. 000824-EI. For the beta input, witness Ford uses a beta of .58. This is based on the average beta, as reported by BARRA, for Verizon, BellSouth, and SBC for the period January 2001 through December 2001.

Witness Ford's CAPM result is "about 10%." We note that witness Ford's CAPM results range from 10.0% to 10.1%.

ALEC Coalition witness Ankum recommends a cost of capital range of no higher than the 10.24% we approved for BellSouth and no lower than the 8.8% approved for Verizon in New Jersey. Witness Ankum notes that, in Verizon's New York proceeding regarding UNEs, the administrative law judge did not believe the S&P Industrials were an appropriate proxy group for determining the cost of capital.

Witness Ankum does not provide models, debt cost rate calculations, or specific cost of capital analysis in support of his recommendation. For this reason, we focus on the three witnesses who filed substantive cost of capital testimony in determining the appropriate cost of capital.

Witness Ankum does state that CLECs have experienced declines in market capitalization significantly greater than Regional Bell Operating Companies. He also states that a large number of publicly traded CLECs have filed for bankruptcy or are on the brink of filing. According to witness Ankum, the competitive telecommunications industry is struggling to survive.

Our staff's witness Draper applies a DCF and a CAPM analysis to an index of telecommunications companies listed in the Value Line Investment Survey. He believes these companies are comparable to the business and financial risk associated with the provision of UNEs. He eliminated telecommunications companies that receive less than 75% of their revenue from telecommunications operations. He also eliminated companies with insufficient financial data and companies that were the subject of an ongoing merger or acquisition.

For his DCF analysis, witness Draper notes that the cost of equity is the discount rate that equates the present value of expected cash flows associated with a stock to the market price of the stock. He employs a two-stage DCF model with stock prices from October 2001 and dividend and growth inputs from Value Line. He allows 3% for issuance costs. The result of his DCF analysis for his index of telecommunications companies is 11.45%.

Witness Draper's CAPM result is 11.02%. He notes that the CAPM is dependent on the beta statistic, which measures systematic risk, i.e., the risk that cannot be diversified away. Using a DCF analysis and inputs from Value Line, witness Draper calculates a required return on the overall market of 10.87%. His risk-free rate is 5.4% based on the forecasted rate on 30-year U.S. Treasury bonds. The beta for witness Draper's CAPM is 1.02 and is based on the average beta for his index of telecommunications companies.

Witness Draper notes that the average bond rating for his index of companies is single A and Verizon's bond rating is single A. He recommends 11.24%, the midpoint of his model results, as the appropriate cost of equity for Verizon.

In rebuttal to witness Draper, witness Vander Weide objects to witness Draper's proxy group of companies. He notes that witness Draper says he eliminated companies that were the subject of an ongoing merger or acquisition from his proxy group of companies. Witness Vander Weide states that both AT&T and CenturyTel, two companies in witness Draper's group, are involved in mergers with other companies. Also, witness Vander Weide believes that SBC Communications meets witness Draper's criteria for inclusion in his proxy group. Eliminating AT&T and CenturyTel and including SBC Communications, witness Vander Weide recalculates witness Draper's DCF results. The result of this exercise is 15.86%. Witness Vander Weide further states that he believes the S&P Industrials are the appropriate proxy group for determining the cost of equity for this proceeding.

Witness Vander Weide disagrees with witness Draper's DCF model. Specifically, witness Vander Weide does not believe investors use witness Draper's version of the DCF model to make investment decisions. He believes that witness Draper's DCF model produces unreasonable results for two of the companies and that it is an annual model whereas witness Vander Weide prefers a quarterly DCF model.

Regarding witness Draper's CAPM, witness Vander Weide disagrees with the return on the market portfolio. Specifically, he disagrees with witness Draper's use of Value Line forecasted dividend growth as an input to the DCF model witness Draper used to calculate the required return on the overall market. Using earnings growth rates from Value Line and I/B/E/S, witness Vander Weide recalculates the required return on the overall market and witness Draper's CAPM result. In doing this, he used witness Draper's methods except he eliminated companies that had required returns below 7.5%, the current yield on Moody's A-rated utility bonds. The recalculated results range from 13.86% to 14.78%.

Regarding witness Draper's DCF model, witness Ford disagrees with the growth rate inputs. He believes witness Draper's sustainable growth rate is too high to be sustainable. Witness Ford believes witness Draper should have excluded Qwest Communications and CenturyTel from his index, and that Sprint is a reasonable inclusion. Using his adjustments to witness Draper's two-stage DCF model, witness Ford calculates a range of 8.49% to 10.56%.

Regarding witness Draper's CAPM analysis, witness Ford notes his disagreement with witness Draper's comparable group. In addition, witness Ford believes that witness Draper's beta, 1.02, is too high. He specifically disagrees with witness Draper's use of Value Line betas.

Incorporating his adjustments to witness Draper's CAPM, witness Ford calculates a range of 8.40% to 8.58%. With his adjustments to witness Draper's models, witness Ford states the cost of equity is "about 9%." He believes the upper bound for the cost of equity is 10.50%.

Witness Vander Weide disagrees with witness Ford's use of BARRA betas and notes that Value Line betas, as used by witness Draper, are more representative of risk in the telecommunications industry. Witness Vander Weide also notes that the CAPM tends to underestimate the cost of equity for companies that have betas less than 1.0.

Witness Vander Weide disagrees with witness Ankum's criticism of the use of the S&P Industrials as a proxy group for determining the cost of equity. Witness Vander Weide notes that he also included a group of telecommunications companies as a risk proxy group. This group had approximately the same cost of equity as the S&P Industrials.

Regarding the comparable group of companies used by the witnesses, in the BellSouth UNE proceeding we relied upon telecommunications firms as the basis for the cost of equity, and we rejected the use of non-telecommunications firms. <u>See</u> FPSC Order No.

PSC-01-1811-FOF-TP, pp. 181-182. Witness Ford objects to witness Draper including Telephone and Data and AT&T in his index of companies because these companies do not rely primarily on local telephone service. Witness Vander Weide believes AT&T and CenturyTel should be eliminated from witness Draper's group because of merger activity and he believes SBC Communications should be included.

The selection of an appropriate proxy group is difficult because there are no publicly-traded companies whose sole business is the provision of unbundled network elements. Further, witness Vander Weide acknowledges that the provision of unbundled network elements is more capital intensive than many of the industries in his proxy group. The companies witness Draper uses are considered telecommunications companies by Value Line. Witness Draper's companies receive at least 75% of their revenue from the provision of telecommunications services, though not necessarily local exchange service. Witness Draper's index of companies is a reasonable proxy group for determining the cost of equity related to UNEs.

Witness Vander Weide relied primarily on the S&P Industrials as a proxy group. He also used a group of telecommunications holding companies, although he believes such a group is inappropriate. The cost of equity is higher for the group of telecommunications companies.

Witness Vander Weide used earnings growth forecasts for the growth rate in dividends in his DCF models. In contrast, witness Draper used specific dividend forecasts and sustainable long-term growth rates based on Value Line information. We note that the DCF model discounts dividends, and as such, we believe that witness Draper's growth rates for his DCF analysis is therefore appropriate.

In determining the expected return on the market input for his CAPM model, witness Draper eliminated firms with growth rates in excess of 20%. He also eliminated firms that do not pay dividends or have negative projected dividend and earnings growth. This is appropriate. We believe, and have indicated previously, that growth rates in excess of 20% are not sustainable in the long run. Order No. PSC-01-1181-FOF-TP, pp. 181-182.

However, we do not agree with witness Ford that witness Draper's long-term sustainable growth rate, 10.3%, is excessive. Witness Draper based this rate on Value Line's projected return on equity and earnings retention rate for his index of companies. The long-term growth rate is matched with a near-term growth rate of 3.3%. By operation of math, the near-term growth rate has a significant effect on the DCF result. Taken together, these growth rates produce a reasonable and sustainable growth rate for determining the cost of equity.

We also disagree with witness Ford's objections to the beta statistic in witness Draper's CAPM. Specifically, witness Ford objects to the use of Value Line betas. Witness Ford essentially second-guesses Value Line's calculation of the beta statistic. Witness Draper states that the average beta for his index companies is reasonable.

Employing their recommended changes, both witnesses Ford and Vander Weide recalculate witness Draper's results. Witness Ford's recalculation represents a significant decrease in witness Draper's recommended cost of equity whereas witness Vander Weide's recalculation represents a significant increase.

We note the wide difference between the cost of equity recommended by witness Vander Weide, 14.75%, and the 10% recommended by witness Ford. As noted above, we believe witness Draper employed a reasonable proxy group of companies and reasonable inputs for his models. Further, witness Draper used two cost of equity models - the DCF model and the CAPM. In contrast, witnesses Vander Weide used only the DCF model and witness Ford used only the CAPM. Therefore, we find it appropriate to use 11.24% as the cost of equity in determining Verizon's cost of capital.

B. COST OF DEBT

Verizon witness Vander Weide recommends 7.55% as the cost rate for debt. He bases this on Moody's A-rated industrial bonds for March 2001. He states this is conservative because flotation costs, to issue bonds, are not included.

Z-Tel witness Ford recommends a cost rate for debt of 6.10% to 6.25% for Verizon. He bases this on the debt cost rate calculation in FPSC Order No. PSC-01-1181-FOF-TP. He incorporates short-term debt into his recommendation and bases the long-term debt cost rate on the credit spread of "Aaa" public utility bonds over 30-year U.S. Treasury bonds. He calculates the credit spread as the average of the three-month and five-year credit spreads of Aaa rated public utility bonds over 30-year U.S. Treasury bonds.

For Verizon, witness Draper recommends 7.22% as the appropriate forward-looking cost of debt. He incorporates a short-term debt cost rate of 5.36% based on the forecasted prime rate. His long-term debt cost rate, 7.84%, is based on the forecasted rate for 10-year Treasury bonds and a credit spread derived from the yields on "A" rated utility bonds. Verizon has a S&P corporate credit rating of "A." Witness Draper calculates the credit spread during the twelve-month period that ended with November 2001. He assigns a 25% weight to short-term debt and a 75% weight to long-term debt.

In rebuttal, witness Ford disagrees with witness Draper's credit spread in calculating the long-term debt cost rate. Witness Ford believes this calculation should be based on the method we used in the BellSouth UNE proceeding. Witness Ford notes that the credit spread for BellSouth was formulated using credit spreads calculated over a short period and a long period. He recalculates witness Draper's long-term debt cost rate for Verizon at 7.55%. Also, witness Ford disagrees with witness Draper's short-term debt cost rate because witness Draper bases his short-term cost rate on the prime rate.

Witness Draper used a twelve-month period in calculating the credit spread. We find this to be reasonable. The record allows for many choices of periods over which the credit spread is calculated. In the BellSouth order, we chose an average of credit spreads calculated over three month and five year periods. Order No. PSC-01-1181-FOF-TP, pp. 184-185. We differ with witness Ford's assertion that exact consistency with the BellSouth order is necessary for determining the cost of capital inputs. In addition, witness Draper tailored his recommended cost of debt for Verizon to match with Verizon's bond rating.

Witness Vander Weide disagrees with witness Ford's use of 2.01% as the cost rate for short-term debt. He believes short-term interest rates are currently low because the Federal Reserve is trying to stimulate the economy. He believes short-term interest rates will rise as the economy moves out of the current recession. Though witness Vander Weide strongly advocates the use of market value inputs to determine the cost of capital, he questions the use of a market-based input for short-term debt. Instead, he states the short-term debt interest rate should be an average over a full business cycle. Witness Vander Weide bases his cost rate for debt only on the cost of long-term debt.

Witness Vander Weide also disagrees with witness Ford's long-term debt cost rate of 7.12%, stating that Verizon requires at least the yield on A-rated industrial bonds. The yield on such bonds was 7.57% as of December 2001.

Witness Ford agrees with the use of short-term debt but recommends the commercial paper rate as the appropriate proxy for short-term debt. Witness Draper uses forecasted prime rates as the basis for the short-term debt cost rate. We believe this is forward-looking and therefore acceptable. For Verizon, the appropriate forward-looking cost rate for debt is 7.22%.

C. CAPITAL STRUCTURE

Verizon witness Vander Weide bases his recommended capital structure on market values for debt and equity for both his proxy group of S&P Industrials and a group of telecommunications companies with incumbent local exchange subsidiaries. He states that both groups, on average, have at least 75% equity in their capital structures. He recommends a market value capital structure containing 25% debt and 75% equity in calculating Verizon's cost of capital.

Z-Tel witness Ford employs a capital structure consisting of 60% equity and 40% debt based on the BellSouth UNE proceeding. Witness Draper also recommends a capital structure with 60% equity and 40% debt. He bases this on the order issued in the BellSouth phase of this proceeding. He notes that the average equity ratio for Value Line's telecommunications companies is 63% as of November 2001. Also, C.A. Turner Utility Reports, a recognized financial publication, states that the average equity ratio for telecommunications companies was 57.60% in 2000.

Witness Vander Weide disagrees with witness Draper's capital structure. As he emphasizes in his direct and his rebuttal testimony, witness Vander Weide believes that forward-looking economic costs must be based on market values and that this requires the use of a capital structure based on market values. He states that competitive companies use market value capital structures. For similar reasons, witness Vander Weide disagrees with witness Ford's recommended capital structure.

We addressed the issue of an appropriate capital structure in the BellSouth phase of this docket. For BellSouth, we noted that market-value capital structures have not been widely accepted and produce aberrant coverage ratios. We used a capital structure of 60% equity and 40% debt and noted that these ratios were close to the target ratios used by the company. These ratios were within the standards set by bond rating agencies. See FPSC Order No. PSC-01-1181-FOF-TP, pp. 185-187. For proceedings in states where Verizon Communications has operating companies and in states where witness Vander Weide has testified, the equity ratio that is set is typically no higher than 60%.

Witness Vander Weide states that forward-looking economic costs are based on market values. However, he acknowledges that the FCC does not require specifically the use of market-value capital structures in calculating the forward-looking cost of capital. We note that Verizon's actual equity ratio was 43% as of December 2001. The 60% equity ratio recommended by witness Draper agrees with the target ratios and bond rating standards discussed in the BellSouth Order. For these reasons, we approve a capital structure for Verizon consisting of 60% equity and 40% debt.

DECISION

Upon consideration, we find that witness Draper's cost of capital is forward-looking. For Verizon, we approve a forward-looking cost of capital of 9.63% based on a cost of equity of 11.24%, a cost of debt of 7.22% and a capital structure that is 60% equity and 40% debt. The recommendations and positions of the witnesses, and our approved figures are summarized in the table below:

Table 7(c) - 1: Verizon Cost of Capital Summary					
	Verizon witness Vander Weide	Z-Tel witness Ford	ALECs witness Ankum	Staff witness Draper	Commission Approved
Capital Structure	75% equity, 25% debt	60% equity 40% debt	Equity no higher than 60%	60% equity 40% debt	60% equity 40% debt
Cost of Debt	7.55%	6.1% to 6.25%		7.22%	7.22%
Cost of Equity	14.75%	10% to 10.1%		11.24%	11.24%
Overall Cost of Capital	12.95%	8.5%	No higher than 10.24% and no lower than 8.8%	9.63%	9.63%%

VII(d). <u>ASSUMPTIONS AND INPUTS OF TAX RATES FOR UNE COST STUDIES</u>

Here we determine the appropriate assumptions and inputs for tax rates to be used in the forward-looking recurring UNE cost studies.

In his direct testimony, Verizon witness Tucek states that "The Composite Income Tax and Property Tax columns reflect the Florida-specific annual state and federal income taxes and the property taxes associated with the loop." In deriving its composite income tax rate of 38.58%, Verizon used a state income tax rate of 5.5% and a federal income tax rate of 35%. A composite tax rate of 38.58% is used to account for the state income taxes that are deductible for federal income tax purposes. The property (ad valorem) tax rate of 1.00% is calculated by dividing the annual property tax expense by gross taxable plant. The Regulatory Assessment Fee rate is .15%. Rule 25-4.0161, Florida Administrative Code.

<u>DECISION</u>

Based on the record in this proceeding, we approve a composite federal and state income tax rate of 38.58%, an ad valorem tax rate of 1.00%, and a Regulatory Assessment Fee rate of .15%. It should also be noted that no parties opposed the Florida-specific tax rates as proposed by Verizon.

VII(e). ASSUMPTIONS AND INPUTS OF STRUCTURE SHARING FOR UNE COST STUDIES

We next examine the appropriate assumptions and inputs for structure sharing to be used in the forward-looking recurring UNE cost studies.

Structure sharing occurs when an ILEC shares outside plant structures, such as poles, conduit, and trenches, with other utilities, such as electric companies, cable televison companies, or CLECs. The structure sharing input is used to determine what portion of shared poles, trenches, and conduit is applied to Verizon.

When asked why it was appropriate to develop the structure mix and sharing parameters based on Verizon's actual operating environment, witness Tucek replied that in order for the cost estimates to reflect Verizon's expected forward-looking cost estimates, the parameters must be based on Verizon's actual operating environment. He then points out that in other proceedings, parties have often tried to justify higher structure sharing rates based on the conclusion that there will be additional opportunities for structure sharing in the future. He continues by saying that the higher structure sharing percentages are based on many unsupportable assumptions, including the rebuilding of the networks of electric and cable televison providers. In Order No. PSC-99-0068-FOF-TP, "the Commission found the LEC's sharing percentages to be reasonable surrogates for an efficient level of sharing and also rejected sharing inputs that relied on the assumption that power and cable companies would rebuild their networks."

With respect to pole sharing, documentation included in Verizon's Loop Module provides the following explanation as to how pole sharing impacts pole investment:

- The percentage of poles leased from other entities is subtracted from the total number of poles.

- The expenses for leasing poles from other entities is included in the Expense Module.

- The total shared pole investment is divided by the number of users attached to the pole to determine Verizon's total shared pole investment.

- Verizon's shared pole investment is added to its investment for non-shared poles - which is all assigned to Verizon - in order to determine Verizon's total pole investment.

Verizon's Loop Module also discusses conduit sharing. In the case of shared conduit, the total amount of shared conduit investment is based on the total number of ducts required by all parties. Verizon's portion of the shared cost of conduit is determined by dividing the number of Verizon ducts, including required vacant ducts, by the total number of ducts. Where conduit is not shared, the size of the conduit is based on Verizon's needs, and Verizon is responsible for the entire cost of this conduit.

For trench sharing, Verizon allocates its share of the cost of the trench using a method similar to that used for conduit sharing. In the case of shared trenches, Verizon's share of the trench cost is the "cost of the trench divided by the number of parties using the trench." For trenches that are not shared, Verizon is responsible for the total cost of that trench. The input into the model is a weighted average of Verizon's shared and non-shared trenches.

The actual structure sharing inputs that Verizon used in its ICM Model are confidential.

We note that the ALEC Coalition provided no testimony concerning this issue and did not take a position in its post-hearing brief.

DECISION

It is unreasonable to assume that power and cable companies will relocate their facilities, thereby yielding a higher structure sharing rate. This is consistent with our finding in the Cost of Service Docket, Docket No. 980696-TP, Order No. PSC-99-0068-FOF-TP. There is nothing in the record to the contrary, and thus we find that the appropriate assumptions and inputs for structure sharing shall be those proposed by Verizon, as discussed above.

VII(f). ASSUMPTIONS AND INPUTS OF STRUCTURE COSTS FOR UNE COST STUDIES

In this issue we address the appropriate assumptions and inputs for structure costs to be used in the forward-looking recurring UNE cost studies.

Structure costs are the costs incurred in placing aerial, buried, and underground plant. Items included in structure costs are material, labor, sales taxes, shipping, and relevant discount factors.

Verizon witness Tucek believes that in order for the cost estimates to reflect the cost Verizon expects to incur in provisioning telecommunications services and UNEs, the input prices used in the model should correspond with what Verizon expects to pay. In particular, he believes that Florida wages should be included in labor costs, and the costs of materials and equipment (including sales taxes and shipping costs) should reflect the actual rates. Finally, he states that the discount factor used to estimate switching costs must reflect an appropriate blend of modernization and growth purchases.

When asked about the source of ICM-FL's inputs for material, equipment, and labor, witness Tucek responds that the prices for such materials as poles, manholes, cables, Network Interface Devices (NIDs), Digital Loop Carriers (DLCs), terminals, and pedestals are taken from its internal information management system used for such functions as planning and purchasing management. Inputs for the ICM-FL material costs include loadings for such items as shipping, sales tax, minor materials, supplies, and engineering expenses. The cost of placement is based on Florida specific vendor contracts.

In its response to our staff's interrogatory number 33, Verizon provided explanations as to what is included in the structure costs for various plant types. For aerial plant, the structure costs include both material and placement costs of the aerial cable, along with costs involved with the Serving Area Interfaces (SAIs) used with aerial plant. The costs associated with poles, while associated with aerial plant, are recorded in a separate account. For buried plant, the structure costs include both material and placement costs of buried cable, including the costs associated with SAIs used with buried plant. For underground plant, the structure costs include both material and placement costs of underground cable. The costs of conduit, materials and placement associated with underground plant are recorded in another account.

The ALEC Coalition provided no testimony concerning this issue and did not take a position in its post-hearing brief.

DECISION

Based on the evidence presented, we find that the assumptions and inputs for structure costs proposed by Verizon are appropriate and recommends that they be used in conjunction with our findings in all other applicable issues.

VII(g). ASSUMPTIONS AND INPUTS FOR FILL FACTORS IN UNE COST STUDIES

We next determine the appropriate assumptions and inputs for fill factors to be used in the forward-looking recurring UNE cost studies.

A fill factor is defined as "a measure of the overall utilization of a piece of telephone equipment or plant."

In his direct testimony, Verizon witness Tucek explains how ICM-FL sizes cable and how it is consistent with Verizon's engineering guidelines. He states that feeder plant is designed to be reinforced. The model takes a four-year planning horizon and uses the mid-point of this horizon in order to determine the amount of feeder plant that needs to be placed. On the other hand, distribution plant is built for ultimate demand.

In an interrogatory response, Verizon explains that a fill factor measures "the overall utilization of a particular piece of telephone equipment or plant." The administrative spare input is set at .98. The model internally calculates the utilization factors for each code common language identifier (CLLI), for both feeder and distribution plant. These factors are provided for informational purposes and "are not inputs in to the modeling process."

In his surrebuttal testimony, witness Tucek describes how ICM-FL sizes the local outside plant (OSP) based on three inputs. The first input is the administrative fill input, which Verizon set at .98, which allows for two percent administrative fill. With this setting, if a piece of plant is more than 98 percent utilized, the model places the next larger size piece of plant. The other two inputs, known as engineering factors, can be defined "as the ratio of installed to working lines." The inputs to the model are 2.16 for distribution plant and 1.011 for feeder plant.

In Exhibit 61, AHA-6, Coalition witness Ankum advocates the following fill factors for Verizon:

Table 7g-1 ALEC Coalition Proposed Fill Factors

Element	Recommended Fill Factors
Feeder Copper Fill	85%
Distribution Copper Fill	75%
COTs, RTs	90%
Channel Units	95%
Conduit	60%

Source: EXH 61, AHA-6.

Concerning ICM's reporting of certain global fill factors, witness Ankum explains that the model reports a 93.59 percent fill for feeder plant and 38.27 percent for distribution plant. He believes that the model is not clear on what parts of plant are included in the calculations and whether or not an allowance for spare facilities is included in the calculation.

When asked if it was his understanding that the fill factors in Verizon's model were actually developed by the model, Coalition witness Ankum's response was that he was under the impression that the fill factors were calculated by the model after the model determines such items as network architecture and cable sizes.

Witness Ankum states that he believes that Verizon's fill factors are inefficiently low, particularly Verizon's distribution fills. He goes on to explain that some of his general objections to Verizon's determination of its fill factors are:

> 1. The large number of factors that Verizon uses to justify its low fill factors and the values assigned to each of these factors. Verizon does not take into account the fact that spare plant can be used for multiple purposes such as repair and growth.
>
> 2. The fact that Verizon's proposal requires ALECs to pay for facilities put in place to "serve Verizon's future customers" which the commission should not require the ALECs to pay for. The witness has some anti-competitive concerns regarding this fact and believes that fill should not reflect spare capacity put in place for future customers.

Concerning whether or not it appears that Verizon has modeled the actual fill that it has in its network, witness Ankum responds that due to the low distribution utilization rate, Verizon is modeling its actual network which is not consistent with TELRIC rules. He also points out that the model includes spare facilities for a large amount of growth and that Verizon admits that its distribution fill is based on a network built for ultimate demand.

In his deposition, witness Ankum was asked a question concerning the data that he relied on in developing the fill factors that he advocated. His response was that he is advocating fill factors based on his understanding of technologies involved in various components. He is also relying on his understanding of federal law concerning TELRIC, economics, the calculation of costs, and cost causation.

When asked by our staff if there were industry standards concerning the amount of spare facilities needed to serve future customers, witness Ankum responded that engineers design plant based on performance standards and anticipated growth. He contrasts the typical engineering design with TELRIC, which requires fill factors to be based on what the actual usage of the facility is reasonably projected to be. He believes that the FCC is saying that when you place plant for future customers, the amount of plant in use should also include the plant to be used by future customers. In short , according to the witness, you need to ask "What is the fill over the life of the facility?"

In his deposition, witness Ankum does concede that from the perspective of customers, both the ALECs and Verizon should have some spare facilities and that the ALECs should be required to pay for part of that spare.

When asked whether or not it was cheaper to lay all the feeder and distribution cable needed for expected growth all at once or when the need arises, witness Ankum responded:

> If you know with a fair degree of certainty that you are in a high growth area, you clearly want to lay cables that takes that into consideration. But likewise, the cost study should take that into consideration, i.e., when you do your cost study you need to include that future demand so that the current customers don't bear the cost of facilities for the future customers.

Verizon witness Tucek, in his surrebuttal testimony, states that the utilization rates that Dr. Ankum recommends that we establish are based on a network that is operating near its capacity. He also points out that Dr. Ankum incorrectly assumes that ICM-FL contains hidden calculations that rely on the fills for various components of the network to size telecommunication plant and calculate costs. Witness Tucek states that the fills are developed by the model and are outputs instead of inputs. The few Fill Factor inputs into the model are for administrative spare and the sizing of entrance cables. The administrative fill is set at .98 which allows for two percent spare capacity, except for that of DLC line cards which is based on 4.76 percent administrative spare. The fill for entrance cables is assumed to be 50 percent.

D. <u>FEEDER FILL</u>

Coalition witness Ankum discusses the fill factor assumptions that Verizon made for various feeder facilities, stating that the model reports a feeder fill of 93.59 percent, but he is not clear how it is derived. He goes on to explain why Verizon should use at least 90 percent fill on copper feeder facilities by stating that "[i]n a move toward fiber-based feeder, Verizon's own engineering guidelines explicitly discourage the placing of new copper facilities and encourage the maximum use of copper facilities."

Witness Ankum continues with the notion that with forward-looking technologies, more and more feeder facilities will be fiber based, and with very few new copper feeder facilities, these facilities will reach their objective fills of 90 percent. He believes that Verizon's idea that fills will increase and decrease as networks are reinforced is irrelevant in the determination of fill factors.

Concerning his recommendation for copper feeder fill, witness Ankum recommends that we order a copper feeder fill of 85 percent as the appropriate fill in a forward-looking, least-cost network. He further states that a fill factor of 85 percent is below the objective fill of 90 percent that already should exist on a large number of routes, recognizing that on a forward-looking basis, feeder facilities will be reinforced with fiber and not with copper.

When asked about Coalition witness Ankum's recommendation that the cost of copper feeder cables be based on a 90 percent fill, Verizon witness Tucek responded that the recommendation did not make sense and is based on the unsupported assumption that fiber facilities will be used instead of replacing copper facilities. While it will happen in some cases, it will not happen in every case. According to witness Tucek, Verizon will still need copper facilities to connect customers to the DLCs since only the feeder routes between the DLCs and central office are replaced with fiber. In actuality, the model assumes all fiber on routes between the DLCs and the central offices. Copper is assumed on the subfeeder connecting the DLC to the distribution plant along with copper to the central office for customers not served by DLCs.

E. <u>DISTRIBUTION FILL</u>

Witness Tucek states that distribution plant does not have an objective fill since distribution plant is planned with the expectation that it is not going to be enforced. This is due to the fact that otherwise you would be tearing up lawns, gardens, sidewalks, etc. in order to expand distribution plant.

In his rebuttal testimony, witness Tucek gives the following example of how distribution cable is sized:

> Suppose, for example, that 40 working lines are needed for a given distribution cable. ICM-FL will determine that 86.4 (40 x 2.16) pairs are needed, and install the next largest cable, a 100-pair cable. Since 86.4/100 is less than the administrative fill input of 0.98, no cable-size adjustment for administrative spare is needed. (If 98, 99, or 100 pairs were needed, the next largest cable size would be used.)

In an exhibit to his testimony, ALEC witness Ankum advocates a 65 percent fill for distribution copper cable.

F. <u>DROPS</u>

Concerning the fill for drop facilities, witness Ankum states that the fill on drop facilities is determined as a combination of user inputs and a pre-programmed algorithm of ICM. Residential and business drops are calculated separately based on their own assumptions. The fill factor issue is obscured by how the drop facilities are identified.

According to witness Ankum, the treatment of the drop within the ICM results in the drop becoming a very expensive portion of the loop. He also believes that the high cost of the drop is due to the fact that the drop length the model assumes is excessively long. The combination of the loop length and low fill causes an inflated loop cost.

Explaining why the fill for drop facilities should never be lower than that for distribution facilities, witness Ankum stated that it is easier to add drop facilities than it is to add distribution facilities. He believes that the easier it is to add additional plant, the higher fill there should be.

Regarding witness Ankum's recommendation that the fill factor for drops be no lower than those set for distribution, witness Tucek responded that he disagrees with Dr. Ankum and provides an example of customers ordering second telephone lines where the fill for the drop goes from below that of the distribution plant to above that of the distribution plant. He again points out that the model does not use the fill factors of specific network components to cost the loop, but sizes the cable and picks the network components using the discrete sizes available. He also points out that this approach is used by other models and ensures that the network components "fit together."

G. CENTRAL OFFICE TERMINALS AND REMOTE TERMINALS

When asked what level of fill is appropriate for central office terminal (COT) and remote terminal (RT) electronics, Coalition witness Ankum responded that for RTs and COTs, he recommends a fill of 90 percent. He bases his recommendation for RTs on the fact that they are scalable and can be expanded as demand increases. He believes that COTs can have higher fills than RTs, due to the fact they can serve up to five RTs.

When asked that given Verizon's assumptions on the deployment of fiber-based DLC systems, would COTs be fully utilized, witness Ankum responded that they would be. He then pointed out that the deployment of these systems in the cost studies show more COTs and RTs than there are in Verizon's actual network.

Finally, witness Ankum recommends a 90 percent fill which he states is supported by Verizon's own documentation that requires "that certain types of DLC systems (SLC-96) are used near full capacity." While witness Ankum concedes that these guidelines involve "slightly older equipment," it shows the idea that DLC electronics can be run at very high levels of utilization.

When asked if a 90 percent fill for central office terminals would be appropriate for any company whose forward-looking loop design is based on the deployment of fiber-based digital loop carrier systems similar to Verizon's, witness Ankum responded that with Verizon's economies of scale, a large ILEC would easily have a 90 percent fill on its COTs. This is due to their modularity and ability to serve up to five remote terminals. He agrees that the situation would essentially be the same for RTs as it is with COTs.

Witness Ankum was provided a hypothetical situation where moderate or high growth was expected. He was asked what configuration he would recommend. He responded that you can place larger pieces of plant when moderate to high growth is expected. He continues by pointing out that you do not put the spare facility in the cost model due to the fact that future customers are the cost causer of the spare capacity. He then states that when little or no growth is expected, plant should be designed to mimic this demand. In short, depending on the modularity of the piece of plant, he does not have a problem with placing facilities for anticipated growth.

H. CHANNEL UNITS

Concerning the appropriate level of fill for channel units, Coalition witness Ankum responded that due to the fact that channel units can be entered into COTs and RTs as needed, Verizon can achieve a high level of utilization. In addition, the channel units can be put in place rather quickly and can be placed to closely match the total number of end-users that are served by DLC systems. For channel units he recommends a fill of 95 percent

I. DS1 FILL FACTORS

The ALEC Coalition, in discovery, was asked what fill factors would be more appropriate than those proposed by Verizon. The ALEC Coalition responded that Verizon's assumed fill in the "low double digits" for DS1 loops is a primary cause for inflated DS1 rates. They believe that for DS1 loops, a fill factor of 90 percent would be more appropriate.

The ALEC Coalition was also asked why the fill of 357c equipment should not be lower than 90 percent. The Coalition responded that the 357c is a piece of circuit equipment (multiplexer) for loop transport that is used in the central office. Due to the fact that a large number of services and circuits are able to share this facility, one should be able to achieve a high level of utilization.

J. RECOVERY OF PLANT PLACED FOR FUTURE CUSTOMERS FROM CURRENT CUSTOMERS

When asked whether or not it is appropriate, in a TELRIC setting, to include spare facilities for anticipated growth in demand by future customers, witness Ankum responded that it was not and that the ALECs should only pay for facilities that will be used to meet current customer demand. He believes that the cost causation principle requires future customers to pay for spare facilities since they are the cost causers for the spare facilities.

Concerning the FCC's findings on the fact that spare facilities should be based on a reasonable projection of demand, witness Ankum responded that paragraph 682 of the FCC's Local Competition Order[2] states:

> Per unit costs should be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element.

Witness Ankum interprets the Order to mean that projected future customers must be considered when determining the unit cost of an element. He also believes that Verizon's use of only current customers in its fill factor calculation appears to be a violation of the FCC's Order.

Regarding Dr. Ankum's contention that current users should not pay for capacity installed to serve future demand, Verizon witness Tucek responded that this argument is not correct, and pointed out that Dr. Ankum's argument overlooked the fact that customer growth is ongoing. Witness Tucek points out that existing customers benefit from spare capacity since it allows Verizon to meet demand as it occurs in a cost-effective manner. He then points out that if rates do not reflect spare capacity, and the associated costs, the cost of this capacity may not be recovered or will be recovered from future customers. Recovery from future customers is only possible if the rates charged to a customer were based on the date the customer subscribed to the network. Witness Tucek believes that this scheme is obviously infeasible and must be resisted.

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[2]Order No. FCC 96-325; *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996;* CC Docket No. 96-98. (August 8, 1996).

In its brief, Verizon made the following argument concerning spare capacity being a current operating cost:

> Spare capacity is a current operating cost of the network specifically because providing high-quality, timely service is a current operating requirement. When an ALEC orders a second line, the ALEC (and the customer) enjoys the benefits of existing spare capacity because Verizon is able to provision that second line quickly, without incurring the cost and inconvenience of reinforcing plant in established neighborhoods. What the ALEC obtains is a unit of capacity on a network that has sufficient capacity to operate efficiently. The rate the ALEC pays must correctly reflect the costs of that entire network and should not exclude the cost of spare capacity required for the network's efficient operation.

K. ADMINISTRATIVE FILL

The following table shows how the TELRIC rate for a 2-wire loop would change, per Verizon witness Tucek's testimony, if current administrative fill was allowed for future demand.

Table 7g-2 Impact of Administrative Fill on 2-Wire Loop Rates

	2-Wire Loop Rate	Distribution Fill	Feeder Fill
Fill set to 1.0	$21.33	73.54%	94.55%
As Filed at .98	$22.94	38.28%	93.59%
Change	$(1.61)	35.26%	.96%

Witness Tucek explains that when setting the administrative fill to 100 percent fill, the cost per loop decreases by only seven percent. He continues that this is due to the fact that the cost of placement between two cable sizes does not really change and that any spare capacity that is taken out of the network is due to having a larger cable size in place when allowing for spare capacity. He also states that no network engineer would ever design a network without spare capacity.

In his deposition, witness Ankum was asked to respond to witness Tucek's assertion that setting the administrative fill to one hundred percent only decreased the cost by seven percent. Witness Ankum responded that the idea of fill is how many customers are going to be used to recover the costs of plant. After providing an example where customers go from paying for two loops to paying for one loop he points out that the fill factor or rate of utilization has an enormous impact on how costs are allocated over the number of customers and ultimately, therefore, an enormous impact on what the ultimate rate will be.

When asked whether or not he agreed with Verizon's administrative fill input of 98 percent on loop facilities, witness Ankum responded that in principle he had no problem with that, but acknowledged that he was not quite sure how the fill applies in the model.

When asked if it was his contention then that the fill factors used in a cost model should include no spare for growth or maintenance, witness Ankum responded that spare capacity should be included for maintenance, breakage, and administration, but there should be little or no allowance for growth. The reason for little or no allowance for growth is the fact that future customers should pay for their own facilities.

Witness Ankum points out that if ALECs are paying for future customers in their rates, Verizon would be able to charge lower rates to its customers due to the fact that the costs of the facilities have been recovered from the ALECs and their customers.

When asked if ILECs sometimes have to use larger capacity equipment in order to provide service to just a few customers, such as placing enough capacity for an entire development when only a few houses are presently occupied, witness Ankum responded: "[p]resumably in the real world the company would lay facilities in anticipation of future customers."

When asked if the previous scenario would result, at least initially, in lower fill, witness Ankum responded that lower fill would result, but putting the lower fill in a cost study would be inappropriate since the ILEC would overrecover the cost of those facilities. This is due to the fact that the lower the initial fill, the higher the per customer cost. With higher per customer costs, as customers are added to the network, especially in the long-term, the ILEC will overrecover the cost of the plant.

In addition to the allowance for two percent administrative fill for loops, the model also allows for a 4.76 percent administrative fill in the development of material inputs for DLC line cards.

As stated in the discussion of distribution fill, the administrative fill input of .98 only places a larger size cable if the number of cable pairs needed use over 98 percent of the cable. For example if 86 pairs are needed a 100-pair cable would be used, but if 99 pairs were needed, the next largest cable size (a 200-pair cable) would be used.

In the BellSouth proceeding, BellSouth sized its distribution cable in a manner nearly identical to Verizon; however, BellSouth did not include an additional allowance for growth since growth and administrative spare was "implicitly assumed with BellSouth's use of the next larger cable size."

L. OBJECTIVE VERSUS ACTUAL FILL

When asked how Verizon defines objective fill, witness Tucek responds that objective fill is the utilization level where an engineer would look into the need for the reenforcement of a feeder route. Assuming growth in the network, the objective fill is higher than the actual fill. He continues by saying that "for feeder routes the objective fill that most engineers I have talked to . . . would use [is] a figure of about 85 percent."

When asked whether he believed that actual fill or objective fill should be used in the cost model, witness Ankum responded that the actual fill is based on the use of prudent engineering practices; it is irrelevant in a costing proceeding. In a costing proceeding, you do not want to use the actual fill in the network, according to the witness.

In his deposition, witness Ankum was asked about an exhibit comparing the ALEC Coalition's recommended fills and the fills ordered by the Michigan Commission in Case Number U-11280. According to his deposition, the case pertained to Ameritech

Michigan (Ameritech). In that case the fills were direct inputs into the model, and the inputs were based on target fill, which is an Ameritech specific term which is much closer to objective fill than it is to actual fill.

In his deposition, witness Ankum was asked to read the following portion of the BellSouth Telecommunications, Inc.'s (BellSouth) Order in its UNE proceeding (Docket No. 990649A-TP):

> The ALECs did not dispute BellSouth's effective feeder fill of approximately 74 percent, which represents a 9 percentage point increase over BellSouth's actual 1999 feeder fill factor of 65 percent. We find that BellSouth's feeder cable inputs resulting in an effective fill of approximately 74 percent are reasonable. We also find that BellSouth's distribution fill factors that result in utilizations of 47 percent are reasonable.

After reading this portion of the BellSouth Order, he was asked if we found 47 percent fills appropriate for BellSouth, why he thought a copper distribution fill of 75 percent was reasonable for Verizon. He responded that "[i]n general I think that those lower distribution fills are inappropriate, and I would have made the same recommendation for BellSouth."

When asked if there are any different or additional factors that he thought we should consider before concluding that the 75 percent factor is appropriate, Coalition witness Ankum responded that the only difference is the possibility that Verizon is operating in more densely populated areas than BellSouth and should be able to achieve higher distribution fill in those areas; however, he is not sure if this is true if the territories are properly disaggregated.

When asked whether or not he agreed with the 47 percent distribution fill ordered for BellSouth, witness Ankum responded that he believes that it is too close to BellSouth's actual fill in its distribution network. He believes that the large amount of spare facilities creates a cross-subsidy with current customers subsidizing future customers, and the ALEC subsidizing the ILEC.

When asked whether, based on an exhibit attached to witness Tucek's surrebuttal testimony, placing either objective or target fill into the model that's significantly higher than the actual fill causes an underrecovery of TELRIC costs, witness Ankum responded that the exhibit shows Verizon's practice of sizing the network for future demand and recouping the costs over current customers. He points out that the exhibit does not recognize future customers, and that the analysis would be different if future customers were included.

Concerning the allowance for growth, BellSouth's model does allow for a growth input, but BellSouth chose not to allow for growth in its cost study.

DECISION

In the BellSouth Order, we determined that a 74 percent utilization for feeder and 47 percent utilization for distribution was appropriate. In that Order, we also determined that modeling two pairs per household was reasonable, if not conservative. In the BellSouth Order, growth was not accounted for due to the fact that BellSouth did not include growth in its cost model.

Consistent with the BellSouth Order, growth is allowed through Verizon's use of the next larger cable size when sizing its plant. Since there is no need for an allowance for additional administrative spare, the administrative fill input should be set at 1.0. According to Verizon witness Tucek, this provides for a distribution fill rate of 73.54 percent.

With a few exceptions, fill is an output of the model and not an input into the model. This modeling is done by placing the size of plant that fits Verizon's total demand based on the component sizes that are available. While it is possible to place user adjustments for feeder and distribution fill into the model, it is not possible to input fills for all individual components of the network. The inability to model specific fills for individual network components makes it impossible for the Coalition's recommended fill inputs to be placed into the model. Fill need not be determined for each individual component of the network, but for feeder and distribution as a whole. In addition, deriving fill rates based on cable sizing assumptions is more conceptually sound for TELRIC purposes.

The record indicates that Verizon's objective fill, where it begins to look into adding capacity to the network, is approximately 85 percent. Therefore, many of the ALEC Coalition's proposed fill factors appear to be high, and a network operating at the ALEC Coalition's proposed fills is likely operating at or near full capacity. We also believe that enough spare capacity should exist for maintenance and to allow for a reasonable projection of growth in the network.

For feeder plant, Verizon's cable sizing factor of 1.011 installed lines per working line appears to be reasonable since it does make an allowance for some growth before adding additional plant. For distribution plant, the record indicates that the model places 2.16 lines per lot. Based on the confidential calculation of the statewide distribution factor and the testimony given, we find that ICM shall reflect 2.16 lines per lot.

Thus, other than the fill factors addressed in other issues, we approve the utilization Verizon's proposed feeder and distribution cable sizing factors and any other fill factors addressed in this issue, with one exception. Consistent with what was ordered for BellSouth, the administrative fill shall be set at 1.0, since there is an adequate allowance for growth in the cable sizing factors.

VII(h). **ASSUMPTIONS AND INPUTS FOR MANHOLES IN UNE COST STUDIES**

Here we detemine the appropriate assumptions and inputs for manholes to be used in the forward-looking recurring UNE cost studies.

The Loop Model narrative of Verizon's cost model describes the placement of underground structures. For distribution plant, the placement of underground plant is dependent on the number of business lines in the area. Ducts are placed without pullboxes (small concrete handholes) if the demand is for six or fewer business lines. As long as the number of required ducts do not exceed two, pullboxes are placed when there are between 7 and 60 business lines in the area. A manhole is placed when the demand in an area is greater than 60 business lines. The spacing of manholes and pullboxes are determined by a user input.

For copper feeder cable, pullboxes are used if the demand for cable is less than 400 lines and two or fewer ducts are required. When more than two ducts are required or there is a demand for more than 400 lines, the model places manholes.

The cost input for manholes utilizes a Verizon broad-gauge price to estimate the cost of manhole placement. The model also allows for differences in placement costs based on geographic factors such as bedrock and the water table.

In his deposition, witness Tucek was asked to compare the costs that Verizon is proposing for a manhole to what was required in the Universal Service Order. Witness Tucek agreed that there was a price difference, but the witness recalled that we ordered that the BellSouth manhole costs be used. His reasoning for the difference in prices is that he suspects that BellSouth has better pricing of the specific item of plant, perhaps because BellSouth buys more manholes than Verizon Florida. Witness Tucek suggested that BellSouth may have calculated different material loadings as a result of differences in the accounting systems.

DECISION

There is a very limited amount of information in the record relevant to this issue, and what information is available supports the manhole inputs proposed by Verizon. The manhole costs addressed in the Universal Service Docket appear to be approximately five years old, and likely are not based on today's forward-looking costs.

Based upon the limited record on this issue, we find that the assumptions and inputs for manholes proposed by Verizon are appropriate and they shall be used in conjunction with our findings in all other applicable sections of this Order.

VII(i) and (j). ASSUMPTIONS AND INPUTS FOR FILL FACTORS IN UNE COST STUDIES

Next, we examine the appropriate assumptions and inputs for fiber cable and copper cable, including material and placement costs, to be used in the forward-looking recurring UNE cost studies.

Verizon Florida Inc. (Verizon) witness Tucek sponsors Verizon's long-run forward-looking recurring cost studies in this proceeding, which are based on a Florida-specific version of the company's Integrated Cost Model (ICM). Witness Tucek explains that the ICM reflects Verizon's engineering practices and operating characteristics and relies on Florida-specific costs for material and labor. The witness asserts that this is necessary for the cost model to produce realistic estimates of Verizon's forward-looking costs.

As witness Tucek explains, the ICM-FL designs

> . . . the network all at once, using currently available, forward-looking technology and the prices for labor, material and equipment that Verizon is actually able to obtain. The network is modeled so that it is capable of serving one hundred percent of current demand, and its components include all the network elements Verizon is required to unbundle (e.g., loops, switches, transport).

The modeling process begins with inputs for material and placement costs and other engineering assumptions that are used to model a forward-looking network and develop investments and expenses for the network components.

Fiber and copper cable are utilized as underground, buried, and aerial cable. The ICM-FL inputs include costs for material, as well as other components necessary so that the cost is developed on an engineered, furnished, and installed (EF&I) basis. Verizon's material and placement costs for copper and fiber cable have been filed as confidential. Thus, this information is not specifically discussed herein.

Witness Tucek testifies that the ICM Loop Module uses Verizon's engineering procedures to determine network characteristics such as structure type and size, placement type, material types and sizes, and labor costs. Witness Tucek notes that material and labor inputs reflect Verizon's economies of scale as an efficient buyer with a national presence. Material costs are based on Verizon's actual contracts with vendors, and the labor costs are based on Verizon's experience of what labor activities actually cost in Florida.

According to witness Tucek, the investments associated with the unbundled loop are modeled by the loop module and include both the material costs needed to construct the loop and the cost of installing these facilities, such as trenching and labor costs. In discovery responses, Verizon asserts that loop length, terrain, customer density, and plant mix affect the material and/or placement costs of investments underlying the local loop. Specifically:

> Loop length has a direct effect on the quantity of cable required, since longer loops require more cable. Two terrain characteristics, water table depth and depth to bedrock, affect the placement costs of manholes and poles. Customer density affects the size of both cables and DLCs. Additionally, low-density grids are assumed to be served directly out of the copper subfeeder, and no distribution cable is modeled for these lines. In high-density grids, the road feet adjustment factor is not applied. The plant mix inputs affect the placement costs of the cable, as well as the quantity of poles, pull boxes, manholes, and conduit placed.

According to Verizon, the costs of aerial and buried plant include the material and placement costs of the aerial cables, including the costs for minor material components such as the strand, anchors and guys, pedestals, signage and grounding hardware, and the cost of splicing. The material and placement costs of Serving Area Interfaces (SAIs) used in conjunction with aerial and buried plant are also included. For underground plant, the costs include the material and placement costs of the underground cables, including the costs for minor material components such as cable lubricant, grounding hardware, and signage, as well as the cost of splicing.

The material and placement cost tables are database files used as input tables in the loop module. The material cost database provides the material type of cable, cable size, description of the cable, unit material price, and an indication if the item is major or minor material. The material cost shown in the database includes all components associated with the given material type (engineering costs and material loading).

Placement costs include the labor costs for installing copper and fiber cables. The labor requirements and tasks are defined in a database that includes the type of labor, a description of the work performed, and labor activity rate.

A. MATERIAL COST INPUTS

Witness Tucek testifies that material cost inputs reflect Verizon's current experience on a nationwide basis to capture the economies of scale associated with buying in quantity. Material inputs for copper and fiber cables are obtained from the GTE Advanced Materials System (GTEAMS) and are made state specific through the addition of state specific loadings for freight, sales tax, engineering, minor materials and supply expense. Loading factors are discussed in more detail in Issue 7(s).

GTEAMS is the system used by Verizon to perform planning, inventory accounting, and material purchasing management functions. Engineering and costing groups access GTEAMS to obtain the current base price of copper and fiber cable materials by size required to estimate the cost of a project or a service offering. The prices are kept current through regularly updated price quotes from Verizon Purchasing and Material Management, working through Verizon Supply and its third-party vendors, and from invoices reflecting current purchases to inventory.

Verizon explains that ICM-FL modeled network components are designated as either major or minor materials. Minor materials are those items whose costs are not significant enough to warrant separate tracking within the accounting system. These items are identified with no specific account but are used in conjunction with other major network components. For example,

> . . . cable lubricant is used in the installation of underground cable. The cost of the lubricant is treated as a minor material and is included in the loaded material cost of the cable.

The material database designates whether materials are major or minor items. The costs reflect base unit material costs from GTEAMS with applied loading factors. For example, the material cost of each size of 26 gauge copper pair aerial cable includes:

> 26 gauge copper cables strung outside on telephone poles. Includes the copper pairs encased in protective sheathing. Includes associated engineering costs and material loading.

B. <u>PLACEMENT COST INPUTS</u>

Verizon uses a mix of contract and company labor for aerial cable and underground fiber placement, depending on time constraints and work force availability. All direct buried and underground copper placement are performed by contract labor.

Witness Tucek testifies that placement costs are based on vendor contracts specific to the state of Florida. According to discovery responses and the model methodology, all copper and fiber cable labor is based on contracted Single Source Provider (SSP) rates weighted with the road feet of the exchanges the contracts cover. The model methodology explains that each vendor contract specifies a rate per geographic area, or zone. In order to develop a composite rate for Florida, the zone-specific rate is weighted by the percentage of the state's total road feet in that zone.

According to Verizon, the placement costs for cables do not vary depending on the size of the cable, but rather on the type (aerial, buried, or underground) and location of the cable being placed. For example, trenching is the same per foot cost for all cable sizes while splicing costs vary based on the size of the cable. Additionally, Verizon explains that factors such as depth to bedrock affect whether a cable can be plowed, trenched, or bored, each of which has a different effect on the placement cost of the cable.

Verizon notes that aerial cable requires the installation of poles, the supporting strand cable, and anchors and guys. Similarly, underground cable requires the installation of conduit systems, manholes, and pullboxes.

According to the model methodology, the labor database, FLLABR.db, includes the inputs for engineering, installation, and labor costs for copper and fiber cables. The type of labor is identified by an alphanumeric code and identifies the tasks involved. For example, the labor code for placing aerial cable notes:

> This covers all handling associated with placing aerial cable/sub-duct/cable in sub-duct on existing strand or overlashing with existing cable. Includes double lashing or delash/relash (where required), placing wire clamps, straps, cable dampers, tree/squirrel guards, riser/U-guards as required, placement of fiber tags, and any incidental tree trimming. Also includes retensioning of the existing strand and placing additional down guys, if required, to meet specifications.

Verizon provided supporting workpapers for the company specific and vendor specific labor unit rates used in the placement input table. The labor rates denote costs on a per foot basis for placing cables and are differentiated between the various types of excavation, such as plowing and trenching. Labor rates for copper cable splicing costs are differentiated between splicing 1-50 pairs, 51-300 pairs, and over 300 pairs.

Splicing Quantities

According to the model methodology, the ICM-FL models one splice per average Individual Plant Identification (IPID) length. An IPID is the length of cable between splices in Verizon's cable record system. The average value of the IPID length is a user input into the ICM and varies by construction and cable type. Verizon has assumed 413 feet for aerial copper, 872 feet for aerial fiber, 334 feet for buried copper, and 1,142 feet for buried fiber. A quantity of splices is then assigned by ICM to each section of cable based on cable size, IPID length, and total cable footage.

C. SUPPORT STRUCTURES

When placing aerial cable, ICM calculates a structure investment consisting of poles and anchor/down guy costs. The appropriate assumptions and inputs for structure costs are discussed in Section VII (f). However, it should be noted that the placement costs of cables include costs of plowing and trenching.

(1). Buried Structure

For buried cable, the ICM-FL model methodology explains that the structure investment can include investments for plowing and/or trenching. Plowing for both distribution and feeder cable will occur if certain soil characteristics and user settings are met and certain demand levels are not exceeded. Other construction charges, including hand digging, boring, and concrete cutting and replacement do not apply when plowing is utilized.

(2). BURIED DISTRIBUTION CABLE STRUCTURE

The loop methodology explains that ICM assumes plowing in all circumstances except where more than two cables are required, where bedrock is too close to the surface to allow cost-effective plowing, or where the area is too developed to effectively plow. The methodology notes that plowing is most practical in areas with little road feet, i.e., rural, open areas with few underground obstructions.

When plowing cannot be used to place buried cable, the cable is placed with a trencher. In such cases, Verizon notes that additional labor items including boring, hand digging, concrete removal and replacement are incurred. These activities are primarily found in urban areas. The percentage of trench line provisioned by hand digging or boring, and the percentage of trench line that requires concrete or asphalt to be removed and replaced are developed using data from Verizon's Contract Administration System (CAS). Only the trenching labor codes are used to develop the percentages. The sum of three years of data are used and the percentages are determined by dividing the total hand digging, boring, or concrete and asphalt footage by the length of the trench.

The conditions required for plowing to occur for buried distribution cable are shown below:

Table 7(i)-1: Buried Cable Conditions	
Condition	Distribution - Plow
Depth to bedrock	>30"
Sharing	<=2 users
Separation	Random

Source: EXH 50, Model Methodology, Loop Module, Book II of VII, p. 18.

If all of the conditions required for plowing are not met, ICM assumes trenching will be used.

(3). <u>BURIED FEEDER AND BACKBONE CABLE STRUCTURE</u>

According to the loop module methodology, feeder and backbone cables will be plowed when the following three conditions are met:

- When the wire center service area is labeled as a low density wire center (less than 50 lines per square mile - designated as low density).
- The construction is non-shared construction. Since random separation is not allowed in the feeder network, the required separation between Verizon and other facilities cannot be achieved by plowing the cable.
- The bedrock is below the surface far enough to allow sufficient cover, i.e., 30 inches for copper cable and 48 inches for fiber cable. However, to avoid the additional expense of trenching or rock sawing for fiber placement when bedrock is between 30 inches and 48 inches, ICM allows fiber cable to be plowed at 30 inches within a protective subduct.

Additionally, where very hard soil conditions exist, ICM adds a cost for pre-ripping (loosening up the soil) to the plowing cost for fiber cable. The ICM pre-ripping rate is 10 percent which is applied to the amount of placed cable. "For example, if 1,000 feet of fiber cable is placed, ICM assumes 100 feet will require pre-ripping."

As with distribution cable, a trencher is used to place feeder or backbone cables when plowing is not possible. Also, additional labor items for boring, hand digging and concrete removal and replacement are applied only if the wire center density is high or medium (over 50 lines per square mile).

The conditions required for feeder and backbone cables to be plowed are shown below:

Table 7(i)-2: Feeder and Backbone Cable Conditions

Condition	Feeder-Plow
Demand in wire center	< 50 lines per sq. mile
Fiber feeder - depth to bedrock	> 48" no subduct required 30"-48" subduct required
Copper backbone - depth to bedrock	> 30"
Sharing	Not permitted - 12" separation required

Source: EXH 50, Model Methodology, Loop Module, Book II of VII, p. 19.

If all of the conditions required for plowing are not met, ICM assumes that trenching will be used.

DECISION

The ICM-FL loop module estimates the investments needed to construct the loop based on existing wire center locations and year-end 2000 demand. These investments include the material and installation costs of copper and fiber cables, among other items. The model logic indicates that the ICM-FL constructs the loop by modeling specific cable type, size, and length based on Verizon's engineering assumptions. Unit material costs from the material database are then used to determine the material component of the loop investment. These unit costs are first obtained from GTEAMS followed by the application of material and engineering loading factors. The placement or installation costs are developed based on weighted vendor contract rates.

The Alternative Local Exchange Companies (ALECs) provided no testimony in specific opposition to Verizon's material and placement inputs for copper and fiber cables. The ALECs assert that the ICM-FL is not a transparent, verifiable, reliable model, and is therefore not open to review and capable of accommodating changes to inputs and assumptions.

We have reviewed the unit material and placement cost inputs and supporting documents as well as the model logic for developing copper and fiber cable investments. We believe that, contrary to the ALECs' position, the ICM-FL is capable of accommodating changes to inputs and assumptions. A review of the model logic indicates that revisions made to material and placement inputs will flow through to revised investments. Furthermore, lacking testimony to the contrary, our review of the source documents supporting the base unit material cable prices and placement labor rates supports the reasonableness of Verizon's inputs.

In summary, we find appropriate Verizon's material inputs for copper and fiber cables, as modified by our findings in Section VII 7(s) of this order. Regarding placement costs, we find that the appropriate assumptions and inputs are those identified by Verizon.

VII(k). **ASSUMPTIONS AND INPUTS FOR DROPS IN UNE COST STUDIES**

We now examine the appropriate assumptions and inputs for drops to be used in the forward-looking recurring UNE cost studies.

The ALEC Coalition was the only party to file testimony on this issue in opposition to Verizon's position. Covad adopts the position of the ALEC Coalition in its post-hearing brief. Verizon witness Tucek states that the average drop length is determined using the number of business and residential units in each grid and by an assumed grid area of 2.7 million square feet. Verizon witness Tucek explains the calculations of the drop lengths modeled by ICM-FL for a given demand point or grid:

> The number of business and residential units is determined by dividing the business and residence lines by the number of lines per unit. The number of lines per unit for businesses and residences are user-adjustable inputs that are specified via ICM-FL's run time option screen. Dividing the grid area by the total number of units produces the average size lot for the grid. ICM-FL assumes that the lot is square and calculates the average drop length for the grid as the distance from the center to the corner. This approach recognizes both front and back placement of drops and accounts for the fact that many drops must cross the street to reach the distribution cable.

Verizon witness Tucek points out that because the calculations just described can result in unusually long or short drop lengths in sparsely or densely populated grids, respectively, ICM-FL allows the user to specify maximum and minimum values for the modeled average drop length.

ALEC Coalition witness Ankum believes that the lengths of drop and entrance cables modeled by ICM are not accurate and are too long. ALEC witness Ankum states that "the drop lengths are calculated in the model per demand unit based on an algorithm that assumes that drop wires and entrance cables terminate at the center of each lot on which a residence or business resides. As a result of this algorithm, drop lengths and entrance cables can vary from 15 to nearly 500 feet." Witness Ankum believes that rates should be appropriately deaveraged to reflect cost variations across geographic regions. Witness Ankum contends that drop and entrance cable lengths should be deaveraged by zone, to reflect the greater density and generally shorter lengths in urban areas. Specifically, for zones 1 through 3, he recommends the lengths should be selected as user defined inputs at 75, 100, and 150 feet, respectively.

ALEC Coalition witness Ankum states that relative to the other components of the loop, the drop portion should be one of the most inexpensive components; however, it must be modeled correctly. Consequently, ALEC Coalition witness Ankum adds that although Verizon assumes in the model that there are 3-pair drops for every residential unit in distribution units with 500 residential units and 25-pair entrance cables for demand units with more than 500 residential units, he recommends that we order Verizon to base its loop cost studies on no more than 2 pairs per drop and not 3.

Verizon witness Tucek argues that the fact that ICM-FL models drops that are longer than ALEC Coalition witness Ankum's recommended drops is inconsequential, because the average TELRIC for a loop is not particularly sensitive to changes in drop length inputs. Witness Tucek explains that it is not possible to force the average drop lengths in each zone to equal the values recommended by ALEC Coalition witness Ankum. Verizon witness Tucek adds that ALEC Coalition witness Ankum's recommended drop lengths are unsupported by his testimony. Verizon witness Tucek continues:

> His recommendation to specify a drop length for each deaveraged zone does not make sense. In order to

> determine the composition of the zones, one must know the loop cost for each wire center. This cannot be done without first determining the modeled drop length. ICM-FL determines the average drop length based on the characteristics of the individual demand point, or grid. This means that grids which have similar density characteristics will have similar average drop lengths, regardless of the zone their particular wire center is ultimately assigned to.

Witness Tucek maintains that based on the existing structure of ICM-FL, one can only adjust the values for minimum and maximum drop length to effectively decrease the average length of the modeled drop in each zone. Table 7K-1 provides a comparison of the drop lengths proposed by the parties, and shows the impact of setting the minimum drop length to 10 and the maximum drop length to 165.

TABLE 7K-1
Comparison of Drop Lengths
(by density zone)

	Zone 1	Zone 2	Zone 3	Overall
Tucek	81.8	129.0	259.0	102.7
Ankum	75.0	100.0	150.0	85.5
Min=10	81.2	129.0	259.0	102.0
Max=165	79.2	109.6	149.5	91.5

Source: Tucek TR 791

As shown in Table 7K-1, setting the minimum average drop length to 10 only reduces the average Zone 1 drop to 81.2 feet, and does not change the average drop lengths of the other two zones. Table 7K-1 also shows that setting the maximum drop length to 165, forces the average drop lengths for each zone close to ALEC Coalition witness Ankum's recommended drop lengths. By our calculations, the average modeled drop length decreases by 11 percent. Subsequently, Table 7K-2 provides a look at the impact that setting the maximum drop length to 165 has on the cost of the average TELRIC for the 2-wire loop.

TABLE 7K-2 Impact of Setting Input Maximum Drop Length Equal to 165ft Has on the Average TELRIC for the 2-Wire Loop (by density zone)				
	Zone 1	Zone 2	Zone 3	Overall
Tucek	$ 18.94	$ 27.68	$ 74.16	$ 22.94
Max=165	$ 18.92	$ 27.47	$ 72.86	$ 22.84
Decrease	($ 0.01)	($ 0.20)	($ 1.31)	($ 0.10)

Source: Tucek TR 791; EXH 50 (ICM-Model Output).

A review of Table 7K-2 reveals that an 11 percent decrease in length yields less than a one-half of one percent decrease in the 2-wire loop TELRIC. Therefore, witness Tucek contends that moving ICM-FL's average modeled drop lengths substantially towards ALEC Coalition witness Ankum's recommendation has very little impact on the resulting cost estimates because drop costs are not a very expensive part of the loop in ICM-FL.

Verizon witness Tucek states that Verizon's actual operating practice utilizes a 3-pair drop as a result of Verizon recognizing that many customers have more than one line. He explains why this is reasonable:

> Once a subscriber orders a second line, use of a 2-pair drop means that a second drop must be placed if one of the pairs fails, or if a third line is ordered. Moreover, based on the cost differential between a 2-pair and 3-pair drop that existed in 1997, use of a 2-pair drop decreases the 2-wire loop TELRIC by only 4 cents. This minimal change reflects the fact that the drop placement cost does not change if a 2-pair drop is used.

Witness Tucek states that the minimal cost differential also supports the use of a 3-pair drop since doing so reduces the likelihood of incurring the additional placement costs of installing a second drop at a customer's premises.

DECISION

The drop is the copper service wire that is the loop component used to transport service from the distribution terminal to the customer's NID. ALEC Coalition witness Ankum advocates deaveraging the drop and entrance cable lengths for zones 1, 2, and 3 to 75, 100, and 150 feet, respectively, by selecting them as user defined inputs in ICM-FL (an option in ICM-FL). We are not persuaded by ALEC Coalition witness Ankum's proposal for two reasons. First, we believe that in an attempt to decrease the TELRIC for the 2-wire loop, witness Ankum makes a mistake when he assumes that loop lengths can be input into ICM-FL by density zone. We agree with Verizon witness Tucek that based on the existing structure of ICM-FL, "one can only adjust the values for minimum and maximum drop length to effectively decrease the average length of the modeled drop in each zone." We also note that Verizon witness Tucek testified that setting the length of all drop wires and entrance facilities to only one foot, decreases the TELRIC for the 2-wire loop by 94 cents. Witness Tucek added that while this is not an insignificant amount, it does not support ALEC Coalition witness Ankum's claim that ICM-FL assumes excessively long drops. We believe that the drop lengths assumed by Verizon in ICM-FL are reasonable.

Second, it does not appear to us that ALEC Coalition witness Ankum provided adequate support for the drop lengths he proposed in his testimony. We note that witness Ankum did not base his recommendation on any analysis of ICM-FL. Rather, witness Ankum based his recommendation on what he has "seen used in other cost models" and on the "general discussion" he has had with outside plant engineers. ALEC Coalition witness Ankum did not utilize any empirical analysis as a foundation for his contention. Additionally, we agree with witness Tucek that moving ICM-FL's average modeled drop lengths substantially towards witness Ankum's recommendation has very little impact on the resulting cost estimates because drop cost is not a very expensive part of the loop in ICM-FL. Therefore, we decline to approve the drop lengths proposed by ALEC Coalition witness Ankum.

We also agree with Verizon witness Tucek that the cost differential between a 2-pair and a 3-pair drop is minimal. Additionally, when a 3-pair drop is utilized, this decreases the possibility of having to install an extra drop at the customer's premises at some point in the future, thereby reducing cost. We believe that the benefit of using a 3-pair drop outweighs the cost savings of using a 2-pair drop. As a result, we believe that the use of a 3-pair drop in a demand unit less than 500 is appropriate.

Based on these facts, we find that the appropriate assumptions and inputs for drops shall be those contained in Verizon witness Tucek's testimony and the accompanying cost study.

VII(l). ASSUMPTIONS AND INPUTS FOR NETWORK INTERFACE DEVICES IN UNE COST STUDIES

Here we consider the appropriate assumptions and inputs for network interface devices to be used in the forward-looking recurring UNE cost studies.

Testimony on this section was limited; in fact, Verizon was the only party to state a position in a post-hearing brief on this section. Verizon witness Tucek believes that it is important that ICM-FL reflect Verizon's engineering practices and operating characteristics and that ICM-FL be based on Verizon-specific costs for material and labor. Witness Tucek states that the standard that the FCC has set for TELRIC is the costs that the specific carrier, in this case Verizon-FL, expects to incur, not a generic cost. Further, witness Tucek asserts that the use of Verizon-specific costs for material and placement associated with NIDs complies with the least cost, forward-looking, most efficient technology requirements of TELRIC.

DECISION

The NID is the device at the customer's premises (either business or residential) within which the drop wire terminates; it is also the interface device between the customer's inside wiring and the telephone network. We have reviewed the material and placement cost inputs for NIDs found in the FLMATL.DB and FLLABR.DB tables. These inputs are based on actual Verizon-FL specific costs; as such, we believe these inputs are compliant with the FCC's First Report and Order. Therefore, absent any evidence to the contrary, we find that the appropriate assumptions and inputs for NIDs shall be the input values and assumptions contained in Verizon's cost study and study documentation.

VII(m): ASSUMPTIONS AND INPUTS FOR DIGITAL LOOP CARRIER COSTS IN UNE COST STUDIES

We now determine the appropriate assumptions and inputs for digital loop carrier costs to be used in the forward-looking recurring UNE cost studies.

In its brief, Verizon states that the appropriate input values and assumptions for digital loop carrier (DLC) costs to be used in the forward-looking recurring UNE cost studies are those contained in Verizon witness Tucek's testimony and the accompanying cost study. Verizon witness Tucek asserts that Verizon's DLC costs are based on the input prices for material, equipment, labor, and placement costs that Verizon expects to pay. Verizon witness Tucek states:

> Verizon purchases DLC materials and equipment on a nationwide basis to capture the economies of scale associated with buying in quantity and any sales taxes or shipping cost included in the costs of material and equipment is reflected in what Verizon pays. Verizon's DLC labor costs reflect the wage rates Verizon pays in Florida. Placement costs for DLCs are based on vendor contracts specific to the state of Florida.

The DLC material and placement cost inputs can be found on the ICM-FL CD in the FLMATL.DB and FLLABR.DB tables, respectively.

ICM-FL's modeled DLC locations (placements) are based on the existing network in Verizon's Florida serving area. Verizon witness Tucek asserts that Verizon's DLC placement costs are accurate and forward-looking and should be adopted. Witness Tucek states that ICM-FL models how DLCs are placed based on their size. For DLCs that serve 448 lines and smaller, ICM-FL assumes that the DLC is pole-mounted; for DLCs larger than 448 lines, ICM-FL assumes that the DLC is placed outside on a concrete pad. Verizon's DLC locations are inputs to the modeling process rather than outputs.

ALEC Coalition witness Ankum believes that the DLC costs in Verizon's study do not reflect the least-cost most-efficient network design and cannot be used to produce UNE rates that are compliant with the FCC's TELRIC pricing rules. ALEC Coalition witness Ankum believes that Verizon's ICM DLC costs are inflated, for four reasons: (1) Verizon's proposed DLC fill factors are too low; (2) ICM-FL's network architecture is inappropriate; (3) Verizon's cost studies fail to address an appropriate concentration ratio; and (4) ICM fails to capture the efficiencies of fiber facilities. First, witness Ankum argues at great length that ICM-FL's DLC costs are overstated due to inappropriately low fill factors. We note that the issue of fill factors has previously been addressed in Section VII(g). As a result, it will not be dealt with here.

Second, ALEC Coalition witness Ankum stresses the importance of what DLC configuration is modeled in Verizon's cost studies. Witness Ankum believes that cost studies for DLC based loops should assume the use of integrated digital loop carrier (IDLC) technologies, and that no universal service interfaces (channel units) should be used in the studies. ALEC Coalition witness Ankum adds that IDLC systems are more efficient, less expensive, and could reduce a competitive gap between the costs to Verizon and the costs to CLECs that use unbundled loops. Witness Ankum explains:

> Integrated DLC systems allow a circuit, once digitized at the remote terminal, to remain in digital form until it is ultimately terminated in a central office switch. Likewise, integrated DLC allows a carrier to aggregate individual DS0 (voice grade) circuits into larger, more efficiently transported bandwidths (DS1, DS3, etc.). In this manner, an IDLC system not only maintains the quality of a fully digital circuit (i.e., it removes the need to convert the signal from analog to digital form on multiple occasions - as is required by non-integrated DLC systems), it also reduces cost (because there is no need for digital/analog conversion equipment like the central office terminal and associated line equipment used by non-integrated systems).
>
> The significant cost difference between the universal digital loop carrier (UDLC) and IDLC loop is the basis for the "competitive gap" wherein competitors will always be at a cost disadvantage *vis a vis* Verizon if they use unbundled loops. As such, Verizon's proposed methodology undermines the procompetitive intent of the Act of 1996 that envisions use of unbundled network elements as an important market entry alternative. Again, it does so by artificially inflating the economic cost incurred by CLECs relative to those incurred by Verizon.

Further, ALEC Coalition witness Ankum gives three reasons why this issue is important to CLECs, competitors of Verizon:

> First, Verizon will use integrated DLC for purposes of providing loops to its own retail customers. Integrated DLC is more efficient and less expensive than non-integrated UDLC in a number of ways; this allows Verizon to provision its retail services using more efficient,

> less expensive IDLC technology. Conversely, when Verizon provisions unbundled loops to CLECs with a more expensive, less efficient non-integrated UDLC, this produces a "competitive gap."
>
> Second, Verizon will be deploying next generation IDLC in sharply increasing numbers because evidence indicates that integrated DLC is the least cost, forward-looking technology for loop facilities. This means that all of the problems described above (i.e., the "competitive gap" and the need to unbundle IDLC) will only become more prevalent in the future.
>
> Third, UDLC systems are an inferior substitute for IDLC systems. As a result of the multiple digital/analog conversions that must take place to provision a loop via non-integrated UDLC technology, customers served via this technology receive lower data speed on a typical dial-up connection. While at first glance this may appear to be a small issue, we note that the vast majority of new lines placed into service over the past 3 years are second (or third) lines used to accommodate dial-up internet connections. Given an opportunity to purchase an access line from Verizon that provides 56Kbs dial-up service, versus an offering by a CLEC that accommodates only a 21Kbs connection, all else being equal, customers will choose the faster dial-up service. This will be an important competitive advantage for Verizon that will not be lost on customers.

ALEC Coalition witness Ankum concludes that in essence, Verizon will not only benefit from the "competitive gap" associated with the lower cost it faces to produce a loop for use by its retail customers, but it will also benefit from a higher quality product.

Next, ALEC Coalition witness Ankum states that Verizon fails to assume the proper concentration ratio on the IDLC. Witness Ankum believes that the concentration ratio should be 6:1. Witness Ankum continues:

> With GR-303, variable line concentration outside of the switch is possible due to time slot interchanger (TSI) functionality established between the switch and an RDT. The TSI in conjunction with the time slot management

> channel (TMC) provides administration and dynamic channel assignment. The degree of concentration that is desirable, however, depends on the calling patterns of the community served by the DLC system and the CCS levels associated with that community.

Further, witness Ankum states that if Verizon were to serve the residential customers it currently serves on copper facilities with fiber-based IDLC - as it should, given the fiber/copper break-over point assumed in Verizon's own studies - then the residential calling pattern would allow for a different concentration ratio than used for business customers. ALEC Coalition witness Ankum adds:

> The effect of the cost study assumptions is that - in contrast to Verizon's real network - a mix of customers, consisting of both business and residential customers, will be served by fiber based DLC systems. Given that the concentration ratio for business customers, a mix of residential and business customers will allow a higher concentration ratio. This observation is even more true, if one considers that business customers call mostly during the day, while residential customers call mostly at night. Thus, since business and residential customers are likely to have two distinct peaks, their calling patterns are complimentary and do not crowd out one another; as a result, a higher concentration ratio is possible.

ALEC Coalition witness Ankum concludes that one of the major consequences of Verizon's decision to assume larger quantities of fiber deployment for cost study purposes, rather than what is actually deployed in its real network, is that a higher concentration ratio can be achieved. Given that under TELRIC, one must assume a least-cost, forward-looking network, witness Ankum contends that a concentration ratio of 6:1 is appropriate.

Finally, in addition to modeling an inappropriate DLC configuration, ALEC Coalition witness Ankum believes that ICM fails to capture the efficiencies of fiber facilities. Witness Ankum contends that "it is important to capitalize on efficiencies of the fiber and to drive the fiber as deeply into the distribution area as possible so as to minimize the use of expensive copper facilities (feeder and distribution)." Witness Ankum states that this notion is not considered in Verizon's ICM-FL model. Witness Ankum continues:

> The ICM model assumes that there is always a portion of the feeder that is copper based even if the loop uses a fiber based DLC system. Further, the ICM model assumes that in many instances there is even a secondary Serving Area Interface (SAI) in addition to the first SAI, thus further increasing the use of copper facilities rather than diminishing it. There is no attempt in the model to place the FDI (with the RT) close to the customer and to extend the cheaper fiber facilities so as to conserve on expensive copper facilities.

ALEC Coalition witness Ankum's arguments were challenged by witness Tucek in his surrebuttal testimony. Verizon witness Tucek believes that we should disregard the specific allegations and recommendations made by ALEC Coalition witness Ankum concerning Verizon's proposed DLC assumptions. In reenforcing his assertion that Verizon's proposed DLC assumptions are accurate and forward-looking, Verizon witness Tucek addresses a few "misstatements" that he claims were made by ALEC Coalition witness Ankum.

First, we note that during the course of this proceeding the issue of the appropriate network architecture has largely focused on what DLC configuration, IDLC or UDLC, should be assumed by ICM-FL throughout the modeled network. Verizon witness Tucek claims that ICM-FL properly models DLCs capable of provisioning non-switched services and unbundled loops in a multi-carrier environment. Verizon witness Tucek states that ICM-FL assumes the deployment of universal digital loop carrier (UDLC) throughout the modeled network because it (UDLC) is the only currently available DLC technology that is capable of providing unbundled loops in a multi-carrier environment, and because integrated digital loop carrier (IDLC), the alternate technology proposed by ALEC Coalition witness Ankum in his Exhibit 28, is technologically incapable of provisioning stand-alone unbundled loops in a multi-carrier environment. Witness Tucek continues:

> Regardless of what is hypothetically feasible, the question of what DLC architecture a cost model should assume is dominated by the fact that no switch or NGDLC vendors have commercially offered products with the functionality required to support a multi-carrier operation of a GR-303 interface. Because TELRIC must be based on equipment and technology that is commercially available today, a universal DLC configuration is the

correct assumption to make when modeling the TELRIC of an unbundled loop.

Verizon witness Trimble states in his supplemental response to our staff's eighth set of interrogatories that Verizon's proposed UNE-P rates equal to the sum of the proposed unbundled port and loop rates, because Verizon believes that modeling UNE-P based solely on IDLC will result in rates that understate the cost of unbundling via a UNE-P arrangement in the real network since in reality, they would not all be provisioned via IDLC. Witness Trimble continues:

> An unknown percentage of unbundled loops in the real network that would otherwise be served via IDLC will be served by terminating them on a D4 channel bank over a copper facility. Likewise, some such loops will be served by terminating them on a central office terminal via the fiber facility associated with the IDLC system that they would otherwise be served out of. Not all of these loops will be migrated back to the IDLC arrangement if they are subsequently served via UNE-P, so that setting the rates for these loops based on the sum of the unbundled port and loop charge makes sense.

Consequently, witness Trimble affirms that Verizon's proposed UNE loop rates assume the use of UDLC rather than IDLC.

Verizon witness Tucek concludes that it is not possible to unbundle a loop from an IDLC in a multi-carrier environment. Witness Tucek adds "our DLC vendors have acknowledged this, the ALECs have acknowledged this in their data request responses. And actually one of the industry's leaders in designing standards such as GR 303 is still soliciting funding support for research to solve the problems in unbundling a loop from IDLC in a multi-carrier environment."

Second, Verizon witness Tucek argues that increasing the concentration ratio to 6:1 only impacts the cost of the DSX-1 panel and associated cards in ICM-FL's IDLC inputs. Compared to the 4:1 concentration ratio assumed by ICM-FL, he testifies the 2-wire loop TELRIC decreases by only one cent, assuming that IDLCs are used; there is no change in the investment or in the 2-wire loop TELRIC in the universal configuration underlying Verizon's filed cost. Moreover, witness Tucek states that moving from a 4:1 to a 6:1

concentration ratio has no impact on the number of DS-1 links required for 192-line DLCs and smaller.

Third, although Verizon witness Tucek concedes that ICM-FL assumes the use of copper feeder even though all of the modeled DLCs are fiber-based, he counters that ICM-FL does take advantage of the efficiencies of fiber facilities because ICM-FL assumes that all DLCs are connected to the central office via fiber feeder routes. Witness Tucek adds that the only copper feeder modeled by ICM-FL is the subfeeder needed to connect distribution plant to the DLCs or, in the case of customers not yet served by DLCs, to the switch. Further, ICM-FL efficiently uses fiber because all of the modeled fiber routes - including the interoffice fiber routes - share the same sheath to the fullest extent possible.

Verizon witness Tucek believes that ALEC Coalition witness Ankum's DLC proposals are flawed. Witness Tucek states that it is clear that ALEC Coalition witness Ankum advocates basing TELRIC estimates and UNE rates on a network that is disconnected from the real world and completely unlike the network from which the UNEs will be provisioned. Verizon witness Tucek believes that ALEC Coalition witness Ankum's disregard for the characteristics of the real world network is indicative of the fact that he is unconcerned with the costs that Verizon will actually incur in provisioning UNEs.

<u>DECISION</u>

We believe that ALEC Coalition witness Ankum's rationale for modeling 100 percent IDLC is undermined based on the Coalition's response in Exhibit 28 on pages 115 and 116, wherein witness Ankum failed to distinguish between unbundling IDLC in a multi-carrier and in a multi-host environment. In a multi-carrier environment the digitally-derived loop is connected to an ALEC switch. In a multi-host environment the ILEC is the only carrier to which IDLC loops are being provisioned; thus, the ILEC experiences none of the security or operational issues expressed in Exhibit 55, the ALCATEL letter, such as:

- the overall control and management of the system
- the functionality of a real time dynamic Time Slot Interchange (TSI) in a multi-carrier environment
- the improper use of multiple operating systems (generally, the type used in a multi-carrier environment)

- the complexity of coordinating testing resources and procedures associated with a multi-carrier GR-303 across carriers
- the monitoring of system alarms by multiple carriers
- the development of detailed operations processes between the carriers owning the switches and the carrier owning the system, in order to provision GR-303 interface groups between carriers.

While ALEC Coalition witness Ankum is technically correct in asserting that unbundling IDLC in a multi-host environment is possible, we believe that witness Ankum mistakenly makes reference to a multi-carrier environment in his testimony, not the multi-host environment on which his position is based.

It is our impression that ALEC Coalition witness Ankum wants Verizon to unbundle IDLC in a multi-carrier environment, in which the digitally-derived loop is connected to a Verizon switch. However, in the surrebuttal testimony of Verizon witness Tucek and the supplemental response of the ALEC Coalition to Verizon's second set of interrogatories, both parties acknowledge that this configuration is not commercially available.

ALEC Coalition witness Ankum opines that the cost of an unbundled loop should be based on an IDLC using the GR-303 interface, instead of the UDLC configuration assumed by ICM-FL. However, witness Ankum has ignored the fact that no switch or NGDLC vendors have offered products with the functionality required to support a multi-carrier operation of a GR-303 interface. Further, we share Verizon witness Tucek's concern that witness Ankum's claims about unbundled digitally derived loops from an IDLC are wrong and not technically feasible. Therefore, we conclude that the TELRIC of stand-alone unbundled loops should be based on the UDLC configuration assumed in Verizon's cost study filing.

While we do not believe it is currently technically feasible to use IDLC with a GR-303 interface to unbundle stand-alone loops, we agree with Verizon witness Tucek that it is indeed possible at present to use IDLC facilities to provide a loop/port combination (i.e., a UNE-P). A UNE platform or UNE-P is typically a combination of a loop, local circuit switching and shared transport. Verizon witness Trimble states that "Verizon Florida will provision UNE-P in a manner similar to how it provisions resale or its own retail services." Verizon witness Tucek states that Verizon uses IDLC in its network "to provide services to its own end user customers because those customers can be integrated from the IDLC into the trunk-side of its switch and at a lower cost of providing service to them." Additionally, under cross-examination witness Tucek affirms that if an ALEC was purchasing UNE-P from Verizon, Verizon "might use the IDLC facilities that it has in its network to provide the UNE-P."

Conversely, we do not believe that the alternative configurations referred to by Verizon witness Trimble on page 114 of his Exhibit 19 are forward-looking; therefore, the resulting TELRIC produced by ICM-FL would not reflect the forward-looking cost of provisioning telecommunications services out of Verizon's Florida network. We believe Verizon is capable of provisioning a loop-port combination to an ALEC via an IDLC network configuration. As a result, the ALECs should be able to realize the efficiency of IDLC technology. Witness Tucek affirms that it is possible to modify ICM-FL to utilize IDLC in estimating costs; the TELRIC for the 2-wire loop would fall by $1.39 to $21.55 per month. We cannot discern why, in the modeling of UNE-P, Verizon fails to take into account the use of any IDLC facilities. Based on technical feasibility and efficiency grounds, as set forth in the record, we find that Verizon should assume an IDLC configuration when calculating the rate for a UNE-P.

It appears to us that Verizon's cost studies reflect an appropriate concentration ratio. We agree with witness Tucek that the example proffered by ALEC Coalition witness Ankum on page 1199 of the transcript, in which witness Ankum infers that an increasingly higher concentration ratio lowers the fiber based DLC costs per DS0, is based on the incorrect assumption that the cost of the DLC remains the same even though the number of end users served increases. Witness Tucek adds that as a result, the decreases in the cost per voice grade channel shown on page 1199 of the transcript are misleading. On balance, we find that the concentration ratio modeled by ICM-FL is appropriate.

Finally, we do not endorse ALEC Coalition witness Ankum's claim that Verizon's ICM-FL fails to take full advantage of the efficiencies of fiber facilities. Witness Ankum bases his claim on the argument that (1) remote terminals (i.e., DLCs) should be placed closer to the customer; (2) ICM-FL's use of secondary SAIs increases the amount of copper used; and (3) ICM-FL always assumes that some portion of feeder is copper even if the DLC is fiber-based. We believe that witness Ankum's position that DLCs should be forced further out into the network is at odds with his complaint that ICM-FL models DLCs that are too small and underutilized, as well as with his criticism of Verizon's unbundled DS-1 study.

Further, we find merit in witness Tucek's contention that "ICM-FL's use of secondary SAIs decreases the use of copper and that in order to overcome witness Ankum's objection, ICM-FL would have to place a DLC at the first SAI that is modeled as one moves from the end user towards the central office." Therefore, we believe that in the context of DLC configuration, ICM-FL's modeling of fiber facilities is reasonable.

Thus, we find that the appropriate assumptions and inputs to be used in the forward-looking recurring UNE cost studies for digital loop carrier costs shall be the input values and assumptions for digital loop carrier cost contained in Verizon witness Tucek's testimony and the Verizon cost study; however, when calculating the rate for UNE-P, Verizon should assume an integrated DLC configuration.

VII(n). <u>ASSUMPTIONS AND INPUTS FOR TERMINAL COSTS IN UNE COST STUDIES</u>

Here we consider the appropriate assumptions and inputs for terminal costs to be used in the forward-looking recurring UNE cost studies.

When describing terminal costs, Verizon witness Tucek indicated that Verizon assumes one pedestal for every four units. As an example, he stated that if there were 16 residential units, there would be four pedestals.

Verizon's Loop Module in ICM-FL provides the following information about terminals:

> When drop wires are used, one distribution terminal is assumed for every four residential units and for every four business units. A NID is placed for each unit.
>
> When 25- or 50-pair entrance cables are used, a 25- or 50-pair building terminal is placed. The building terminal serves as the NID. The number of building terminals is equal to the number of entrance cables in a demand unit.

In its response to our staff's Interrogatory 71 concerning terminal costs, Verizon refers the reader to the interoffice transport module section and the algorithms in that section. The algorithms do contain a discussion of SONET terminal equipment.

DECISION

Although the record is extremely limited on this issue, we find that the assumptions and inputs for terminal costs proposed by Verizon are appropriate and they shall be used in conjunction with our changes in all other applicable Sections of this Order.

VII(o). ASSUMPTIONS AND INPUTS FOR SWITCHING COSTS AND ASSOCIATED VARIABLES IN UNE COST STUDIES

Next, we determine the appropriate assumptions and inputs for switching costs and associated variables to be used in the forward-looking recurring UNE cost studies.

The ICM-FL Switch Module uses relevant state-specific unit investment by component for each host and remote switch in Verizon's network. The switch module estimates investments for the following components:

Line terminations - Line side switch connection that connects individual loops to the switching components of Verizon's network.

- Analog, Coin, Integrated Services Digital Network Basic Rate Interface (ISDN BRI), Integrated Services Digital Network Primary Rate Interface (ISDN PRI)

Trunk terminations - Trunk side connection that connects the switching components to other switches.

- Digital DS-0

Call setup and minutes of use (MOU) for the following call types:

- Line to Line (intraoffice)
- Line to Trunk (originating from end office)
- Trunk to Line (terminating to end office)
- Trunk to Trunk (tandem office or host/remote)

> Switched features - Features that enhance end user calling capability such as Custom Calling, CLASS, ISDN and CentraNet [Centrex].

The module also uses Switching Cost Information System (SCIS) and CostMod to develop feature and function investments for each switch and remote in Verizon's service area. SCIS was developed by Telcordia to model investments for features and functions of switching equipment purchased from Nortel and Lucent Technologies. The CostMod on the other hand, is a Verizon proprietary model which is used to provide switch investments for Lucent/AGCS switching technology, specifically the GTD-5 switch. Generally, both SCIS and CostMod calculate the material investment required for basic switching functions. This is done for each type of switch in Verizon's network based on office type, size and usage. These results are then included in the ICM.

Depending on whether the SCIS/CostMod output is a termination/usage investment or a switched feature investment, one of two composite factors will be applied to determine loaded unit investments. The loaded unit investment includes material vendor price, labor, and minor materials required for installation. Additionally, composite factors are developed within the ICM-FL to convert switch material unit investments to loaded investments. The composite factors are themselves made up of factors that are derived outside of the model. Composite factors may include an investment adjustment factor (IAF) and

> . . . loading for EF&I [Engineered, Furnished, and Installed Factors], power, and test investments. The factor for line or trunk terminations and usage also accounts for melded vendor pricing of initial switch purchases and additions.

Furthermore,

> [l]and and building expenses associated with switch investments are captured in the Expense Module. The switch right-to-use fees (RTU) are included in the SCIS/CostMod investment outputs.

The outputs generated by the switch module are used to develop monthly costs for the following:

- Line Terminations
- Trunk Terminations
- Ports
- Switched Features
- End Office Switching
- Average Minutes of Use
- Originating Call Setup, Minutes of Use
- Terminating Call Setup, Minutes of Use
- Intraoffice Call Setup, Minutes of Use
- Switching - AMA Recording (Automatic Message Accounting)
- Tandem Switching
- Average Minutes of Use
- Minutes of Use, Call Setup.

The ALEC Coalition asserts that Verizon's ICM-FL cost model suffers from numerous "fatal flaws." Some of these "flaws" include Verizon's use of a mix of switches, use of the GTD-5 in the cost study, inappropriate weighting of discounts, and requiring ALECs to purchase features piecemeal. ALEC Coalition witness Ankum contends "that the ICM model is an old GTE model that has been put together by GTE costs analysts and reflects a GTE costing methodology and a very different attitude towards what type of pricing they would like to see for their unbundled network elements."

Witness Ankum asserts that Verizon's studies included Lucent, Nortel, and GTD-5 switches. The witness states that there is "75 or 80 percent reliance still on. . . an obsolete and archaic switch architect[ure] of the GTD5, which was formerly manufactured by GTE itself . . ." Witness Ankum goes on to state that, this ". . . explains why Verizon has a legacy of that particular outdated technology in its network." He contends,

> [t]he GTD-5 is not forward looking least cost technology as required by the FCC's TELRIC pricing requirements. The GTD-5 is not used by Verizon elsewhere (other than in former GTE companies), nor is the switch used by any other large ILECs. It should not be included in the forward-looking, least cost switch technology mix.

In its post-hearing brief, the Coalition asserts that we recognized that very fact in Order No. PSC-99-0068-FOF-TP, where we found that GTD-5 switches were not forward-looking switching technology. As a result, we required that the GTD-5 be excluded from switching cost calculations. Additionally, the Coalition states that

> [t]he basis of the Commission's decision was that it was not likely that any carrier would purchase a GTD-5 on a forward looking basis. This is still true.

The Coalition acknowledges that Verizon still purchases the GTD-5 switch, but contends that it is only to ensure "compatibility with the GTD-5 host switches."

The Coalition goes on to assert that Florida is not the only state to reject the GTD-5's suitability for TELRIC pricing. In support, witness Ankum paraphrases a Texas Public Utility Commission (TPUC) order which made the following findings:

- The manufacturer of the GTD-5 is concentrating on providing support functions to maintaining[sic] the switches in operation.
- Except for ordering a remote switch to connect to an existing GTD-5 host, GTE (now Verizon) would not buy a GTD-5 switch today, but would buy either a Lucent 5ESS or a Nortel DMS series switch.
- The GTD-5 switch is not included in GTE's five year investment planning horizon.
- The GTD-5 switch cannot support ISDN service.

In addition, Coalition witness Ankum states, "[t]he Commission should recognize that the TPUC made this finding about six years ago - <u>if the GTD-5 was not forward-looking then, it is hard to imagine that it is forward-looking now</u>." (emphasis added)

Moreover, the Coalition believes that Verizon

> . . . has inappropriately included the discounts it receives for growth lines. This has skewed Verizon's analysis heavily toward the expensive facilities that are placed to accommodate growth. As a result, Verizon's switch investments are greatly overstated. This in turn will cause a significant overstatement in UNE switching rates.

Witness Ankum asserts that switching costs are bifurcated, and that discounts offered by vendors differ between when a switch is initially placed into service and when growth additions are purchased. As a result, Verizon's inputs should reflect costs for switches based on cutover lines only. Witness Ankum further asserts that the appropriate assumptions should be based on a network which is "newly constructed based on existing contracts - existing lines must be valued at the cutover prices."

In support of its position, the Coalition offers § 51.505(b) of the FCC's pricing rules which provides:

> (b) Total element long-run incremental cost. The total element long-run incremental cost of an element is the forward-looking cost over the long run of the *total quantity of the facilities and functions* that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as a given the incumbent LEC's provision of other elements. (emphasis added by witness)

Citing ¶ 685 of the FCC Local Competition Order, FCC 96-325, where the FCC adopted the "scorched node" approach, witness Ankum offers:

> We, therefore, conclude that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that *wire centers will be placed at the incumbent LEC's current wire center locations*, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements. (emphasis added by witness)

Additionally, the Coalition witness cites to a U.S. District Court decision in which it held that the larger cut-over discounts are appropriate under the TELRIC methodology. Furthermore, the Coalition contends in its brief that the FCC has ruled,

> [t]he model platform we adopted is intended to use the most cost-effective, forward-looking technology available at a particular period in time. The installation costs of switches estimated above reflect the most cost-effective forward-looking technology for meeting industry performance requirements. Switches, augmented by

> upgrades, may provide carriers the ability to provide supported services, but do so at greater costs. Therefore, such augmented switches do not constitute cost-effective forward-looking technology.

The Coalition asserts in its brief that if we reject the "scorched node" methodology, "the Commission should adjust Verizon's approach to reflect a more appropriate weighting of the cutover and growth lines." Witness Ankum proposes that the appropriate weighting calculation can be derived by using the following formula:

$$\frac{PV(CP \times \text{number of cutover lines}) + PV(GP \times \text{number of growth lines})}{\text{sum of cutover and growth lines}}$$

where,
(CP) = Cutover Price
(GP) = Growth Price

Exhibit 6, AHA-3, provides calculations for determining the weighting of growth and cutover lines using this method. By using the formula above, witness Ankum states "[t]he result is a weighting of 72% cutover line discount and 28% growth line discount."

The Coalition goes on to assert that Verizon's costs are inflated and ignore switch resources to run features that are already part of the switch. Witness Ankum contends that feature costs are more appropriately included in monthly port charges. Believing that this is more appropriate, he asserts that,

> . . . most of the feature costs are non-traffic sensitive costs and as such are most efficiently recovered on a non-measured basis. In any event, Verizon typically recovers its feature costs in either the monthly charges for the unbundled port or in the per-minute of use charges for unbundled switching.

Witness Ankum argues that other jurisdictions have also found "the cost for *all* features is included in either the port or the per-minute of use charges so that the CLEC can offer the entire bundle of features to its customers without incremental charges for individual features." While he asserts this practice remains true for SBC, BellSouth and others, witness Ankum notes that Verizon proposes offering switch feature on an *a la carte* basis. Furthermore,

> [w]hen Verizon purchases a switch it purchases the hardware and the associated hardware needed to provide the needed switching and features functions. The costs incurred by Verizon for a switch are for the hardware and for the right to use fees for software.

The witness goes on to state,

> [t]he cost of switch features is intertwined in the fabric of the switch software and is most efficiently recovered in the monthly port charges. As noted, there are little or no usage related costs associated with features.

Witness Ankum contends that the price structure that Verizon has proposed is contrary to Verizon's underlying cost structure. The Coalition asserts that "[t]he proposal is highly anticompetitive and is contrary to TELRIC principals[sic] and must be rejected." The Coalition proposes the following action:

- The Commission should order Verizon to include all features in the monthly port costs.

. . .

- The Commission should reject Verizon's feature rates altogether and adopt switch rates no higher than those just recently adopted by the Commission for BellSouth.

The Coalition asserts in its brief and in the testimony it proffered, that because Verizon is the largest ILEC in the country, it should be in a position to obtain switching facilities at costs no greater than what BellSouth incurs. The Coalition states that Verizon's proposed price structure "can only be construed as deliberately anticompetitive." For the reasons stated above, the Coalition believes that Verizon's proposed switching charges fail TELRIC standards.

Verizon asserts that its ICM-FL "models switching costs based upon the forward-looking digital switches Verizon deploys throughout its network." According to Verizon witness Tucek, ICM-FL estimates the forward-looking costs of provisioning service out of Verizon's network in Florida. Furthermore, Verizon contends that

> ICM-FL properly assumes, in accordance with TELRIC, that existing wire center locations and host/remote relationships remain unchanged. Consistent with the FCC's rules, Verizon defines local circuit switching to include all the necessary facilities and functions required to connect end-user loops to a switch card and to facilitate the switching of calls to their proper destination.[3] This definition necessarily includes switch feature costs, which are necessary to provision enhanced vertical offerings. Verizon also proposes TELRIC-based UNE rates for unbundled tandem switching.

Witness Tucek states that,

> . . . ICM-FL designs the network all at once, using currently available, forward-looking technology and the prices for labor, material and equipment that Verizon is actually able to obtain. The network is modeled so that it is capable of serving one hundred percent of current demand, and its components include all the network elements Verizon is required to unbundle (e.g., loops, switches, transport).

> Verizon's argument is centered around three main points:
>
> 1. Verizon's cost studies assume the deployment of forward-looking technology.
>
> 2. Verizon assumes an appropriate mix of new and growth discounts.
>
> 3. Switching feature costs should not be recovered through monthly recurring charges and should only be assessed on a per feature basis.

Witness Tucek argues that GTD-5 switches continue to be purchased by Verizon and that it has no plans to replace the GTD-5s. He contends that Verizon has purchased GTD-5s as late as 2001 and has plans to purchase additional GTD-5 switches in 2002. Witness Tucek asserts that Verizon "will provision UNEs out of a network in Florida that contains GTD-5s in the vast majority of its wire centers because it is economically efficient to do so."

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[3] 47 C.F.R. §51.319(c)(1)(A)

In its post-hearing brief, Verizon claims that ALEC Coalition witness Ankum's "criticisms" regarding GTD-5 modeling in the ICM-FL are "baseless." Witness Tucek asserts that the GTD-5 switches "continue to be marketed and supported by their manufacturer (AGCS), and that Verizon continues to buy line additions and remotes." Additionally, witness Tucek contends that the ALEC Coalition has misinterpreted our finding in Docket No. 980696-TP, Order No. PSC-99-0068-FOC-TP. Witness Tucek claims that although we did exclude the GTD-5 switch in that proceeding, it was because we "did not feel it was representative of costs that would be suitable for generic costs in the USF docket." Verizon asserts that we "never determined that the GTD-5 switch was not representative of Verizon's costs -- the only costs that are at issue in this proceeding."

In its second argument, Verizon witness Tucek asserts that it has properly assumed an appropriate mix of new and growth discounts. The costs modeled by ICM-FL "are based on the prices Verizon pays for initial switch placements and expansion." Witness Tucek states,"[this is accomplished through the use of a discount factor in the SCIS and CostMod runs that reflects the initial switch pricing, and an investment adjustment factor ("IAF") that reflects the pricing of additions."

Additionally,

> . . . discounts were computed . . . based on the total modeled switching costs and on the switch costs resulting from the vendor quotes and the Nortel contract for initial switch purchases. Finally, weighted averages of these discounts across the cluster sizes were calculated. These weighted averages are the discount inputs used in SCIS and CostMod runs for each Verizon Florida wire center.

Witness Tucek contends that "[t]he use of the IAF produces a blended switch cost that appropriately reflects the pricing for both initial switch purchases and line additions."

Verizon disputes witness Ankum's use of cutover lines as opposed to growth lines, calling it "unrealistic." Besides, Verizon witness Tucek claims that using this approach produces a network severed from reality, something which according to Verizon has been rejected on numerous occasions by the FCC and the courts. In support of its position, Verizon offers the following:

> [f]or example, in approving SBC's Kansas and Oklahoma Section 271 applications, the FCC rejected the ALECs' claim that SBC's costs should have reflected significant discounts associated with new switches. The FCC instead relied on the discounts in SBC's current contracts (which reflect primarily add-on switch equipment) in determining the UNE switching rate.[4] Moreover, in upholding the FCC's approval of Bell Atlantic's New York Section 271 application, the D.C. Circuit rejected the ALECs' switch discount argument on similar grounds.[5]

Verizon asserts that the FCC and the courts recognize that ILECs should use a mix of new switches and growth additions.

Verizon argues that "switch features are usage sensitive and should be modeled as such," as opposed to being solely non-traffic sensitive as witness Ankum has alleged. Switch feature costs are derived from (1) the software right-to-use (RTU) fees, (2) special hardware, and (3) the processor time used to activate the features. Although the switches' software components are not usage-sensitive, the other costs are.

Verizon contends that switch feature costs should also be recovered on an a la carte basis. Recovering costs on this basis allows Verizon to charge an ALEC only for what it uses. Verizon notes that several states have adopted this approach. Additionally, the feature-specific rates that Verizon is proposing "are based on each feature's TELRIC plus a reasonable allocation of Verizon's common costs." Verizon goes on, stating that "ALECs should not be required to pay for some of the more costly switch features unless they actually cause those costs to be incurred."

DECISION

A. GTD-5

We believe that Verizon's inputs and assumptions, as they relate to its switching costs and associated variables, are generally reasonable. Verizon's ICM Switch Module uses four (4) digital switch types, including the Lucent 5ESS, Lucent/AGCS GTD-5,

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[4]Kansas-Oklahoma §271 Order at ¶77.

[5]*See* AT&T Corp. v. Federal Communications Commission, 220 F.3d 607, 617-18. (D.C. Cir. 2000).

Nortel DMS-10, and Nortel DMS-100. The argument in this issue centers around the GTD-5 switch. Lacking any record to the contrary, we assume that there is no point of contention with the 5ESS, DMS-10, or DMS-100 switches being forward-looking, least-cost technologies. As such, we find that they are properly included in the switching cost study.

In addressing this issue, we look to 47 C.F.R. §51.505(b)(1), which states,

> (1) Efficient Network Configuration. The total element long-run incremental cost of an element 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 incumbents wire centers.

Verizon contends that each of the switches listed above is forward-looking, exists in its current network, and will continue to be supported in the future. We found nothing in the record to suggest that a contradictory situation exists. Verizon last deployed a GTD-5 switch in December 2000, and purchased line additions for its GTD-5s as recently as April 2002. In similar fashion, Verizon last deployed a DMS-100 switch in August 1992 and a 5ESS switch in November 1994.

Verizon witness Tucek states that Verizon, "will provision UNEs out of a network in Florida that contains GTD-5s in the vast majority of its wire centers because it is economically efficient to do so." We note that Verizon has 88 switches in Florida, not including the REMGTD-5 (133 in Florida), of which 61 (69.3%) are GTD-5 switches. According to Verizon witness Tucek, the GTD-5 switch is also present in 72 of Verizon's 90 wire centers within this state. Verizon's GTD-5 switches serve 1,430,944 lines in Florida, while the 5ESS and DMS-100 switches serve 540,091 and 80,794 lines respectively. In addition, we note that where Verizon has switches that are not one of the types listed above, they have not been included in the switching module. Instead, where a switch exists that is not one of those listed above for a given location, Verizon assumes that one of the switch types listed above has been substituted in its place.

ALEC Coalition witness Ankum would have us believe that because Verizon is the only ILEC to use the GTD-5 switch, and because he believes the switch to be "obsolete and archaic," the switch and the corresponding switching costs are not TELRIC compliant. He bolsters his position by stating that the GTD-5 switch ". . . is not used by Verizon elsewhere (other than in former GTE companies), nor is the switch used by any other ILECs." Although we acknowledge that the record indicates that the GTD-5 switch is not used by any other ILEC, we do not agree with the Coalition's assertion that the GTD-5's inclusion in Verizon's cost study violates TELRIC principles. The fact that Verizon does not use the GTD-5 switch in areas other than former GTE territories, and that no other ILECs use the GTD-5 switch, are not indicative, in and of themselves, of a non-TELRIC compliant switch cost study.

Furthermore, the Coalition's assertion that we found that the GTD-5 switch "was not forward-looking technology" in Order No. PSC-99-0068-FOC-TP needs to be put in context. Verizon witness Tucek agrees that the Order excluded the GTD-5 switch, but adds that it was because we "did not feel it was representative of costs that would be suitable for generic costs in the USF docket." Verizon witness Tucek's belief that we "never determined that the GTD-5 switch was not representative of Verizon's costs - the only costs that are at issue in this proceeding" is correct. What differentiates between the USF docket and the present proceeding is that the USF docket was a generic proceeding where the outcome was applicable to every ILEC. In the current proceeding, the decision from the Verizon track will be applicable to Verizon alone.

Verizon's assumptions and inputs as they relate to the GTD-5 and other switches included in its switching model appear to be reasonable, and are indicative of a forward-looking, TELRIC compliant cost study. Although the GTD-5 may not be a forward-looking technology for other LECs, based on the record here we believe that the GTD-5 appears to be a forward-looking, economically efficient technology for Verizon-Florida. Verizon has indicated throughout the record that it intends to purchase additional GTD-5 switches, albeit as remotes, and has no plans to discontinue the use of the GTD-5 in its network. The ALEC Coalition admits the same, but adds that Verizon is only doing so to ensure host switch compatibility. As such, we believe the inclusion of the GTD-5 switch in the determination of switch costs does not appear to violate TELRIC.

B. <u>PROPER MIX OF OLD AND NEW DISCOUNTS</u>

The ALEC Coalition makes a supportable argument that switch vendor contracts have a bifurcated price/discount structure. Such contracts generally have different prices that apply for facilities when a switch is initially placed as opposed to when a switch is augmented to accommodate growth. We note that both parties appear to acknowledge and accept that differences exist between discounts for new and growth switch placement. Verizon witness Tucek states that the costs modeled by ICM-FL, "are based on the prices which Verizon pays for initial switch placements and expansion." He goes on to state, "[this is accomplished through the use of a discount factor in the SCIS and CostMod runs that reflects the initial switch pricing, and an investment adjustment factor ("IAF") that reflects the pricing of additions." Witness Tucek states that "[t]he outputs of SCIS and CostMod, which only reflect the initial switch pricing, are multiplied by this factor [IAF] to produce a blended switch cost that reflects the pricing for both initial switch purchases and for line additions."

However, we disagree with Coalition witness Ankum's reliance on cutover switches alone as the proper course in determining switch costs in the model. We believe that using only cutover lines creates a pricing situation which is "unrealistic" and "severed from reality." In a footnote to its post-hearing brief, Verizon contends that ". . . Dr. Ankum's proposal to calculate switch prices based on predominately new switches is just a red herring." Verizon correctly asserts that "the FCC and the courts thus acknowledge that TELRIC recognizes that ILECs will use a mixture of new switches and growth additions." As such, the appropriate mix of the new and growth discounts appears to be the real crux of the parties arguments herein.

Witness Ankum's alternate proposal, while retreating from relying on cutover discounts alone, continues to place substantial weight on new discounts. He asserts that an "appropriate weighing[sic] of cutover and discount lines" can be derived by using a formula which he provides in his testimony. Using that formula, the witness' discount proposal indicates a weighting of 72% cutover (new) line discount and 28% growth (expansion) line discount. In comparison, in Docket No. 990649A-TP, we found that a mix of 45% new and 55% growth discount to be appropriate for BellSouth. Order No. PSC-01-1181-FOC-TP, p.242.

Verizon's blended switch costs are appropriate and have been well documented in its filing. In fact, witness Tucek goes so far as to state that "ICM-FL's IAF input is very similar to Dr. Ankum's proposal." At the same time, the Verizon witness adds that witness Ankum's proposal uses different terminology and also includes the total material cost of the switch. He does add, however, that the IAF used in ICM-FL ". . . produces a lower estimate of switching costs than does Dr. Ankum's formula." One of the differences includes Verizon's IAF using a six-year time frame, instead of Dr. Ankum's use of an 18-year switch life, according to witness Tucek. Secondly, witness Tucek states the cost of the additions used in the IAF,

> . . . does not include all of the additional vendor equipment that would be needed over the life of the switch. The development of the IAF input excludes such items as additional host/remote links, software and processor upgrades, or additional network paths. Including these items over the life of the switch would again result in a higher IAF input and higher modeled switching costs.

C. FEATURE COST

The ALEC Coalition also asserts that Verizon's proposed feature costs are "artificially inflated" and should be summarily rejected. Coalition witness Ankum argues that the cost of switch features should be recovered through monthly port charges and states that "there are little or no usage related costs associated with features." As such, the Coalition purports that all features should be included in the monthly port costs. Alternatively, the Coalition proposes that should we not agree, we should adopt switching rates no higher than those approved in Docket No. 990649A-TP (BellSouth Phase).

In support, the Coalition witness contends that "Verizon is the largest ILEC in the country and must be able to avail itself of switching facilities at costs no higher than those incurred by BellSouth." Although it appears on the surface that this argument makes sense, it fails to reconcile contractual differences that may exist among the parties and their preferred vendors. Witness Ankum asserts that including feature costs in the monthly port charges is proper because other jurisdictions have agreed to similar costing. In states where this has been done, witness Ankum states that "the cost for *all* features is included in either the port or the per minute of use charges so that the CLEC can offer the entire bundle of features to its customers without incremental charges for individual features." As an example, the witness offers that this practice is followed by SBC, BellSouth, and Qwest. Conversely, Verizon offers that several states have also adopted *a la carte* feature pricing. Witness Trimble asserts that California, North

Carolina, and Oregon have all previously adopted *a la carte* feature rates for former GTE companies.

ALEC Coalition witness Ankum's proposal regarding features focuses on what appears to be a "cost-shifting" approach. Under witness Ankum's proposal, a customer will share in the recovery of the costs of features whether they use them or not. This would occur if done on a port by port basis, or through the inclusion of per minute charges. As one might expect, this scenario provides an opportunity for some consumers to pay too little and still others to pay too much.

In furtherance of their position, the Coalition offers several cites to the FCC's Local Competition Order (FCC 96-325) to illustrate that feature costs have been included in port charges. Paragraph 410 of the Order states, "[a]s discussed below, we identify a local switching element that includes the basic function of connecting lines and trunks as well as vertical switching features, such as custom calling and CLASS features." Additionally, the Coalition offers,

> 412. We define the local switching element to encompass line-side and trunk-side facilities plus the features, functions, and capabilities of the switch. The line-side facilities include the connection between a loop termination at, for example, a main distribution frame (MDF), and a switch line card. Trunk-side facilities include the connection between, for example, trunk termination at a trunk-side cross-connect panel and a trunk card. The "features, functions, and capabilities" of the local switch include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, trunks to trunks. It also includes the same basic capabilities that are available to the incumbent LEC's customers, such as a telephone number, directory listing, dial tone, signaling, and access to 911, operator services, and directory assistance. In addition, the local switching element includes all vertical features that the switch is capable of providing, including custom calling, CLASS features, and Centrex, as well as any technically feasible customized routing functions. Thus, when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single element on a per-line basis. A requesting carrier will deploy individual vertical features on its customers'

> lines by designating, via an electronic ordering interface, which features the incumbent LEC is to activate for particular customer lines.
>
> FCC 96-325, ¶ 412.

And,

> 414. *At this time we decline to require further unbundling of the local switch into a basic switching element and independent vertical feature elements.* (emphasis by witness) Such unbundling does not appear to be necessary to promote local competition. Indeed, most potential local competitors do not recommend that vertical switching features be available as separate network elements. MCI, AT&T and LDDS believe that such features should be available to new entrants as part of the local switching element. We also note that additional unbundling of the local switching would not result in a practical difference in the way the local switching element is provisioned. As discussed below, when a competing provider orders the unbundled basic switching element for a particular customer line, it will designate which vertical features should be activated by the incumbent LEC for that line. In addition, the record indicates that the incremental costs associated with vertical switching features on a per-line basis may be quite small, and may not justify the administrative difficulty for the incumbent LEC or the arbitrator to determine a price for each vertical element. Thus, states can investigate, in arbitration or other proceedings, whether vertical switching features should be made available as separate network elements. We will continue to review and revise our rules in this area as necessary.
>
> FCC 96-325, ¶ 414.

While the passages provided by the Coalition do appear to support their argument in this proceeding, the FCC did address Verizon's position, albeit briefly, in Paragraph 414. As emphasized above, the FCC specifically recognizes that the "costs associated with vertical switching features . . . may not justify the administrative difficulty for the incumbent LEC or the arbitrator to determine a price for each vertical element." However, the FCC authorized that states may ". . . investigate, in arbitration or other proceedings, whether vertical switching features should be made available as separate network elements."

Verizon witness Trimble asserts that feature costs are more appropriately recovered on a per feature basis and not included in port charges. In support, witness Trimble suggests that the Coalition's proposal " . . . . completely ignores the fact that different end users desire to use different switch features, that the underlying costs for individual features vary dramatically, and that end users add and delete features as they desire." On the other hand, he contends, "Verizon's more reasonable rate proposal is based on its costs filed in this proceeding, the knowledge that end users have differing preferences, and that the Company has the right to recover the costs involved in the provision of switch features to ALECs."

Witness Tucek asserts that,

> [f]eature costs arise from three sources: (1) the right-to-use fees for specific feature packages; (2) special hardware, such as conference circuits, that some features require; and (3) the processor time utilized by feature activation. For example, only a port that corresponds to a Centrex customer can access Centrex features, and only ISDN lines can access ISDN features. Consequently, Verizon's feature costs will depend both on the number and types of features that end-users subscribe too. If access to all features is sold to ALECs on a flat-rate basis, then from their perspective the features have been provided at zero on the price margin. It is reasonable to assume that ALECs purchasing such ports will offer the features at low or zero cost to end users in order to differentiate their services. The success of the ALECs' marketing efforts will consequently determine the actual demand on the switch processor from feature usage -- if it increases enough, it may well be that a larger processor must be installed or that multiple switches will have to be placed.

Witness Trimble contends that witness Ankum's analogy, in which he compares individual switch features to a restaurant selling french fries individually as opposed to by the plate, "fails" for several reasons. Witness Trimble states,

> First, one would expect the cost of each fry to be the same; that is not true for switch features, which vary in cost. Second, the restaurant would know the cost of a plate of french fries, and that cost would not vary from customer to customer--unlike an end user's consumption of switch features. Third, customers are not likely to return one french fry and order a different french fry or request a refund, as consumers of switch features might well do.

As an alternative, witness Trimble offers what he considers to be a "more appropriate restaurant analogy." He states,

> [i]nstead of selling bottles of wine for varying prices that reflect their underlying costs, a restaurant decides to determine the average "per-customer" cost of the wine that it currently sells and offers wine to all customers at that fixed amount (whether or not they actually consume any wine). My guess is that the overall cost structure of the restaurant will dramatically increase, since the number of customers drinking wine will increase and all customers are likely to enhance the quality of the wine they order. Dr. Ankum's proposal is definitely not consistent with cost causation.

Additionally, witness Tucek states that, "to claim that feature costs are mostly non-traffic sensitive ignores the costs arising from specialized hardware and from processor usage, as well as the impact of ALEC pricing to their own end users, on the demand placed on Verizon's switch resources." Based on the record, we agree.

Verizon's *a la carte* proposal is reasonable and defensible as established in the record in this proceeding. However, we also believes that there are alternate rate structures for feature costs that are also reasonable. We investigated, through discovery, the possibility of using feature packages, or in the alternative, recovering feature costs by including them in port charges or local switching charges. Using feature packages, lower cost features (as identified in the price list) could be grouped together. Other, more expensive features, would be separated out and made available for individual purchase. While the Coalition proposed including feature costs with port charges, it did not propose any specific rates in this issue. They did recommend, however, that rates for Verizon should be no more than what we approved for BellSouth in Docket No. 990649A-TP.

There is not a record to justify a finding other than Verizon's *a la carte* proposal. We note that there is nothing in the record which indicates that Verizon's proposed feature-specific costs are incorrect. Instead, the arguments center around the recovery methods for such costs and Verizon's cost model itself. During discovery, our staff asked Verizon to "[p]lease identify the 15 switch features ordered most often by ALECs in Florida." Ultimately, we were told that Verizon does not track such data as it would require a special study.

We also asked Verizon during discovery, "[i]f this Commission were to reject Verizon's a la carte proposal, does Verizon know by what amount port rates or per MOU use rates (or possibly as a separate rate element) would need to be increased?" Verizon simply responded, "no."

Although we believe Verizon's proposal correctly tracks cost causation, we recognize that it may complicate the ordering process. A consumer should pay for what is used, or can be traced to the cost causer. It appears that Verizon's *a la carte* proposal provides a means for doing just that. However, we are concerned that by implementing an a la carte pricing arrangement, Verizon's ordering processes may become too cumbersome and time-consuming, or too confusing for those placing the orders.

D. <u>BENCHMARKING</u>

Although it helpful to look to other state commissions' decisions as a means of gauging the reasonableness and fairness of the parties' proposed rates in a docket such as this, we do not accept those decisions as dispositive in this proceeding. A recent FCC order states:

> . . . we review each issue on its own merits, rather than engaging in any bench marking or other state comparisons. Although such bench marking is advocated . . ., our analysis is complete if it reveals that there are no basic TELRIC violations or clear errors on substantial factual matters, and we do not proceed further to determine TELRIC compliance on the basis of comparisons with other states . . . To do otherwise would put the Commission in the position of establishing benchmark rates for the nation on the basis of the few states where the Commission, thus far, has found state commissions to apply TELRIC correctly. We see no reason to do this as it undermines

> the importance of state-specific, independent analysis of rates for UNE. The Act contemplates the states independently setting rates based on federally established guidelines. It is important to recognize both that costs may vary between states and that state commissions may reach different reasonable decisions on matters in dispute while correctly applying TELRIC principles.

GA/LA 271 proceeding, FCC 02-147, ¶ 24. Moreover, the FCC goes on to state, "[a]s we have previously recognized, separate, reasonable applications of TELRIC principles can produce a range of rates." Id. at ¶ 25.

In the current proceeding the ALEC Coalition, through witness Ankum, purports that because other states have found that the GTD-5 switch is not "forward-looking" and should be excluded from switching cost calculations, that we must do the same. In addition, the witness goes on to assert that because several state commissions have required that feature costs be included in port charges, we should follow suit. We find little merit in either argument.

In the alternative, Verizon witness Trimble states,

> As the Commission has recognized, UNE rates are supposed to be company-specific, which means, in this case, based on the costs Verizon will incur in providing UNEs in Florida with its network. The rates of other companies (regardless of the state in which they operate) are obviously not based on Verizon's costs. The Commission need not (and, indeed, cannot) look to other jurisdictions or use proxies to set Verizon's rates. It need only carefully review Verizon's costs, as presented in Verizon's cost study filed in this case.

Furthermore he asserts,

> Consideration of rates from other states is not, in any event, a responsible basis for ratesetting[sic]. It is very dangerous to consider these other rates without a complete understanding of the context in which they were adopted, including, for example, the inquiry into whether the rates were properly based on forward-looking pricing rules or political or other considerations; and whether UNE ratesetting was accomplished with other objectives.

Given the FCC's statements and the record in this proceeding, it appears that the FCC appears gives a great deal of deference to state commissions operating independently to establish state-specific rates using federal guidelines. Additionally, the FCC recognizes, and allows for, differences in the rates and decisions from state to state as long as TELRIC principles are applied correctly. We believe we have done so in the current proceeding.

Thus, the appropriate assumptions and inputs for switching costs and associated variables to be used in the forward-looking recurring UNE cost studies are those proposed by Verizon, incorporating our changes in all other applicable sections of this Order.

VII(p). <u>ASSUMPTIONS AND INPUTS FOR TRAFFIC DATA IN UNE COST STUDIES</u>

We now decide the appropriate assumptions and inputs for traffic data to be used in the forward-looking recurring UNE cost studies.

Verizon states that it assumes that the traffic data such as minutes of use or call attempts reflect actual traffic levels for the switches in Verizon Florida's network, as well as the usage levels of the end-users served by the ALECs. The traffic data are specific to Verizon Florida wire centers and were taken from the Traffic Sensitive Forecast (TSF) system which is used to collect traffic and usage data for each switch. No other parties took a position on this issue, and we accept the assumptions and inputs used by Verizon for traffic data.

VII(q). <u>ASSUMPTIONS AND INPUTS FOR SIGNALING SYSTEM COSTS IN UNE COST STUDIES</u>

Here we decide the appropriate assumptions and inputs for signaling system costs to be used in the forward-looking recurring UNE cost studies.

Signaling System 7 (SS7) networks include signaling links that transmit signaling information in packets, from a local switch to a signaling transfer point (STP), which is a high capacity switch. Signaling links transmit routing messages between switches, and between switches and call-related databases. Order FCC 99-238, CC DN 96-98, ¶380, footnote 746.

Verizon witness Tucek describes the SS7 Module in Verizon's cost model:

> The SS7 Module calculates the investments needed for a stand-alone signaling network. This signaling network, via connections at end office and tandem switches, governs the operation of the switched telephone network by setting up calls and ensuring efficient utilization of facilities.

He notes that "[t]he SS7 network modeled by ICM-FL is based on the actual locations of the Service Control Points and Signal Transfer Points within Verizon's nationwide SS7 network.

No other party addressed this issue in testimony. The ALEC Coalition, Z-Tel, and COVAD took no position on this issue in their briefs. Verizon also did not address SS7 specifically in its brief, providing only a generic position.

Although no party addressed SS7 specifically, we note that Verizon's proposed rates may be impacted by adjustments made to other inputs in the model that are used to calculate the SS7 rates, such as cost of capital.

Thus, we approve Verizon's proposed SS7 rates and rate structure, subject to changes that result from modifications to specific inputs that are addressed in other sections of this Order.

VII(r). ASSUMPTIONS AND INPUTS FOR TRANSPORT SYSTEM COSTS AND ASSOCIATED VARIABLES SIGNALING SYSTEM COSTS IN UNE COST STUDIES

We now discuss the appropriate assumptions and inputs for transport system costs and associated variables to be used in the forward-looking recurring UNE cost studies.

In its simplest definition, transport system costs and associated variables refer to the costs of transport between wire centers, commonly known as interoffice transport or IOT. As Verizon witness Tucek explains,

> ICM-FL's transport network is based on existing tandem locations, with offices clustered together on SONET rings based on their distance from the tandems. In instances where only two nodes are involved, such as a host/remote

> link or tandem serving a single Verizon switch, ICM-FL models a point-to-point connection.

The Synchronous Optical Network (SONET) rings are sized to accommodate the total interoffice traffic, both switched and non-switched.

Witness Tucek and the cost model methodology note that a difference between Verizon's Integrated Cost Model and earlier versions of ICM is with IOT. The witness explains that previous ICM versions specified end-office assignments to the SONET rings with minimal regard to the existing network. While assignments continue to be made outside the model, the ICM-FL bases assignments on Verizon Florida's network configuration. In this respect, witness Tucek explains that not every hub office on a ring is an access tandem. A hub office is generally a large office on the collector rings. Thus, the modeled network is closer to the network that actually exists in Verizon's Florida operations.

The IOT module develops investments for the outside plant facilities that connect switches and the transmission equipment within wire centers. The facilities consist of specialized transmission (circuit) equipment within wire centers, and outside plant facilities. Witness Tucek asserts that the ICM-FL models the investments associated with these facilities using the most efficient fiber optic equipment and technologies.

Verizon witness Trimble testifies that Verizon proposes three separate categories of local/interoffice transport in this proceeding: (1) common/shared transport, (2) interoffice dedicated transport, and (3) Competitive Local Exchange Company (CLEC) dedicated transport. Witness Trimble explains that common/shared transport is the use of facilities by more than one carrier to facilitate the transport of calls between end-office switches, end-office switches and tandem switches, and between tandem switches in the Incumbent Local Exchange Company (ILEC) network. The rate structure Verizon proposes to recover common and shared transport costs is identical to the switched access rate structure. Witness Trimble explains:

> Specifically, TELRIC costs were developed for transport facilities based on a per MOU, per airline mile (ALM) cost structure. Costs were also developed for transport terminations that facilitate the termination of each transport facility segment at each central office.

Dedicated transport consists of ILEC transmission facilities "that provide telecommunications between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers." Witness Trimble testifies that Verizon offers two types of dedicated transport: (1) interoffice dedicated transport, and (2) CLEC dedicated transport. Specifically, witness Trimble explains:

> Interoffice dedicated transport is similar to common/shared transport (in that it is between two ILEC offices) except that the transport facility is dedicated to one particular customer or carrier. Access to interoffice dedicated transport is provided from the CLEC's collocation arrangement in a Verizon Florida central office through an appropriate cross-connection made on a Verizon Florida digital signal cross connect bay or a fiber distribution frame.
>
> CLEC dedicated transport is defined by Verizon Florida as a transport facility between a CLEC's collocation cage in a Verizon Florida central office and a CLEC's switch or facility office within the local exchange area served by the specific Verizon Florida central office where the collocation cage is located.

Verizon proposes rates for three capacity-based categories of direct-trunked transport between two offices: (1) a single channel voice grade or digital facility (DS-0 level facility), (2) a DS-1 level facility, and (3) a DS-3 level facility. The rate structure for the transport facilities is based on a per central office termination basis as well as a per airline mile basis.

Regarding CLEC dedicated transport facilities, Verizon will offer four different types of facilities: (1) 2-wire, (2) 4-wire, (3) DS-1, and (4) DS-3. Witness Trimble asserts that if facilities do not exist between Verizon's central office and the CLEC switch location, Verizon is under no obligation and will not build new facilities for provisioning of this offering.

Network Design/Model Approach

Verizon's IOT network connects the various switching nodes to each other. The nodes consist of end office switches, remote switches, and tandem switches. Remote switches home on host end office switches, and end office switches home on tandem switches.

Fiber transport routes are constructed in a synchronous optical network (SONET) ring design. This design provides route diversity, meaning that in the event of a fiber cable cut or terminal node failure, the traffic is automatically re-routed over the remainder of the ring. SONET rings, using add/drop multiplexers (ADMs) and fiber facilities, comprise Verizon's interoffice network. In this way, Verizon claims that the least-cost, efficient technology is modeled for IOT. The transport module assumes each SONET ring can have a minimum of three and a maximum of eight nodes. If more than eight nodes are connected to a hub office, two or more rings are configured.

Point-to-point transport facilities are used when only two switching nodes need to be connected. These include connections between hosts and remotes, hosts and non-Verizon tandems, and two hosts (when only two nodes need to be connected).

The model methodology explains that the function of the node is to pull traffic from the ring to be terminated at that node, to add on traffic from the node destined for other nodes, and to route traffic which is transiting the node to other nodes on the ring. Because the traffic on the ring enters and exits the node at an optical level, a conversion from optical to electrical signals is required either by add/drop multiplexers (ADM), or the OC-3 point-to-point system for point-to-point traffic.

Once at the DS-3 or DS-1 level, the lines are physically cross-connected to their points of termination in the wire center, and in some cases, further demultiplexed to either DS-1 or DS-0 level.

Based on IOT requirements and SONET ring technology, five typical office configurations have been developed. These represent Verizon's existing engineering practices. The five configurations include: End office w/OC-3 Point-to-Point w/DS-1, end office w/OC-3 Point-to-Point w/DS-3, end office on OC-12 Ring, end office on OC-48 Ring, and tandem or tandem/host end office OC-48 Ring.

Network Components

The major network components included in Verizon's five modeled IOT configurations include the following:

- Outside plant facilities
- Add/Drop Multiplexers (ADMs)
- OC-3 Point-to-point equipment

- Fiber Distribution Panels
- Channel Banks
- DCSs (Digital Cross-Connect Systems)
- 3/1 Multiplexer (Mux)
- DSX-x (Manual Cross Connect)

The model methodology explains that outside plant facilities include the material and installation costs for aerial, buried, or underground fiber cable, and support structures such as poles or conduit. Further, the material and installation costs for these facilities are the same as those used in the loop module.

Transport equipment includes the material and installation costs specific to IOT central office equipment. The equipment includes fiber distribution panels, ADMs, associated DS-3 and DS-1 cards, point-to-point optical-to-electrical converters, channel banks, cross-connect systems (DCS-x and DSX-x systems), and 3/1 Mux systems.

ADMs are used with OC-12 and OC-48 SONET rings and convert signals between optical and electrical. The electrical signals can be at the DS-1 or DS-3 level.

OC-3 point-to-point equipment converts optical signals and electrical signals, at either the DS-1 or DS-3 level, depending on demand at the node.

Fiber distribution panels serve as the interface between the ADM and the outside plant facilities. The fiber cables from the outside plant environment are terminated on the panel and connected to the ADM equipment using fiber patch cords.

Channel banks are multiplexers that combine 24 voice grade and/or data circuits into a DS-1. They are used primarily in offices that require DS-0 special access circuits.

DCSs are used to multiplex and demultiplex electronic signals and act as a means to electronically cross-connect facilities. These are sometimes referred to as Digital Access and Cross-Connect Systems (DACS).

3/1 Mux systems are used in smaller switch nodes to multiplex and demultiplex between DS-3 and DS-1 levels.

Manual cross-connect systems allow two types of manual cross-connections: DSX-3 for DS-3 level signals and DSX-1 for DS-1 level signals.

Data Inputs

Besides the material and placement costs of central office transport equipment and fiber cables including support structures, the following items are data inputs to the transport module:

- Switching node data
- Ring number
- Tandem owner
- Number of DS-0, DS-1, and DS-3 special access lines associated with each host or remote office
- Interoffice plant type

The switching node data includes the end office CLLI code, CLLI code for the end office that serves as a gateway to an out-of-franchise tandem, and CLLI code for remote offices. The ring number designates the node clustering determined during pre-processing. The tandem owner designates whether the tandem switch is owned by Verizon (in-franchise) or not (out-of-franchise). The interoffice plant type determines whether the fiber cable is aerial, buried, or underground.

During pre-processing, Verizon's existing switching configuration is used to group offices by tandem areas. Network planning SONET ring diagrams are then used to determine the clustering of end offices to a hub.

The user adjustable settings in the IOT module include:

- Administrative fill
- Intra-ring factor
- Aerial span
- Buried span
- Air to route ratio

The administrative fill relates to the maximum capacity, or percent, for the number of interoffice circuits taking into account maintenance, spares, and defective material. The input is 100 percent, indicating no provision for administrative spare.

The intra-ring factor is the percentage of traffic that originates and terminates on the same ring. The IOT module assumes an intra-ring factor of 60%.

The aerial span is the typical distance between aerial fiber splices; the buried span is the distance between buried splices in transport facilities. The aerial span assumption in the IOT module is 872 feet; the buried span is 1,142 feet.

The air to route ratio converts airline miles to route footage (miles). The factor represents route distance divided by airline distance. The ratio used in the IOT module is 1.3.

Modeling Process

The IOT module:

- develops the SONET rings and point-to-point configuration;
- calculates distance between hosts and remotes;
- determines the length of interoffice facilities;
- determines the total traffic on each ring and host/remote link and sized facilities;
- determines the equipment configuration at each node; and
- calculates investments by CLLI code and passes them to the Mapping/Report Module where expense calculations are performed to convert them into monthly costs

In developing the ring configuration and length, the ICM examines the end and hub offices clustered during pre-processing and determines each node's position on the ring. Witness Tucek describes a hub office as generally a large office but not necessarily an access tandem. As discussed earlier, two or more rings are required in hub office service areas having more than eight switch nodes. In this way, all end office switches are on a ring, including the hub office, thus ensuring that traffic between any end office and its hub office can be carried on a single ring.

If the tandem switch is out of the franchise area, the non-Verizon tandem is not part of a ring, and is directly connected to the nearest end office, called the gateway office. In such cases, only end offices are on the ring. When fewer than three end offices are clustered, the nodes are lined in a point-to-point configuration.

After all the interoffice links between nodes are determined for all offices, the total length of facilities connecting the nodes is calculated. The algorithm for interconnecting the nodes on a ring first determines the office closest to the hub office. The next closest office is the next node connected to the ring. This process continues until all nodes are included on the ring. The last office is then connected to the hub office to complete the ring.

Based on Verizon's current homing arrangement, the distance between hosts and remotes is determined. The distance is calculated by combining the fiber feeder routes and interoffice only airline distances. The airline distances are converted to route distances using the air-to-route mile ratio.

Total interoffice demand is used to size the ring and point-to-point facilities. This includes both the demand for DS-1 ports for switched services and the demand for DS-0, DS-1, and DS-3 facilities for non-switched services (special access lines).

After the lengths of all links on the ring and all point-to-point routes are determined, outside plant facilities costs are modeled in the same manner as fiber feeder cable in the ICM-FL loop module. The same aerial, buried, and underground plant mix percentages and structure sharing that are input for fiber feeder are used to determine interoffice placement investment. Structure investments are also modeled in the same manner as fiber feeder except that interoffice placement investment is adjusted to reflect the facilities shared with fiber feeder routes.

Outputs

Outputs of the IOT module are used to develop the monthly costs for transport Basic Network Functions (BNFs). BNFs are mapped onto services or Unbundled Network Elements (UNEs). The typical transport UNEs are: DS-1 to Voice Grade (DS-0) Multiplexing, DS-3 to DS-1 Multiplexing, Direct Trunked Transport-Voice Facility (facility per mile and termination), Direct Trunked Transport - DS-1 (facility per mile and termination), Direct Trunked Transport - DS-3 (facility per mile and termination), and Common Transport (termination setup, minutes of use (MOU), and average MOU; mile setup, MOU, and average MOU).

Witness Ankum argues that Verizon's proposed charges for DS-1 loops and multiplexing are inflated, citing low fill factors for the

SONET-based transport. The witness argues that Verizon's proposal of $240.52 for a DS-1 unbundled loop (statewide average) is unrealistically high when compared to similar rates charged by Verizon in other jurisdictions and charged by some other Regional Bell Operating Companies (RBOCs). In fact, the witness notes that Verizon's proposed rates are nearly 400% greater than in some other state jurisdictions, and specifically higher than rates we approved for BellSouth by Order No. PSC-01-1181-FOC-EI. Witness Ankum testifies:

> Much of the costs are calculated in the "black-box" ICM model, and thus the source of the inflated costs can not be determined, with certainty.

Witness Ankum asserts that Verizon's DS-1 unbundled loop study is problematic because it allows only for limited auditing. The wire center input data, witness Ankum alleges, is hardcoded, making it impossible to determine the origin or discern the calculations. Notwithstanding this, however, the witness alleges that the high rates are tied to Verizon's use of a low DS-1 fill factor.

Witness Ankum explains that Verizon's cost study identifies four potential DS-1 delivery architectures and weights each of these to arrive at a single, weighted average cost for DS-1 loops delivered in each wire center. This weighted average DS-1 cost is Verizon's proposed TELRIC basis for its DS-1 unbundled loop rates.

Regarding the four delivery architectures, witness Ankum testifies:

> DS1 transmission facilities can be accommodated in the telecommunications network via a number of delivery methods. For example, a 4-wire metallic loop facility with applicable electronics can support a single DS1 transmission signal while fiber-optic based "Optical Carrier" ("OC-N") systems can be used to accommodate a large number of DS1 transmissions. In some circumstances an ALEC may order a DS1 facility in an area where Verizon has an active OC-3 or OC-12 system thereby allowing Verizon to simply assign a small portion of the much larger OC-N system for purposes of accommodating the DS1 request. In general terms, the larger the system being used to deliver the DS1 signal (all else being equal), the lower the per DS1 cost (because of substantial production-economies of scale).

Witness Ankum notes that Verizon's cost study supports this point by showing costs per DS-1 decreasing by nearly 75 percent when comparing the single DS-1 loop provisioned over metallic facilities with those DS-1s delivered via an OC-12 system.

However, even though the OC-3 is a less expensive delivery method than the simple metallic method, Verizon's assumed fill factors result in an opposite effect. As witness Ankum analyzes, the OC-3 delivery method becomes the second most expensive method available. Verizon's more efficient least-cost optical transmission technology becomes more expensive than the most expensive four-wire metallic technology. To correct this, witness Ankum recommends a fill factor of 90 percent for OC-N equipment. As an alternative, witness Ankum recommends that Verizon be required to recalculate its DS-1 costs using the 4-wire metallic method of delivery as identified by its own cost study as being the least-cost method. Even so, the witness notes that his alternative recommendation would not result in reasonable TELRIC-based rates but would rather serve as a maximum level. "Obviously there will be circumstances wherein economies of scale will allow the delivery of DS-1 transmission on OC-N facilities at costs less than those experienced in dedicating a 4-wire metallic facility to the job." For this reason, the witness concludes that Verizon should be directed to re-run its DS-1 study assuming a 90 percent fill factor for all fiber-based "circuit equipment."

Regarding Verizon's proposed multiplexing rates to use in combining loops and transport in an Enhanced Extended Link (EEL) arrangement, witness Ankum also expresses concerns. Witness Ankum compares Verizon's proposed monthly recurring multiplexing rate of $517.71 for DS-3 to DS-1 multiplexing with the $211.19 rate approved for BellSouth by Order No. PSC-01-2051-FOC-TP, Verizon's approved rate of $364.60 in New Jersey, and Verizon's approved rate of $262.31 in Michigan. (Order No. PSC-01-2051-FOC-EI, p. 49; NJ Board of Public Utilities, Docket No. TO00060356, Attachment, p. 3; Ameritech tariff M.P.S.C. No. 20R, Part 19, Section 12, 2nd Revised Sheet No. 27). The witness notes that again Verizon's proposed rates in Florida are much higher than the average of comparable rates by approximately 185 percent.

Witness Ankum explains that Verizon calculates multiplexing rates in its ICM model and he is unable to view the actual calculation that translates the material costs into TELRIC costs. "I can only review the computer code that is used to compute the Verizon numbers and these provide little additional information."

As a result, the witness is unable to discern the exact reason why Verizon's proposed rates are so much higher than others. His suspicion, however, is that the problem lies with the fill factor and recommends a 90 percent fill factor for all central office non-switch equipment.

In response to witness Ankum's allegations regarding Verizon's unbundled DS-1 loop rates, Verizon witness Tucek argues that the ALEC Coalition witness' recommendation would base UNE costs on a network operating nearly at capacity. Witness Tucek explains:

> Dr. Ankum's criticism of Verizon's unbundled DS-1 study centers on his disagreement with the fill factors used in developing the costs of the fiber-based systems. His recommendation that a 90 percent fill implies that the average site served by the smallest modeled fiber system would require more than 25 DS-1 circuits, or 600 voice-grade equivalents. Basing costs, and rates, on a fill that exceeds the actual realized fills upon which Verizon's cost study is based means that total costs will not be recovered.

Witness Tucek asserts that Verizon's fill factors represent the utilization actually realized in Verizon's existing network. "There is no reason to expect the level of utilization to miraculously increase to 90 percent."

Witness Tucek testifies that the DS-1 TELRIC rates are based on the weighted average of provisioning DS-1 circuits over metallic and fiber facilities. Additionally, witness Tucek states:

> The costs of provisioning DS-1s via metallic facilities are based on the 4-wire loop costs modeled by ICM-FL for each wire center, plus the cost of the circuit equipment needed to create the DS-1 circuit. The costs of provisioning DS-1s via a fiber facility are based on the cost of three fiber systems: (1) an OC3 system equipped for 28 DS-1s, (2) an OC3 system equipped for 84 DS-1s, and (3) an OC12 system equipped for 336 DS-1s. The costs of the fiber facilities for the fiber systems are based on the average loop length modeled by ICM-FL for business loops in each Florida wire center.

Witness Tucek explains that the fiber system and facility costs are divided by the corresponding number of DS-1s to obtain a cost per DS-1 assuming 100 percent utilization. These costs are then divided by the fill factor associated with each configuration to obtain a cost per provisioned DS-1. The costs per provisioned DS-1 are averaged to arrive at an average cost per provisioned DS-1 for each wire center. The averaging is based on weightings of the actual number of circuits provisioned in the state for each facility type and represent the likelihood that a given unbundled DS-1 will be provisioned via one of the four methods (metallic facility, 28 DS-1s or 84 DS-1s on an OC-3 system, or 336 DS-1s on an OC-12 system). Witness Tucek testifies that costs are driven primarily by the cost of the metallic facility and the cost of the 28 DS-1s on an OC-3 system configuration. The statewide average is $210.83 per DS-1 per month.

Regarding fill factors, witness Tucek testifies that 100 percent fill is used for the metallic facility because these costs already reflect ICM-FL's modeled utilization. A 33.3 percent fill is assumed for the fiber facilities to reflect the use of 4 fibers out of a 12-fiber sheath. Witness Tucek explains that the fills for the three fiber systems are "based on the actual number of provisioned circuits divided by the system capacity on a statewide basis."

Witness Tucek explains that the development of the DS-1 loop facility costs are found in the "FLHICapWtg.xls" and "FL Fiber Loops.xls" spreadsheets in Verizon's cost study filing. According to the witness, the latter file models the fiber terminal and facility costs. Witness Tucek explains that the facility costs vary by wire center and are based on the average modeled loop length for business lines.

Witness Tucek argues that ALEC Coalition witness Ankum fails to realize that the fills are based on provisioning DS-1s to specific locations in Verizon's actual network. The witness explains:

> In order to achieve the 90 percent fill recommended by Dr. Ankum for the smallest of the three fiber systems, the average number of DS-1s provided at each location would have to be 25.2 (28 x 0.9) - on a voice grade basis, this is more than 600 circuits.

Witness Tucek asserts that this assumption is not representative of Verizon's experienced DS-1 average demand characteristics.

Finally, witness Tucek argues that costs and rates based on fill factors greater than the average fill, as the ALEC Coalition's witness Ankum recommends, will result in an under-recovery of total costs. To illustrate this, the witness provides a comparison between assuming a target fill of 85 percent, greater than the average realized fill, and assuming averaged realized fill. Witness Tucek concludes that his illustration is clear evidence that Verizon will not recover its total costs if the target fill factor rather than the average fill level is used.

Regarding the ALEC Coalition witness Ankum's allegation regarding Verizon's inexplicably high multiplexing rates, Verizon witness Tucek offers no rebuttal.

Verizon witness Trimble argues that Verizon's UNE rates should be based on the costs the company will incur with its network. The witness argues that the rates of other companies are not based on Verizon's costs and are therefore no basis for setting Verizon's rates. Moreover, witness Trimble asserts:

> It is very dangerous to consider these other rates without a complete understanding of the context in which they were adopted, including, for example, inquiry into whether the rates were properly based on forward-looking pricing rules or political or other considerations; and whether UNE ratesetting was accomplished in conjunction with other objectives.

DECISION

The ICM-FL IOT costs and associated variables are based on Verizon's existing tandem locations. SONET ring architecture using ADMs and fiber facilities comprises Verizon's IOT network.

The fill factors used represent Verizon's actual utilization in its existing network. A fill factor is explained as a measure of the overall utilization of a given piece of equipment or plant. ALEC Coalition witness Ankum asserts that the rate of utilization is one of the main cost drivers of central office terminals, so there needs to be some understanding of what the rate of utilization is and where it can be changed so sensitivity runs can be made.

Multiplexing is the combining of two or more channels into one single channel for transmission over the telecommunications network. Interoffice dedicated transport (IDT) and multiplexing, either DS-3 or DS-1, may be combined with loops, either DS-3, DS-1, or 2- or 4-wire loops for EELs. EEL combinations may be comprised of DS-3 IDT with a DS-3 loop, DS-1 IDT with a DS-1 loop, or voice grade transport with a voice grade loop. The recurring and non-recurring rates for EELs are discussed in detail in Issue 12 (b). The discussion in this issue will pertain only to multiplexing and transport rates.

ALEC Coalition witness Ankum argues that Verizon's proposed DS-1 loop rates and multiplexing rates are inexplicably high when compared to similar rates charged by Verizon in other jurisdictions and by some other RBOCs. Witness Ankum asserts that the ICM "black-box" makes it difficult to determine the source of the inflated costs with any certainty.

Witness Tucek explains that the DS-1 loop study was modeled outside the ICM in an "outboard study." This study reflects the cost of provisioning DS-1 and DS-3 loops based on the customer-specific remote terminals in Verizon's network. The study is based on the systems that are actually being used today to provide service.

Verizon proposes rates for DS-1 and DS-3 high capacity loops. Witness Trimble explains:

> A DS-1 loop is generally a 4-wire loop that has been conditioned to support DS-1 transmission, including associated electronics. It can be used to provide full-period services (e.g., private line) and switched services (e.g., ISDN Primary Rate Interface) to end-users. In contrast, DS-1 UNE loops are necessarily provisioned over fiber optic cable and include the electronics necessary to facilitate DS-1 transmission.

The ALEC Coalition's witness Ankum argues that Verizon's high DS-1 loop rates are tied to Verizon's use of low fill factors. Witness Ankum asserts that costs decrease as the transmission system size increases due to the production economies of scale associated with the larger delivery system. Indeed, Verizon's cost study verifies this point by showing costs per provisioned DS-1 decreasing as the transmission system increases from a metallic facility to an OC-3 system and an OC-12 system. However, witness Ankum argues that Verizon's fill factors result in the more efficient, least-cost optical technology being more expensive than the most expensive metallic technology. For this reason, the witness recommends a fill factor of 90 percent for all fiber-based circuit equipment. As an alternative, witness Ankum recommends that Verizon be required to recalculate its DS-1 costs using the metallic transmission as identified by its cost study as being the least-cost method.

Verizon's witness Tucek argues that Verizon's fill factors represent its actual realized utilization in its existing network. The witness rebuts the ALEC Coalition's recommended 90 percent fill factor, stating that such a fill exceeds the actual realized fills upon which Verizon's cost study is based and will result in an under-recovery of total costs.

We appreciate the frustration of the ALEC Coalition in trying to determine the origin and understanding the calculations of input data to the ICM or Verizon's "outboard" high capacity fiber cost study that determines DS-1 loop rates. However, we agree with Verizon witness Tucek that a 90 percent fill factor is not credible either. When asked to explain all assumptions and to identify the sources of the data used in the development of transport system costs and associated input variables, Verizon merely responded by referring to the transport model methodology and algorithm documentation. Furthermore, while Verizon notes that the costs for unbundled DS-1s, riser cable, and dark fiber rely on fill factors, it does not offer any discussion regarding the derivation of any fill factors used.

Verizon argues that its UNE rates should not be compared to those of other companies without a complete understanding of the context in which they were adopted. Nonetheless, we believe a review of the rates of other companies can be used as a reasonableness check, and Verizon's resultant rates do not fair well. Verizon offers no justification why its DS-1 loop rate is so much higher than that approved for other companies, both in Florida and in other jurisdictions. As noted above, Verizon also failed to explain how the fill factors used in the DS-1 loop study were determined.

In reviewing Verizon's outboard studies, we note that the metallic DS-1 loop costs from the ICM-FL are inputs to both the fiber loop study as well as the high capacity loop study. The inputs are proprietary, and so we do not address the individual loop costs for each wire center. Verizon provides the following documentation for locating the metallic DS-1 loop costs that are subsequently input into the above two outboard studies:

> The values in the column are from the Metallic DS1 loop results from ICM with non-BNF advertising, marketing, Billing and collection and directory costs removed.

Based on the above documentation, we calculated the metallic DS-1 loop costs for each wire center in an attempt to replicate Verizon's inputs. We began with the ICM loop costs and then removed the non-BNF costs consisting of advertising, marketing, billing and collection, and directory costs. However, our derived results do not match those identified by Verizon. Curiously, though, the difference between the DS-1 loop costs we derived in accord with the model documentation and Verizon's cost results contained in the outboard study is consistently the same for each wire center. While we are unable to reconcile completely the differences, we suspect that Verizon's outboard studies may not have been updated from Verizon's previous filing in May 2001, that was subsequently withdrawn and refiled on November 7, 2001. The previous filing is not in the instant record.

The ALEC Coalition criticizes Verizon's multiplexing rates but surmises the problem also lies with the fill factors. Witness Ankum asserts that he is unable to review the calculation that translates the material costs into TELRIC costs. However, in comparing Verizon's proposed recurring monthly rate of $517.71 with rates approved for other companies, witness Ankum argues that Verizon's rate is clearly outside the range of reasonableness. The ALEC Coalition recommends a 90 percent fill factor for all central office non-switch equipment.

Verizon offers no rebuttal to the ALEC Coalition's allegations regarding its proposed multiplexing rates. As noted earlier, we share the ALEC Coalition's frustration in trying to discern why Verizon's proposed multiplexing rates are so much higher than other companies. Certainly, Verizon has not made the task easy.

We believe several alternatives are available in resolving this issue. First, we can accept Verizon's inputs for transport system costs and associated variables with our adjusted DS-1 loop costs derived in accord with Verizon's model documentation as well as adjustments made in other issues. Second, we can accept the ALEC Coalition's recommended 90 percent fill factors for all central office non-switch equipment and fiber-based equipment. Third, we can direct Verizon to refile its cost studies recalculating the DS-1 costs using the metallic transmission facility identified by Verizon as being the least-cost method. Fourth, we can acknowledge the lack of supporting documentation and logic and adjust Verizon's fill factors and reduce our derived DS-1 loop cost by the unexplained difference occurring between the costs derived in accord with Verizon's model documentation and Verizon's proposed DS-1 loop cost inputs.

Supporting the first alternative is problematic given the concerns discussed above. Verizon's DS-1 loop rates and multiplexing rates are out of line with similar rates of other companies. Additionally, Verizon's cost studies make it extremely onerous in determining the source of the inputs Verizon used in developing these rates.

The second alternative is also problematic. Accepting the ALEC Coalition's recommended 90 percent fill factors would, in reality, base costs and rates on fill factors that not only exceed Verizon's actual realized fills but result in a system operating at near capacity and are not likely achievable. For example, one of the fiber-based systems modeled by Verizon is an OC-3 system engineered and wired with 28 DS-1s. The maximum capacity of this system is 33.3 percent, based on the ratio of the 28 engineered and wired DS-1s to the maximum number of DS-1s on an OC-3 (84 - 28 DS-1s X 3). Thus, the ALEC Coalition 90 percent fill factor is unrealistically high.

Accepting the third alternative would involve Verizon recalculating its costs and rates based on a technology that the parties appear to agree should not be considered as the least-cost most efficient. It is only by default that this alternative is recommended by the ALEC Coalition and even so, witness Ankum contends that the results would not be TELRIC-based rates, but would rather serve as a maximum level. We are concerned that this alternative would necessitate taking additional evidence that would generate additional rounds of discovery, resulting in additional delays in the ultimate conclusion of this proceeding.

The fourth alternative represents the best solution because Verizon bears the burden of proof. See Florida Power Corporation V. Cresse, 413 So.2d. 1187 (Fla. 1982) As noted previously, we were unable to replicate Verizon's DS-1 loop costs based on the model documentation provided. An inexplicable difference exists between Verizon's modeled costs and the costs derived in accord with the documentation. We are concerned by the difference and the fact that it is consistently the same for each wire center. Verizon's model documentation does not validate its DS-1 loop cost inputs. We believe the metallic DS-1 loop cost inputs should be determined in accord with Verizon's documentation for each wire center recognizing adjustments recommended in other issues. These resulting amounts should then be reduced by the unexplained difference occurring between the documentation and Verizon's results.

According to Verizon's high capacity loop study, the first fiber configuration, an OC-3 system, engineered and wired with 28 DS-1s, carries the bulk of the traffic. For this reason, this configuration is very sensitive to the fill factor used. The maximum capacity of an OC-3 system is 33.3 percent. Verizon's assumed fill factors are significantly lower than the maximum capacity; the ALEC Coalition's proposed 90 percent capacity is unrealistically high. We believe that, for a forward-looking study, it would be reasonable to use an 85 percent engineering capacity benchmark. Applying this benchmark to the 33.3 percent maximum fill of the smaller OC-3 fiber system modeled by Verizon yields a 28 percent fill factor (33.3 percent X 85 percent). We believe this value is appropriate to be used in Verizon's DS-1 loop study for the OC-3 system engineered and wired with 28 DS-1s.

Thus, the appropriate assumptions and inputs for transport system costs and associated variables to be used in the forward-looking cost studies in this proceeding are those included in the cost studies filed by Verizon, with those modifications set forth above and in all other applicable sections of this Order.

VII(s). <u>ASSUMPTIONS AND INPUTS FOR LOADINGS IN UNE COST STUDIES</u>

Here we look at the appropriate assumptions and inputs for loadings to be used in the forward-looking recurring UNE cost studies.

Verizon witness Tucek provided limited testimony regarding loading factors included as inputs in the Florida version of the company's Integrated Cost Model. No other party provided testimony addressing this issue. Information found in the ICM methodology, as well as discovery responses, form the basis for our findings regarding the appropriate assumptions and inputs for loading factors.

Verizon states that the ICM-FL uses essentially two loading factors: material and engineering. According to discovery responses and the ICM model methodology, the GTE Advanced Materials System (GTEAMS) is the source of base unit prices used in the ICM material table. The default unit price of materials found in GTEAMS does not include any loadings. Loadings are included as inputs to the material unit costs as opposed to being developed in ICM-FL. As noted in Section VII(i), Verizon's material costs have been submitted as proprietary in this proceeding.

Verizon's material and engineering loading factors are developed by plant account and are not differentiated by the size or type of cable. These factors are developed as percentages, and then applied to the material unit costs, resulting in fully loaded material costs. Material loadings are accounted for in ICM-FL through supply (sales tax, freight, and provisioning) and minor material loading factors; engineering labor is accounted for through engineering factors.

A. MATERIAL LOADING FACTORS

The material loading factors include factors for supply and minor materials. The supply factor is comprised of factors for freight, sales tax, and provisioning expense and is applied to both major and minor material.

B. FREIGHT

Verizon explains that a freight loading factor was developed using 2000 actual costs. The factor of 2.9 percent is based on total freight charges divided by total purchases. "Freight loading rates are applied to all inventory issued to final accounts as well as all material/equipment purchases charged direct to final capital or expense accounts." The database containing the source data used in developing the freight factor is Verizon's SAP 3T database.

C. SALES TAX

Sales tax is the actual rate for Florida (.0635).

D. PROVISIONING RATES

According to discovery responses, provisioning is the charge that Verizon Supply passes on to Verizon Network Services for procuring, warehousing, and handling of material. Verizon Supply provides a prorated bill for handling inventory. Based on a 1995 time study by Verizon Supply, a percentage is established for each line of business to be loaded against the particular type of material. However, Verizon was not able to provide this referenced time study, stating that it no longer exists. Verizon states that the spreadsheet showing the development of the provisioning, freight, and supply loading factors is located in Texas.

Verizon's 2000 supply loading factors for Florida are shown in Table 7(s)-1 below:

Table 7(s)-1: Supply Loading Factors

Account	Freight	Sales Tax	Provisioning	Total Supply
Circuit	.0290	.0635	.0486	.1411
COE	.0290	.0635	.0486	.1411
Fiber Cable	.0290	.0635	.1880	.2805
Metallic Cable	.0290	.0635	.1880	.2805
Pole	.0290	.0635	.1880	.2805
Wire	.0290	.0635	.1880	.2805

Source: EXH 18, p. 15.

Verizon's material loading factors combine both the minor material and supply loading factors into one material loading factor that is then applied to the material unit base cost. The factors are based on 2000 historical data and represent the costs associated with procuring plant to be placed into service.

E. MINOR MATERIALS

According to Verizon, minor materials include items whose costs are not significant enough to warrant separate accounting tracking. These are items for which no specific account has been explicitly identified but are used in conjunction with other major network components. An example is cable lubricant, which is used in the installation of underground cable. The cost of cable lubricant is treated as a minor material and is included as part of the cost of the cable.

Verizon develops minor material loading factors for central office equipment/circuit equipment, metallic cable, fiber cable, and poles. The factors are based on a ratio of direct purchases and/or issuances out of stock of minor materials by plant category. Minor materials are then loaded as a rate applied to major material investments by plant category. The factors were developed using

2000 actual costs for central office/circuit equipment, metallic and fiber cables, and poles.

The material loading factors are calculated by adding the current minor material loading factor, and the supply factor multiplied by 1 plus the minor material loading factor for the appropriate equipment class. The 2000 material loading factors for Florida are shown in Table 7(s)-2 below:

Table 7(s)-2: Material Loading Factors

Account	Supply	Minor Materials	Material Loading
Circuit	.1411	.13112	0.29072
Central Office Equip.	.1411	.13112	0.29072
Fiber Cable	.2805	.90522	1.43963
Metallic Cable	.2805	.90522	1.43963
Pole	.2805	.61020	1.06185
Wire	.2805	.90522	1.43963

Source: EXH 18, pp. 15-16.

Verizon witness Tucek testifies that:

> The material prices for switches are based on Verizon's contracts with switch vendors, and include loadings for vendor and Verizon engineering and installation costs, supply expense, and costs of acceptance testing. Additionally, loading factors are applied to the material costs to reflect the cost of power and test equipment.

Verizon's loading factors for Signaling System 7 (SS7) include a hardware minor material/supply factor, a software minor material/supply factor, an engineering labor rate per hour, an installation labor rate per hour, and a maintenance/testing labor rate per hour. The SS7 loading factors are not Florida specific. According to Verizon, the SS7 module contains investment for Virginia, Indiana, and California. As such, each of these states' material loadings are used in developing investment for SS7 as these are more representative of the costs at these locations.

F. ENGINEERING LOADING FACTORS

Engineering cost is not developed in the ICM-FL, but is rather included in the material table inputs as a loading factor.

According to discovery responses, engineering costs include the costs to plan, engineer, and order equipment additions. The factors are derived by dividing Outside Plant Planning and Engineering dollars by material dollars expended for the respective outside plant accounts. These numbers were taken from Verizon's accounting system and reflect the former GTE footprint. Verizon asserts that material cost is a driver of engineering allocations because both the engineering and material costs associated with construction are capitalized expenditures and booked to the same accounts. Verizon explains:

> The amount of engineering associated with a construction project is related to the type of project and to the magnitude of the project. These in turn are related to the amount of associated material costs booked by account.

ICM-FL assumes that all outside plant engineering is performed by Verizon personnel. The percentages are shown in Table 7(s)-3.

Table 7(s)-3: Engineering Loading Factors	
Account	Engineering Factor
Aerial Copper	50.00%
Aerial Fiber	13.46%
Buried Copper	40.25%
Buried Fiber	17.89%
Conduit/Manhole	57.23%
Poles	27.72%
Underground Copper	25.08%
Underground Fiber	14.72%

Source: EXH 50, Supporting Documentation, Loop Module, Material Support, Material Cost Workpapers, p. 47.

As noted in the post-hearing positions, the ALECs proffer that Verizon has not provided any explanation of how its loading factors for loop material and placement cost calculations were derived. The ALECs, however, provide no alternative methodology or specific adjustments to Verizon's loading factors.

DECISION

Even though Verizon's material costs have been submitted as proprietary, we believe that reasonableness tests can nevertheless be made regarding the company's recommended loading factors. As noted above, Verizon advocates material and engineering loading factors based on relationships of minor material to major material investments and accounting engineering costs to total material dollars, respectively. The factors are determined on an account basis and then applied to material base costs to arrive at total loaded material costs. As shown in Table 7(s)-2, Verizon's material loading factors range from about 29 percent to about 144%. Table 7(s)-3 shows Verizon's engineering factors ranging from about 13.5 percent to over 50 percent.

A review of the submitted cost data indicates that Verizon's recommended material loading factors for aerial copper cable represent about 49 percent of the total loaded material cost; the recommended engineering loading factors represent about 17 percent of the total loaded material cost. This indicates that 66 percent of total material cost for aerial copper cable is comprised of loadings for material and engineering.

As part of discovery, Verizon was asked to provide all supporting documentation and reports showing how each individual ICM investment amount was calculated by account and item. The company's response refers only to the documentation and program code provided with the filing. If Verizon had been more responsive to discovery, both our and ALEC concerns with Verizon's loading factors may have been resolved. Given this quandary, we have compared Verizon's recommended loading factors with those approved for BellSouth by Order No. PSC-01-1181-FOC-TP in this proceeding. We believe such a comparison can provide a test for reasonableness. We expect that Verizon might not achieve the same economies of scale as BellSouth, so logically it would exhibit higher loading factors than BellSouth. Table 7(s)-4 shows this comparison.

Table 7(s)-4: Comparison of Loading Factors Between Verizon and BellSouth

	Verizon*			BellSouth**		
Cable Type	Material Loading	Eng. Loading	Base Material as % of Total	Material Loading@	Eng. Loading@@	Base Material as % of Total
Metallic						
Aerial	143.96%	50.00%	34.0%	18.51%	28.17%	15.76%***
Buried	143.96%	40.25%	35.2%	7.69%	24.09%	14.60%
Undg.	143.96%	25.08%	37.2%	22.27%	7.25%	22.52%
Fiber						
Aerial	143.96%	13.46%	38.8%	21.52%	19.50%	14.92%
Buried	143.96%	17.89%	38.2%	4.96%	21.02%	79.56%
Undg.	143.96%	14.72%	38.7%	9.85%	9.20%	54.79%

Source: * EXH 18, pp. 15-16; EXH 50, Supporting Documentation, Loop Module, Material Support, Material Cost Workpapers, p. 47.
** Order No. PSC-01-1181-FOC-TP, pp. 210-211.
@ BellSouth exempt material percent.
*** 14.92% for aerial copper cable - 24 gauge.
@@ BellSouth total telco and vendor engineering.

It appears to us that Verizon's material and engineering loading factors are linear - that is, no adjustment is made for size. For example, Verizon's engineering loading factor for aerial copper is 50 percent. This factor is the same whether it is applied to the smallest increment or to the largest size of aerial copper cable. Similarly, the material loading factor is not differentiated between size or type of cable.

As we found in Order No. PSC-01-1181-FOC-TP for BellSouth, the use of linear factors "can generate questionable results, especially in light of deaveraged rates." Order No. PSC-01-1181-FOC-TP, p. 222. For example, Verizon's actual base material costs for aerial copper cable, as a percentage of total loaded cost, are constant at about 34 percent no matter whether the cable is 25-pair or 900-pair. Thus, the total material cost of the cable is always about three times the actual material base cost. No economies of scale for minor material or engineering occur. However, it seems unlikely that no economies are generated as cable sizes grow larger.

We note that the same material loading factor is applied to each size of aerial cable, regardless if it is copper or fiber. However, Verizon's engineering loading factors differ by type of cable but not by size of cable. Verizon recommends a 25.08 percent engineering factor for underground copper cable, whereas a 14.72 percent engineering factor is recommended for underground fiber cable. This indicates the cost to engineer a 400-pair underground cable is about 3.5 times the cost to engineer a 100-pair cable. Likewise, the cost to engineer a 2400-pair underground cable is 20 times the cost to engineer a 100-pair cable. Logically, it would seem that there would be a small incremental time difference to engineer additional cable pair counts, not 3.5 times and 20 times the cost. We believe a more appropriate relationship to derive engineering costs would be to divide the total engineering costs by the total feet placed by cable type. This would yield an engineering cost per foot for each type of cable rather than a cost that increased by cable size.

We are hesitant to accept Verizon's engineering loading factors. The record reflects that the factors are derived from dividing the Outside Plant Planning and Engineering labor dollars by material dollars for the former GTE footprint. It is unclear if the accounting information relates to one year or several years. If Verizon used the same approach as it did with the material loading factors, then one year of data was used. We believe that using a single year of data could skew the results.

Here again, several alternatives are available to resolve the loading factors issue. We can accept Verizon's recommended loadings factors; direct Verizon to refile its loop cost studies with material loading factors based on more than a single year of accounting data and engineering factors based on an engineering cost per foot for each type of cable; or acknowledge the lack of supporting documentation and logic and adjust the factors that appear to be outliers when compared with those approved for BellSouth in Order No. PSC-01-1181-FOC-TP.

Supporting the first alternative is problematic given the concerns discussed above. We continue to believe that in a proceeding where loop rates are being deaveraged, the use of loading factors such as Verizon has recommended, will distort the cost relationships between rural and urban areas. As stated above, it seems unlikely that there are no economies generated as cable sizes grow.

The second alternative would involve the introduction of new model inputs into the record, and again we are concerned that additional evidence would generate an additional round of discovery and additional delays in the ultimate conclusion of this proceeding.

The third alternative represents the best solution because Verizon bears the burden of proof. See Florida Power Corporation v. Cresse, 413 So.2d. 1187 (Fla. 1982) Given the general lack of support for the provisioning factors, we find it appropriate to reduced these by 50 percent. The outliers for the minor material factors are the outside plant accounts. It is appropriate to adjust this factor to 20 percent for fiber cable and 25 percent for metallic cable. This brings Verizon more in line with BellSouth while at the same time recognizing that Verizon will not have the same economies of scale as BellSouth.

Poles and wire are closely associated with aerial cables. For this reason, it is appropriate to adjust Verizon's minor material factors for these accounts to 30 percent. Regarding Verizon's recommended engineering factors, the outliers appear to be the copper cable accounts and conduit. Verizon's inputs shall be reduced to 40 percent for aerial copper, 30 percent for buried copper, 15 percent for underground copper, and 20 percent for conduit.

Our loading factors are still linear, in that no difference is made by size or type of cable. Thus, costs will be skewed between rural and urban areas. However, we believe that such distortions are minimized with the approved adjustments. Tables 7(s)-5 and 7(s)-6 summarize our findings.

Table 7(s)-5: Commission Ordered Material Loading Factors

Account	Provisioning	Supply	Minor Materials	Material Loading
Circuit	2.43%	11.68%	13.11%	26.00%
COE	2.43%	11.68%	13.11%	26.00%
Fiber Cable	9.40%	18.65%	20.00%	42.00%
Metallic Cable	9.40%	18.65%	25.00%	48.00%
Pole	9.40%	18.65%	30.00%	54.00%
Wire	9.40%	18.65%	30.00%	54.00%

Table 7(s)-6: Recommended Engineering Loading Factors	
Account	Engineering Factor
Aerial Copper	40.00%
Aerial Fiber	13.46%
Buried Copper	30.00%
Buried Fiber	17.89%
Conduit/Manhole	20.00%
Poles	27.72%
Underground Copper	15.00%
Underground Fiber	14.72%

Thus, the appropriate assumptions and inputs for the loadings factors to use in Verizon's cost studies filed in this proceeding are those identified by Verizon, with the adjustments listed in the body of this issue.

VII(t). <u>ASSUMPTIONS AND INPUTS FOR EXPENSES IN UNE COST STUDIES</u>

Here, we consider the appropriate assumptions and inputs for expenses to be used in the forward-looking recurring UNE cost studies.

The expense module of the ICM-FL determines the factors and ratios used to calculate the costs of operating a modern, efficient telephone network. The expense module does not include nonrecurring costs of establishing service or common costs. Factors and ratios developed in the expense module are applied in the Mapping/Reporting Module to the investments generated in the remaining modules.

The points of contention in this issue are twofold: First, whether it is appropriate for Verizon to use a tops-down instead of a bottoms-up methodology; second, whether Verizon overstates the investment values used to calculate the capital carrying costs of support assets.

<u>Bottoms-Up vs. Tops-Down</u>

ALEC Coalition witness Fischer argues that

> [t]he proper way to derive forward-looking expenses would be through a bottoms-up determination of the expenses needed to operate and support a forward-looking network. This would take into account the configuration and quantity of assets needed in the network and the appropriate level of staffing and support assets required to operate that network. It would also exclude those costs that should not be part of a wholesale UNE recurring cost study.

Witness Fischer notes that Verizon only made adjustments for accounting-based normalization entries and removed non-forward looking costs, retail avoided costs and costs recovered through other cost studies.

Verizon witness Tucek disagrees with witness Fischer's contention that Verizon's expenses are not forward-looking. He states that Verizon has made certain adjustments to make the expenses forward-looking: normalization entries for certain non-recurring items, removal of expenses related to non-forward-looking technology, removal of avoided retail costs and removal of costs that are identified and modeled through other cost studies, an adjustment for anticipated merger savings, and use of C.A. Turner indices to express the cost of the general support assets on a reproduction basis. He argues that reproduction cost is "closer to the forward-looking cost of completely new assets than is the historical cost. Given that it is not possible to model the required physical quantity of such assets in the same way that one models the number of poles, etc., use of the reproduction cost is the best possible approach to modeling the costs associated with these assets."

Witness Tucek points out that witness Fischer

> is espousing a standard [regarding a bottoms-up approach] that AT&T and MCI WorldCom have failed to embrace in Florida and elsewhere. Both of these companies have sponsored the HAI Model in numerous proceedings. This model, though flawed in many respects, adopted a similar "tops-down" approach to modeling operating expenses. Indeed, every model that I am aware of, including those filed before this Commission, has employed a similar approach.

Witness Tucek explains that Verizon uses 2000 ARMIS data as a starting point to determine operating expenses. He opines that "[t]here is no better starting point from which to model Verizon's operating expense."

DECISION

We believe there is nothing *prima facie* wrong with using a tops-down approach, if appropriately applied. The greater question to be answered is whether the methodology used by Verizon fairly represents the forward-looking cost of an efficient network. While witness Fischer complains of Verizon's methodology, he offers nothing better to use in its place.

Verizon's use of ARMIS data as a starting point for its expenses. It appears from our study of the ICM model that Verizon uses such data to develop factors based on historical relationships, with adjustments to eliminate costs that are known to be non-forward looking through the use of normalization entries. The resultant factors are then applied to investment data to produce forward-looking expenses. There is nothing inherently wrong with this methodology, but it is important to examine the specifics to determine whether this approach produces reasonable results. Such an analysis is undertaken below.

C.A. Turner Plant Indices

ALEC Coalition witness Fischer argues that "[m]aintenance and support factors are a [sic] typically calculated by dividing expenses incurred in maintaining and supporting the network and related operations by the investment in the network and related operations that generates those expenses. The resulting ratio represents the relationship between expenses and investment that can be applied against future investment to estimate future expenses required to support that investment." He continues that "an expense factor is nothing more than a fraction, and a fraction can be overstated if the numerator is greater than it should be and/or if the denominator is less that it should be.

ALEC Coalition witness Fischer's primary objection to Verizon's modeled expenses involves use of the C.A. Turner Plant Indices. Witness Fischer contends that Verizon overstates the investment values used to calculate the capital carrying costs of support assets. Witness Fischer explains that Verizon applies the indices to book investment to adjust it to a replacement cost value. He argues that the indices only identify relative changes in the cost of the assets, without identifying whether the item itself would be part of a forward-looking network. He opines that "application of a price index alone is insufficient to make investment forward-looking." He also asserts that Verizon increases the expense factor "by replacing the investment used to generate the existing level of expenses with modeled lower investment out of its ICM."

Witness Fischer explains that Verizon applies the indices to support investment which increases such investment by about 29 percent. Verizon applies annual cost factors for depreciation, cost of capital, income taxes, and property taxes to calculate annual general support expenses. He argues that the result is an overstatement of annual general support expenses. He states that 63 percent of the resulting overstatement is in the numerator of the maintenance and support factor calculation, and 37 percent of the overstatement is in the common cost expense that is used for the common cost calculation. He argues that this methodology only serves to inflate costs and should therefore be rejected.

Witness Fischer explains that a further overstatement arises because Verizon "reduces the denominator portion of the expense-to-investment ratio calculation by substituting the investment calculated within its cost model for the level of investment that produced the expense used in the numerator portion of the ratio. This is accomplished through a process Verizon-FL calls calibration." He explains his understanding that calibration results in the model using Verizon's proposed forward-looking investment costs that are produced using C.A. Turner indices, instead of historical book costs. He opines that the use of this process is inappropriate because "you cannot use the output of the same model you are using to determine a factor that will then be applied against that output to calculate recurring expenses." He argues that like terms must be used in both the numerator and the denominator.

Verizon witness Tucek disagrees with witness Fischer's contention that Verizon's expenses are not forward-looking. He states that Verizon has made certain adjustments to make the expenses forward-looking: normalization entries for certain non-recurring items, removal of expenses related to non-forward-looking technology, removal of avoided retail costs and removal of costs that are identified and modeled through other cost studies, adjustment for anticipated merger savings, and use of C.A. Turner indices to express the cost of the general support assets on a reproduction basis. He argues that reproduction cost is "closer to the forward-looking cost of completely new assets than is the historical cost. Given that it is not possible to model the required physical quantity of such assets in the same way that one models the number of poles, etc., use of the reproduction cost is the best possible approach to modeling the costs associated with these assets."

Witness Tucek argues that the calibration option

> adjusts the denominators of the expense-to-investment ratios so that they match the modeled investment for three broad categories of plant: switching, circuit equipment, and outside plant. The calibration option ensures that the investments in the expense-to-investment ratios are consistent with the modeled investments to which they will be applied.

He states that the calibration adjustment can be turned off by modifying certain inputs to the model. He explains that this option would result in a decrease in total direct costs of $18.2 million and in total common costs by $2.5 million. Additionally, "the shortfall between modeled expenses and the sum of the numerators in the expense-to-investment ratios equals $59.9 million." He states that the result of these changes is an increase in the fixed common cost allocator from 14.09 to 20.17 percent.

DECISION

Witness Fischer essentially argues that using the calibration function, which substitutes into the expense-to-investment ratio calculations ICM's modeled investments instead of the ARMIS amounts, yields an apples to oranges comparison. This results in expense factors whose numerator is ARMIS-based expenses but whose denominator is ICM's modeled investment, which are then applied to ICM's modeled investment. We agree with witness Fischer that expense-to-investment ratios should be derived using consistent data. We believe that adjusting the denominator to modeled investment, while using ARMIS amounts in the numerator, leads to a mismatch. Thus, it is inappropriate to use the calibration function to derive expense factors, including the common cost factor. However, the use of C.A. Turner indices is appropriate.

Verizon applied the C.A. Turner indices to each vintage year of plant investment to bring the amounts to year 2000 replacement cost.

If the indices were not used, the expense-to-investment ratio would be calculated using year 2000 expenses, but booked investment from vintage years stretching back decades. In short, the use of C. A. Turner indices does not serve to make the investments forward-looking, nor does that appear to be the intent; rather, the use of these indices sets investment at a vintage that matches the expenses used in calculating the expense-to-investment ratio. This is appropriate because the resultant ratio matches year 2000 expenses with a year 2000 level of investments.

Verizon's tops-down modeling technique to estimate forward-looking expenses is reasonable. The use of C.A. Turner indices is appropriate to establish the historical relationship between expenses and investment. However, the use of ICM's calibration function yields expense-to-investment ratios calculated on an inconsistent basis. Accordingly, for the purpose of establishing Verizon's UNE rates in this proceeding, expense-to-investment factors shall be derived with the calibration function disabled.

VII(u). ASSUMPTIONS AND INPUTS FOR COMMON COSTS IN UNE COST STUDIES

We turn our attention to the appropriate assumptions and inputs for common costs to be used in the forward-looking recurring UNE cost studies.

The FCC's pricing rules specify that the forward-looking economic cost of an element equals the sum of the total element long-run incremental cost of the element and a reasonable allocation of forward-looking common costs. 47 C.F.R. 51.505(a). Additionally,

> [t]he sum of the allocation of forward-looking common costs for all elements and services shall equal the total forward-looking common costs, exclusive of retail costs, attributable to operating the incumbent LEC's total network, so as to provide all the elements and services offered.

47 C.F.R. 51.505(c)(2)(ii).

The Rule defines forward-looking common costs as "economic costs efficiently incurred in providing a group of elements or services (which may include all elements or services provided by the incumbent LEC) that cannot be attributed directly to individual elements or services." 47 C.F.R. 51.505(c).

The FCC states in its Local Competition Order that

> Because the unbundled network elements correspond, to a great extent, to discrete network facilities, and have different operating characteristics, we expect that common costs should be smaller than the common costs associated with the long-run incremental cost of a service. We expect that many facility costs that may be common with respect to the individual services provided by the facilities can be directly attributed to the facilities when offered as unbundled network elements. Moreover, defining the network elements at a relatively high level of aggregation, as we have done, should also reduce the magnitude of the common costs. A properly conducted TELRIC methodology will attribute costs to specific elements to the greatest possible extent, which will reduce common costs. . . . [I]ncumbent LECs shall have the burden to prove the specific nature and magnitude of these forward-looking common costs.

FCC 96-325, Released August 8, 1996, ¶695.

> We conclude that the forward-looking common costs shall be allocated among elements and services in a reasonable manner, consistent with the pro-competitive goals of the 1996 Act. One reasonable allocation method would be to allocate common costs using a fixed allocator, such as a percentage markup over the directly attributable forward-looking costs. We conclude that a second reasonable allocation method would allocate only a relatively small share of common costs to certain critical network elements, such as the local loop and collocation, that are most difficult for entrants to replicate promptly (*i.e.*, bottleneck facilities). Allocation of common costs on this basis ensures that the prices of network elements that are least likely to be subject to competition are not artificially inflated by a large allocation of common costs.

FCC 96-325, Released August 8, 1996, ¶695.

While no party disputes whether some amount of common costs should be included in calculating Verizon's UNE rates, predictably, there is disagreement over the appropriate amount and methodology.

The differences of opinion fall into four areas of concern, as identified by ALEC Coalition witness Warren Fischer.

- Is Verizon's methodology used in calculating the common cost factor appropriate?
- Should Verizon apply its common cost allocator as a percentage to deaveraged zone rates?
- Should Verizon be permitted to recover lobbying, legal, and regulatory costs as part of its common costs?
- Is the 14.09 percent common cost recovery that Verizon seeks excessive?

Only Verizon and the ALEC Coalition provided testimony or briefed this issue. Z-Tel and Covad adopted the position of the ALEC coalition; no analysis was provided.

A. <u>COMMON COST FACTOR METHODOLOGY</u>

Witness Fischer states that Verizon calculated two different common cost factors in its cost studies. He explains that

> [t]he 14.09% factor proposed by Verizon-FL is the result of dividing common costs by direct costs. While using direct cost as the denominator may be an acceptable method, the Verizon predecessor, GTE, typically used total regulated revenue as the denominator. In fact, Verizon-FL prepared an alternative common cost factor in its cost study using total regulated revenues as the denominator resulting in an 11.55% factor.

Witness Fischer opines that we should use the lower factor based on revenue "to ensure UNE rates are not overstated due to some arbitrary decision made by Verizon-FL."

Additionally, witness Fischer states that the FCC, in its Local Competition Order, found that a reasonable alternative allocation methodology would be to "allocate only a relatively small share of common costs to certain critical network elements, such as the local loop and collocation, that are considered bottleneck facilities." Witness Fischer asserts that we should consider requiring Verizon to allocate a smaller portion of common costs to UNE loops.

Verizon witness Trimble responds that Verizon did not compute two common cost recovery factors and choose the higher of the two, as stated by ALEC Coalition witness Fischer. He explains that Attachment Q in Verizon's ICM-FL Expense documentation is for informational purposes to show the relationship between Verizon's total common costs and its total regulated revenues.

Witness Trimble asserts that "[t]he correct mathematical method for computing a common cost factor is to divide common costs by total direct costs. . . ." He states that this methodology is part of a pricing mechanism that will allow Verizon a theoretical opportunity to recover its costs, including total common costs. He contends that witness Fischer's use of total common costs divided by total revenues would lead to an understatement of Verizon's costs. Further, he argues that witness Fischer's assertion that Verizon's predecessor, GTE, based common costs on an allocator using revenues is totally wrong. He notes that Verizon uses the common cost factor to mark up its costs, not its revenues. He explains that the company is trying to define a price which is direct costs plus common costs, not revenues plus common costs.

Verizon witness Trimble states that the common cost accounts have been adjusted to look as if they are wholesale only. He contends that "common costs that are related to the provision of unbundled network elements must be recovered somewhere." He adds that Verizon marks up direct costs to recover common costs. He agrees that the FCC was very cautious in its direction that common costs should not be a deterrent to a competitive market.

DECISION

There is merit to Verizon's position that the methodology described by ALEC Coalition witness Fischer would understate costs if the allocator that is developed is then applied to direct costs to develop pricing. By way of example, a service having a direct cost of \$50, with associated common costs of \$10, would equal a total cost of \$60. Using Verizon's formula, Total Common Costs/Direct Costs equals the Fixed Allocator, our hypothetical results in an allocator of 20 percent. If the price is \$60, the full cost is recovered by Verizon. However, if the allocator is based on revenues of \$60, the recalculated common cost factor would be \$10/\$60 = 16.66% fixed allocator. When applied to the direct costs, only \$8.33 of the \$10 in costs will be recovered, assuming the price is set at \$58.33 to reflect the lower allocator. Additionally, it appears that this formula is circular.

Accordingly, we believe that the use of revenues to develop the common cost allocator in this manner is not appropriate.

Nonetheless, we are concerned with the fact that the model does not adjust the common cost factor to reflect adjustments made by our staff. A common cost factor based on revenues, which Verizon does not advocate or use in its calculations, is contained within the model. Yet the actual common cost calculator, which must be used in the cost calculations, is completely external to the model. A diskette containing the spreadsheet needed to do the calculations was obtained only through discovery. This appears to be the source of the disagreement on the use of revenues in the common cost calculation. It should also be noted that the factor will change, based on other changes to the model, but this calculation must be performed external to the model.

Regarding the alternative approach mentioned in the FCC's Local Competition Order, there is no record evidence as to which elements constitute a sufficient bottleneck to warrant preferential treatment, or how such alternative methodology should be applied. Absent such evidence, it is preferable to use a methodology that is consistent across all elements.

B. <u>CONSISTENT APPLICATION</u>

ALEC Coalition witness Fischer disagrees with Verizon's application of a fixed amount of common costs to the deaveraged zone costs. He notes that Verizon "spreads common cost recovery equally over each deaveraged zone for a UNE." He asserts that "[t]his practice is inconsistent with the concept of deaveraging costs where higher cost areas bear the cost required to serve that area. Common cost recovery should be treated no differently than direct and shared costs that have been deaveraged." He complains that Verizon's methodology results in an overstatement of Zone 1 costs. He contends that "Verizon-FL is simply raising the price in the zone most likely to experience competition initially without justification."

Verizon witness Trimble contends that witness Fischer's "rationale has absolutely no economic support. Common costs cannot be directly attributed to any specific product or service, let alone any specific product in a specific geographic area." He states that under Verizon's proposal, a loop will generate the same amount of common cost recovery, regardless of its location, whereas, witness Fischer's proposal would cause the amount of recovery to vary from low cost areas to high cost areas. Witness Trimble argues that "[i]t makes no sense that the sale of a UNE loop in the most costly area should pay for 1 hour of a human resource employee's time while the sale of a loop in the least costly area would only pay for about 3 minutes of the same employee's time." He cites an Oregon Public Utility Commission order that rejected the use of the percentage allocation in deaveraging UNE pricing.

DECISION

Verizon initially allocates common costs to average direct costs, but then applies that same amount to each zone's deaveraged costs. However, Verizon allocates its direct expenses to deaveraged investment based on the amount of investment, through use of the factors described in issue 7(t). This is an inconsistent application of methodologies.

While we agree that common costs cannot be directly attributed to any specific product or service, this is the very definition of common costs, and the reason that an allocator is developed. Witness Fischer correctly states that the common cost factor should be applied no differently than direct and shared costs that have been deaveraged. Verizon has not provided a plausible reason for this difference in the application of its common cost factor.

C. LOBBYING, LEGAL, AND REGULATORY COSTS

Witness Fischer argues that Verizon should not be allowed to recover lobbying, legal, and regulatory costs "to the extent they are incurred in a way that is adverse to the interests of ALECs." He notes that Verizon removed about 15 percent of external relations and legal expense costs from its cost study expenses. However, he believes that none of these expenses should be included in Verizon's common costs. His reasons are twofold: 1) such costs are typically associated with Verizon's retail offerings; 2) the ALECs are not able to recover such costs from the incumbent LECs. He states that "[i]t is fundamentally unfair to require ALECs to support legal, lobbying and regulatory costs that are typically expended against them." Witness Fischer opines that "[t]he only allowable costs should be those associated with normal company operations and compliance with administrative requirements of state commissions such as tariff filings." He recommends that since such administrative costs have not been identified by Verizon, all of the external relations costs and legal expenses should be removed from Verizon's cost study.

Verizon witness Trimble argues that "Verizon has the right to recover in its UNE rate structures all the costs it incurs that are associated with the Company's obligation to offer UNEs." He contends that such costs include external relations and legal costs. He states that the FCC's pricing rules do not exclude external relations and legal costs from the costs associated with UNEs. As a result, he concludes that the FPSC must reject witness Fischer's recommendation to exclude these costs from UNE common costs.

DECISION

The FCC's rules do not specifically exclude external relations and legal costs from cost recovery. Certain costs, such as retail costs, are specifically named in the pricing rules. If the FCC had concerns with recovery of such amounts, they would be included in the list of disallowed items. Further, it is typical for such costs to be recovered from a company's customers. In the case of UNEs, the ALECs are a competitor, but they are also a customer. There is no record evidence that the amounts included by Verizon are excessive. Accordingly, we find it appropriate for external relations and legal costs to be recovered through common costs.

D. Merger-Related Costs and Other Economies of Scale

Witness Fischer argues that "[a] firm with Verizon's size and scope should be accountable for the economies of scale and efficiencies it promised investors, regulators and customers when it promoted the benefits of the mergers between Bell Atlantic and NYNEX and then Bell Atlantic and GTE." He points out that the former Bell Atlantic estimated that revenue, expense and capital synergies associated with the merger would be approximately $4.5 billion per year, thus substantially exceeding expenses associated with the transition of $1.6 billion over three years, based on Verizon's form S-4 filed with the SEC in 1999. He asserts that the result of such savings should be a common cost factor similar to that set by this Commission for BellSouth. He contends that "[b]y any measure of reasonableness, Verizon-FL's common cost factor should be within a few percentage points, either higher or lower, of BellSouth's factor." He notes that BellSouth initially proposed a common cost factor of 6.24 percent for determining UNE rates.

Witness Tucek asserts that the full benefit will not be realized until 3 years after the completion of the merger in July 2000, such that the benefits would come into play by July 2003. He acknowledges that the $36.4 million merger-related adjustment that

Verizon made to UNE costs is less than 1.5 percent of the total merger savings. He argues that the flaw in witness Fischer's analysis is that all benefits are assigned to Verizon's wireline operations, without regard for wireless, long distance, or international operations.

Witness Tucek adds that Verizon and BellSouth have not modeled common costs in the same way. First, he states that Verizon does not use shared cost factors, as BellSouth has done. Second, he explains that

> large categories of costs that are identified as common by Verizon are treated differently by BellSouth. For example, more than 35 percent of the carrying costs of the general support assets are treated as common by Verizon - these costs make up nearly 30 percent of Verizon's total common costs. BellSouth does not assign any of these costs to the common category. Presumably, they are either directly assigned to the UNEs or attributed via BellSouth's shared cost factors.

DECISION

Witness Fischer is correct in asserting that Verizon should have realized merger-related savings or other efficiencies. Based on documents filed with the SEC, it appears that the company as a whole expects to achieve savings of some $4.5 billion as a result of the merger, while expending from $1.2 to $1.6 billion in additional costs. However, Verizon has recognized merger savings in its model as part of the normalization costs. Witness Tucek points out that Verizon has made a $36.4 million merger-related adjustment to recognize merger savings. There is no record evidence to show that the amount recognized is incorrect, other than witness Fischer's opinion.

The basic concept underpinning Verizon's calculation of the common cost factor based on expenses, not revenues, is appropriate. Verizon should consistently apply its common cost methodology in calculating deaveraged rates, such that each zone is allocated a common cost percentage, not a fixed amount. Verizon shall be permitted to recover external relations and legal costs through common costs.

VII(v). ASSUMPTIONS AND INPUTS FOR OTHER FACTORS IN UNE COST STUDIES

We now determine the appropriate assumptions and inputs for other factors to be used in the forward-looking recurring UNE cost studies.

No party to this proceeding provided a position on, or record evidence supporting, any other inputs to Verizon's cost study in response to issue 7(v). The ALEC Coalition, Z-Tel, and COVAD took no position on this issue.

We believe that all matters raised by the parties have been addressed in other issues. Accordingly, no findings are necessary with regard to this issue.

VIII(a),(b), and (e). ASSUMPTIONS AND INPUTS FOR NETWORK DESIGN, OSS DESIGN, AND THE MIX OF MANUAL VERSUS ELECTRONIC ACTIVITIES IN UNE COST STUDIES

Here we decide the appropriate assumptions and inputs for the following items to be used in the forward-looking non-recurring UNE cost studies:

(a) network design;
(b) OSS design;
(e) mix of manual versus electronic activities.

This section addresses the appropriate assumptions and inputs to be used in forward-looking non-recurring UNE cost studies for network design, OSS design, and the mix of manual versus electronic activities, respectively. Much of the parties' testimony overlapped or combined these issues; therefore, it is most efficient to combine our analyses and findings relating to these issues.

Verizon contends that non-recurring costs are "[c]osts that support non-recurring [one-time] charges [which] are those incurred in processing and provisioning CLEC requests." In discussing the rates and study methodology, Verizon extends the following:

> [t]he NRC rates reflect the cost of the set of activities required to pre-order, order, provision, and install a service in response to a specific Local Service Request (LSR) or Access Service Request (ASR) placed by a CLEC

> customer. The charge is non-recurring in that the constituent costs are encountered only once, at the time a service is activated, modified, or discontinued in response to a CLEC request.

Additionally, Verizon asserts in its Non-Recurring Study that

> [t]he NRCs vary in response to the type of order and the type of product or service that is requested. In addition, the costs assume enhancements to Verizon's systems and databases resulting in increased mechanization. The standard non-recurring cost calculation is Cost = Activity Time x Task Probability x Labor Rate.

Verizon purports in its brief that these costs are typically "easily identifiable, concrete costs" related to a specific event initiated by a cost causer. As such, Verizon believes these costs are best recovered through one-time, non-recurring charges.

Verizon asserts that the assumptions reflected in its cost study "are consistent with its experience deploying up-to-date technology to serve ALECs and consumers." In addition,

> Verizon applies a forward-looking adjustment factor to account for future efficiency gains resulting from mechanization and process improvements. Consistent with the FCC rules, these forward-looking costs are based on currently available technology.[6]

On the other hand, Verizon argues that the ALECs' recommendations are based on technology that is unavailable now and for the foreseeable future, not to mention the fact that this technology is not applicable to a multi-carrier environment. Verizon also argues that even if the ALECs' recommendations were available or remotely feasible, the ALECs did not account for the costs associated with such improvements.

Verizon contends that its OSS ". . . provide[s] ALECs access to a cutting-edge network and reflect[s] the most forward-looking technology being deployed." Verizon witness Richter also asserts that Verizon's OSS is ". . . industry-standard and in full compliance with the Act in providing non-discriminatory access to

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[6]47 C.F.R. §51.505

OSS functionalities."[7] Verizon also provides the ALECs with website support for its two mechanized ordering interfaces, Secure Integrated Gateway System (SIGS) and its Wholesale Internet Service Engine (WISE). Verizon contends that ALECs can input an LSR directly into SIGS, or if they don't have their own ordering systems, they may do so through WISE via the Internet.

Verizon witness Richter contends that the ALECs' assumption that 95-98% of orders should be capable of being placed electronically through Verizon's automated systems, is wrong. Verizon asserts that,

> [i]t would be neither cost-effective nor, in some cases, even possible for Verizon to mechanize the handling of every type of order. The ALECs' almost-perfect flow-through rate could only be achieved if the ALECs submitted error-free orders essentially all the time. In the real world, this is simply not possible. Verizon has mechanized many ordering tasks for many elements, and takes account of further potential efficient mechanization through its 15 percent productivity improvement factor. (Verizon citations omitted)

Contrary to what the ALECs believe, Verizon witness Richter asserts that manual processing is many times the most economical method when dealing with complex or low-volume orders. Many times, it might be the only way. In its post-hearing brief, Verizon contends that its NRC study addresses manual activities associated with "fall out" due to error and those required for requests which were "never designed to flow through the system." Witness Richter states,

> . . . they [orders] may not fall out simply because there is an error, there may be some orders that the operating system is not designed today to process it[sic] mechanically. I mean, there are complex orders that, as I stated earlier, will never have an electronic method to look at all of the inputs on a complicated order. Also, along with that, it may not be cost-effective to have every type of service order to be sent through electronically because the quantity of those type complex orders is very small.

[7] 47 U.S.C. §252(d)(1)

Furthermore, Verizon witness Richter asserts that the ALECs have failed to provide evidence that their proposed automation levels are attainable. Witness Richter testifies that "you can't build something electronically to be able to identify everything and every combination that could exist."

Additionally, witness Richter asserts that Verizon is constantly upgrading its OSS. In its post-hearing brief, Verizon contends that its systems "are designed -- and continue to be enhanced -- to minimize the amount of human intervention required to process a UNE order." The witness argues that improvements have been made to front-end edits, allowing more orders to be processed electronically. To the extent that orders do require human intervention, for whatever reason, witness Richter contends that the likelihood that additional errors will be created by its staff is minimal. When orders do fall out of the system, an order failure report is generated which helps identify potential improvements to its OSS. Witness Richter contends that these failure reports, along with countless technological improvements, have facilitated greater flow-through.

ALEC Coalition witness Morrison states, "Verizon's NRC cost model includes unreasonable assumptions resulting in NRCs substantially higher than would be expected in an efficient provisioning operation." As a result, witness Morrison states that ". . . the Verizon study should not be relied upon in its present state to set rates for NRCs in the State of Florida."

The Coalition contends in its brief that nonrecurring costs should be based on how things <u>should</u> be done. As such, the Coalition claims that the disparity between Verizon's and BellSouth's rates should be insignificant. Moreover, the Coalition contends that "[t]he least cost most efficient way of provisioning a UNE on the least cost most efficient network design for each company is likely to be very similar." In support, Coalition witness Darnell states that,

> [a]ll that matters in the development of UNE rates is how the least cost most efficient carrier would function in this territory. Therefore, the Commission should expect that areas with similar characteristics should have similar cost based rates. Given the demographic and geographic structure of Verizon-FL and BellSouth Florida territory it is reasonable to assume that cost based UNE

rates in Verizon-FL territory should be slightly less than cost based UNE rates in BellSouth Florida territory.

The Coalition asserts that there are three problems with Verizon's proposed NRCs. They include:

> First, third parties cannot properly manipulate the inputs to Verizon's model, which makes it impossible to conduct a necessary sensitivity analysis.
>
> . . .
>
> Second, Verizon's study contains systemic methodological errors.
>
> . . .
>
> Third, all of the methods assumed by Verizon for its studies themselves have their basis in the company's current practices and procedures - in particular, its lack of mechanization - as a given.

In support, Coalition witness Morrison states that Verizon's proposed non-recurring rates are not only disproportionate to BellSouth's, but that the rates also exceed BellSouth's "by enormous percentages." He believes that we should look to rates proposed or adopted by commissions in other states to illustrate the "mistake" Verizon makes here. The Coalition asserts that the proposed rates are neither credible nor verifiable. Furthermore, NRCs must be forward-looking, least-cost processes which exclude labor-intensive manual processes. Moreover, the Coalition asserts that Verizon's evidence lacks supporting documentation and is void of any consideration of technological improvements.

Coalition witness Morrison argues that Verizon "has failed to consider true forward-looking OSS . . ." He goes on to assert that instead of electronic interfaces and mechanisms, manual intervention appears to be the norm for Verizon. This human intervention, in turn, adds great cost to the process. Additionally, "[w]ith improvements in systems and the use of economies of scale and scope the ALECs should see a steady stream of rate cases lowering the costs to order and provision UNEs." Witness Morrison asserts that these systems are currently available and that carriers (both ILEC and ALEC) are pursuing mechanization efforts.

Coalition witness Morrison states "system flow-through rates are low, [at] 40%." Witness Morrison contends that he is accustomed to seeing flow-through rates in the neighborhood of 98%. He asserts that a rate between 95-98% would be much more acceptable and common than Verizon's. Regardless of Verizon's current flow-through, witness Morrison contends that a flow-through assumption in the 95-98% range is achievable and should be used in a forward-looking study. According to witness Morrison, the figure Verizon proposes is "indicative of a very inefficient process." Instead of attempting to change the flow-through rates, witness Morrison made changes to observed activities and work times. He used this as "a proxy for changing the flow-through rate." Witness Morrison contends that additional edits at the beginning of the OSS process could greatly reduce, if not eliminate errors.

Witness Morrison asserts that instead of using electronic ordering processes, Verizon utilizes two types of ordering charges, "100% Manual" and "Semi-Mechanized." The manual charges assume the receipt of an order via fax and manual processing. Semi-mechanized, on the other hand, assumes that some of the steps involved are automated and others performed manually. Witness Morrison contends that there is not a single UNE that can be ordered using a fully mechanized system. The Coalition goes on to assert that Verizon representatives are likely to intervene in an order, no matter how it is submitted.

Coalition witness Morrison states that Verizon's model is "overly-complex" and "remarkably cumbersome." According to witness Morrison, he was finally able to recalculate several individual NRC elements by inserting different assumptions, but only after many hours. During that process, witness Morrison reviewed six elements and derived new rates.

Witness Morrison contends that he did not have the necessary time and resources to recalculate an alternate rate in every instance. However, he purports that his failure to do so should not lead to the assumption that the remainder of the rates "are accurate or just and reasonable." As such, witness Morrison proposes that where he has been able to recalculate a NRC, we should adopt his proposed revised rate. For those rates where no revised rate was calculated, we should use a "reduction factor" to eliminate Verizon's alleged over-estimation. The Coalition urges this Commission to reduce Verizon's proposed NRCs to "reasonable levels." According to the Coalition, to do otherwise would result in rewarding Verizon for inefficiencies, whether intended or not.

We note at the outset that Covad's arguments are developed through its post-hearing brief. Covad proffered no direct or surrebutal testimony, none of its own witnesses, and has developed a record for its assertions herein based only on cross-examination at the hearing.

Covad asserts in its post-hearing brief that "the entire process by which the nonrecurring charge inputs were generated raises doubts about the accuracy of the inputs, . . ." Covad also identifies specific problems with the proposed NRCs, including the model's inability to be manipulated without significant software engineering, and an array of techniques and surveys which produce estimates instead of definite and verifiable work times. Citing to Verizon witness Richter's deposition, Covad adds that, "[n]o method that Verizon used to gather task times or create inputs for its nonrecurring cost calculator was statistically validated, nor can the inputs be audited by the Commission or any ALEC." In addition, Covad argues that "the Commission has little record evidence that can justify reliance on Verizon's 'estimated' task times."

Covad asserts that we should base our assumptions on a forward-looking OSS that includes electronic pre-ordering and ordering. Electronic OSS should permit orders to flow through Verizon's system without manual handling. Additionally, Covad asserts that Verizon witness Richter's proposed costs are contrary to the law, and are quite simply based on its current OSS. As part of its argument, Covad asserts that not a single Verizon witness testified that Verizon used "the most efficient process available" - nor explained the "astonishingly high failure rates." Covad also argues that Verizon did not account for systems improvements either, improvements which it states, "are clearly warranted by technology that is available right now." Instead, Covad contends that Verizon's proposal focuses on costs from an "embedded, malfunctioning OSS as it exists today." In support, Covad claims that Verizon assumes that no order will ever pass through a fully mechanized OSS. Covad contends that as a result of such thinking, Verizon assumes a 60% fallout rate.

According to Covad,

> [o]ne fundamental underpinning of a forward-looking network is the recognition that tasks that can be automated will be automated. Verizon's assumptions fail to recognize the need to automate systems, eliminate

> duplicative work groups and streamline its provisioning process.

Covad contends that manual task work triggered by inflated fallout rates should be reduced to "acceptable, competitive levels. . ." Covad bemoans the fact that Verizon continues to fail to recognize the necessity for automated systems and streamlined provisioning. As such, Covad claims that "Verizon should be allowed to recover for manual tasks only where it has proven that those tasks cannot be automated."

<u>DECISION</u>

We believe that many work steps outlined in Verizon's non-recurring study appear to be "unnecessary, duplicative, or both." Many of the work times are largely unsubstantiated and often based on observations of work activities that have no supporting documentation. Although Coalition witness Morrison makes numerous modifications to Verizon's observations in his testimony, we do not address them here, prefering to provide additional analysis regarding worktimes, observations, required activities, and any corresponding adjustments in Section VIII(d) of this Order.

We are not suggesting that Verizon should not be permitted to recover reasonable costs for activities that its employees perform, nor do we believe that is the position of any of the parties. Instead, Verizon should recover reasonable costs for the processes that Verizon goes through after receipt of a manual order, but only when those processes are reasonably efficient. ALEC Coalition witness Morrison proposes that

> . . . with an eye toward a forward-looking order processing system, the processes Verizon implements after receipt of a manual order <u>should approach</u> what it terms a semi-mechanized order processing arrangement. Moreover, the processes that Verizon puts in place when it receives a semi-mechanized order should approach what would be considered a 100 percent mechanized order process.

One of the inefficiencies witness Morrison alleges is the "redundant work" which he asserts is taking place during order-entry activities. The witness purports that Verizon's "Review of the LSR," appears to be included in every step. He states,

> I consider this number of LSR reviews to be excessive because this type of activity can be designed into support systems to eliminate this type of redundancy. I would be extremely surprised if Verizon's retail service order process is so heavily reviewed by Verizon personnel after the information has been placed in the electronic ordering system. Again, this is exactly the type of duplication that any process engineer would strive to remove from a system when evaluating efficiency and cost savings.

Likewise, Covad advocates in its brief that manual work times triggered by inflated fallout rates should be "reduced to acceptable, competitive levels . . . ," although it never states what levels would be acceptable or competitive. On the other hand, the ALEC Coalition proposes flow-through rates far above Verizon's 40%. Witness Morrison states,

> I would recommend flow-through figures far closer to 95% - 98% as those are definitely achievable figures that Verizon should be striving toward in an effort to reduce its own costs. Indeed, in a forward-looking study, these are the efficiency levels that must be assumed, regardless of Verizon's current level of efficiency.

We do not expect that every order entering Verizon's ordering system flow through without any manual intervention. We recognize that there are orders that may need to be processed manually for one reason or another. Verizon witness Richter states "[i]t would be neither cost-effective nor, in some cases, even possible for Verizon to mechanize the handling of every type of order." While we concur with this assertion, we also believe that there are circumstances in which certain types of orders should be processed without human intervention. According to a Verizon discovery response, Verizon does not have that capability at this time.

In discussing OSS enhancements in its Non-Recurring Study, Verizon contends that,

> [t]he SMEs and cost team identified planned and approved changes in Operations Support Systems (OSS) that would impact the process in each of Verizon's workgroups. OSS enhancements increase mechanization/flow through thus reducing the level of manual activity associated with certain types of orders.

Witness Richter asserts that Verizon's 15% efficiency factor adjustment was based on productivity reports and input from the SMEs, which estimated "activities which could be improved over time." As discussed in a discovery response, "[t]he efficiency adjustment is based on system and process changes that will be implemented in the NMC." Additionally,

> [t]he 15% productivity improvement is an estimate made by NMC support staff. The improvement is based on changes that would be made to the ordering process flows and enhancements made to the ordering systems via OSS projects. The major contributor to the improvement results from the proficiency gained by the NMC Representatives.

We note that the flow-through percentages used in Verizon's cost study "are based on planned system enhancements."

Despite backing the efficiency factor adjustment, Verizon witness Richter's statements lack clarity as to how this efficiency factor was actually determined. Witness Richter states, "I don't know that the efficiency gain was based on productivity reports, but SMEs would have provided an estimate of the productivity enhancements that would be gained through some of the changes that would be made . . ." Verizon's evidence is also vague in regards to potential process improvements. Adding to the confusion, the witness discusses additional changes without offering much detail, stating that

> [c]hanges take place on an on-going basis. OSS enhancements take place regularly. There are changes that come from the OBF as new service offerings are available. Processes change, so there is continuously[sic] change taking place.

Moreover, witness Richter states that "Verizon is continuously looking at ways to improve the process that is in place today to ensure that more and more orders can be processed mechanically."

On the other hand, Coalition witness Fischer states,

> [i]n a forward-looking network where you assume that the firm is optimally efficient, there should be no need to further streamline the corporate organization that supports that network. You would assume that that

> corporate organization has been streamlined to the point where they have a minimal amount of investment in labor and capital to support the network and its services.

Where an organization is optimally efficient, witness Fischer's statement would seem appropriate and well- grounded. However, given the record in this proceeding, we do not believe that Verizon is the model of an "optimally efficient" organization.

Despite arguing the contrary, Verizon's order processing system relies upon manual handling and intervention for order completion. Verizon asserts the following during discovery:

> [d]evelopment of SIGS provides a substantial benefit for CLECs because of the significant improvement in Verizon's handling time and the reduction in errors caused by the human handling of the orders. Prior to the advent of SIGS, the huge volume of LSRs generated by CLECs were received, processed, stored and retrieved manually by Verizon, and internal workflow was distributed and managed manually, all of which may have increased the time required to process the LSRs, correct errors, and retrieve the LSRs to input changes or provide status reports to CLECs, and so on.
>
> . . .
>
> SIGS also increases the efficiency of the NMC by shortening handling times, and thus improving service.

We concur with the Coalition that "[h]uman intervention or manual input seems to be the mode of operation as opposed to interfaces between systems." Moreover, we believe that Verizon's attempt to control factors associated with the ordering process through the use of manual processes, comes at "great cost" to the ALECs. Verizon's reliance on manual intervention is reflected in the following statement and tables from Verizon's Non-Recurring Study. Verizon's study purports that,

> [t]he NMC is staffed with Service Representatives who are involved in varying degrees with CLECs' pre-orders and orders. The LSR processing mode (manual or semi-mechanized) used by the CLEC and the complexity of the order determine the involvement of Verizon's Service Representative in the pre-ordering and ordering processes.

> CLECs' pre-order requests and LSRs are the cost-drivers for the NMC.

The cost study provides additional details on NMC Service Representative involvement for each order processing mode. The required activities associated with each are discussed in Section VIII(d).

Verizon's system is labor-intensive and one need only look to the Non-Recurring Study for verification. The Non-Recurring Study offers the following information regarding manual and semi-mechanized ordering:

> *Manual Order*
>
> - *LSR* - CLEC faxes a UNE LSR to Verizon. The Verizon service representative reviews the fax to ensure all information is complete and accurate. If there is an error, or missing information, the representative contacts the CLEC for the correction. The service representative then inputs all LSR information into the Secured Integrated Gateway System (SIGS) and provides Firm Order Confirmation (FOC) to the CLEC. The LSR then follows the same process as a semi-mechanized order.
>
> - *ASR* - CLEC faxes a UNE ASR to Verizon. The [Verizon] service representative reviews the hardcopy ASR to ensure all information is complete and accurate. If there are errors, or missing information, the representative contacts the CLEC for the correction. The service representative then inputs information into the Exchange Access Control & Tracking System (EXACT). The ASR then follows the same process as a semi-mechanized order.
>
> *Semi-mechanized [Order]*
>
> - *LSR* - CLEC transmits the UNE LSR electronically. Verizon's front-end edits will identify errors and return error information electronically to the CLEC. Once through the front-end edits, the order is distributed to a Verizon service representative who inputs the order into the National Order Collection Vehicle (NOCV).

- *ASR* - CLEC transmits the UNE ASR electronically. When the ASR arrives, certain screens have already been populated by the CLEC; the service representative then populates the remainder of the screens. The EXACT portion of the EXACT/TUF (Exchange Access Control And Tracking/Translator to USOCS and FIDS) system captures all the features and elements of the service requested by the CLEC including table-driven critical dates. The order is automatically edited by EXACT and the service representative corrects the errors as requested.

The ordering processes described above reflect a system which, given currently available technology, appears to be extremely inefficient, if for no other reason than the extensive amount of human intervention which is required. Coalition witness Morrison goes so far as to assert that Verizon's system fails to qualify as a TELRIC-based forward-looking OSS. He goes on to state that Verizon's current system is several development levels below the TELRIC standard.

We do not advocate that <u>all</u> orders must be submitted and processed exclusively through electronic methods. In fact, we agree with Verizon that there are

> . . . going to be times that those orders need to be looked at by a service rep. So there are certain orders that would flow-through and some that wouldn't automatically flow through.

Additionally, Verizon contends that

> [a] 100% mechanized ordering system is not a realistic goal. Verizon will continue to mechanize portions of the ordering process where it makes economic sense to do so. Ordering for principal products, such as resale, UNE loops, and line sharing, are currently fully mechanized. Certain other activity types are at least partly mechanized. Complex services, however, will always require a certain level of manual intervention. All mechanization depends upon the complexity of the product, the level and nature of the activity requested on the local service request (LSR), and the demand for particular services. If the demand does not justify the expense of

> mechanization, then it makes sense to process the product using a manual or semi-mechanized flow-through process.

Although witness Morrison acknowledges that 100% mechanization of certain processes appears to be "feasible," he states that "from a practical perspective, I'm not sure how you would get there." Based on the record, there is no indication that any ILEC is in a position to offer 100% mechanized ordering, or that any party is actually advocating such. Moreover, Verizon witness Richter asserts that even if the Coalition's proposed changes were implemented, costs associated with those changes were not contemplated in its proposal.

Like the Coalition itself, we believe that Verizon's flow-through rate is low, and tends to support claims that Verizon's system is less than efficient. The record reflects that technology is available and is currently being used by other ILECs, which would substantially increase Verizon's flow-through rates. At the same time, we recognize that flow-through improvements should be accomplished through "the use of the most efficient telecommunications technology currently available." 47 C.F.R. § 51.505(b)(1).

Verizon's proposed assumptions and inputs for network design, OSS design, and the mix of manual versus electronic activities are inappropriate without some modification. Verizon's OSS appears antiquated, inefficient, and labor-intensive. Non-recurring studies should be forward-looking, and reflect efficient practices and systems. However, this perspective should also be tempered by considerations of what is reasonably achievable. We do not advocate adjusting the flow-through rates to reflect an updated and efficient OSS network in this issue. Instead, Section VIII(d) addresses specific adjustments to work times and required activities which we believe will offset inefficiencies in Verizon's OSS. Our findings will also incorporate our approved changes in all other applicable Sections of this Order.

Thus, the appropriate assumptions and inputs to be used in the forward-looking non-recurring UNE studies for determining network design, OSS design, and the mix of manual versus electronic activities, are those approved in Section VIII(d). We do not adjust the flow-through rates here to reflect an updated and efficient OSS network. Instead, Section VIII(d) includes specific adjustments to work times and required activities which will offset OSS inefficiencies.

VIII(c). ASSUMPTIONS AND INPUTS FOR LABOR RATES IN NON-RECURRING UNE COST STUDIES

Here we examine the appropriate assumptions and inputs for labor rates to be used in the forward-looking non-recurring UNE cost studies.

Verizon was asked to identify the specific overhead costs used to determine labor rates and to explain how those costs are allocated to various labor groups. Verizon states that actual labor rates are determined at the end of the year and accurately reflect overhead costs. Verizon uses various labor groups for specific activities such as engineering and installation. Employees in these labor groups are required to use positive time reporting to report their hours, which ensures that no hours are categorized based on a default mechanism.

Verizon's labor rates used in the cost model consist of the following elements:

Direct Basic is the cost of occupational workforce employees for basic functional activities such as engineering, construction, maintenance, and installation.

Overtime Premium is the overtime premium paid to all employees included in the direct basic category.

Paid Absent includes the costs associated with paid vacation and holidays for employees in the direct basic category.

Direct Department Expense is the miscellaneous department expense directly related to employees, but not chargeable to any other category (i.e., office supplies).

Direct Support and Supervision is the direct cost associated with the immediate supervisors of and staff supporting employees in the direct basic category.

Indirect Support and Supervision is the cost associated with employees above the direct supervisors of employees in the direct basic category, but are below the executive level.

Indirect Department Expense is the miscellaneous expense for indirect support that is not chargeable elsewhere.

Motor Vehicle is the cost directly attributed to motor vehicles including parts, maintenance, gas, leases, and licensing.

Tools (Other Work Equipment) includes the salaries of employees responsible for maintaining equipment. This category also includes the purchases of non-capitalized equipment and other miscellaneous expenses.

Benefits are the company paid costs for such items as pensions, insurance, employee investment plans, and employment taxes.

When the ALEC Coalition was asked if it proposed any changes to Verizon's proposed labor rates, its answer was "no."

DECISION

Based on the limited record on this issue, we find that the appropriate assumptions and inputs for labor rates to be used in the forward-looking non-recurring UNE cost studies should be those proposed by Verizon as discussed in our analysis.

VIII(d). ASSUMPTIONS AND INPUTS FOR REQUIRED ACTIVITIES IN NON-RECURRING UNE COST STUDIES

Next we determine the appropriate assumptions and inputs for required activities to be used in the forward-looking non-recurring UNE cost studies.

According to Verizon witness Richter, costs that support non-recurring charges are those incurred in processing and provisioning ALEC requests. Verizon calculated its ordering costs in two steps. First, Verizon identified the activities that are performed when a ALEC places an order. Verizon utilized work sampling studies to determine the time it takes for a National Marketing Center (NMC) representative to access the order, review it, apply the appropriate charges, and complete and transmit the order into Verizon's ordering system. According to Verizon's cost study, the NMC serves as the single point of contact for pre-ordering and ordering local network UNEs and UNE-Ps. Witness Richter states that the work time studies for the Exchange-Basic loop are based on a sampling of observations of actual customer service representative activities with a statistical confidence level of +/- 5%.

Second, Verizon identified separate non-recurring costs to capture the significant costs incurred in fulfilling and provisioning ALEC orders. Included in these costs are the cost of the computers used by the customer service representatives and the cost of the land and buildings for the NMCs, where the orders are sent to be processed. Verizon calls these the "NMC Shared/Fixed Costs," which total $18.49 million per year for all of Verizon-West. Verizon-West represents the prior GTE service territories. Electronically submitted LSRs are received by one of three NMCs, located in Durham, North Carolina; Ft. Wayne, Indiana; and Coeur d'Alene, Idaho. Verizon proposes to recover these costs through an additional amount included in the non-recurring rate for each LSR. As witness Dye states, whenever an ALEC places an order involving the NMCs, the ALEC's "ordering" non-recurring rate includes $4.44 for recovery of shared/fixed NMC costs. This amount was developed by taking the annual NMC shared/fixed costs of $18.49 million and dividing it by the 4.170 million average annual ALEC orders expected over the 2001-2005 period.

According to witness Richter, for the Assignment Provisioning Center (APC) and Business Response Provisioning Center(BRPC) costs, Verizon's cost team utilized various work center reports to establish the hours expended for each activity required to provision each type of order, and the volume of activities handled for the hours expended. The activity times were multiplied by the Loaded Labor Rate (LLR) for the APC and BRPC personnel to develop the costs. The APC has the responsibility for assignment of central office line equipment and outside plant facilities for Exchange - Basic, Exchange - Complex, and Advanced/Special - Basic UNEs. The BRPC has design/engineering responsibilities for Advanced/Special UNEs.

Witness Richter states that Verizon's cost team documented the installation process flows for the central office and outside plant activities. Central office activities include running/breaking jumpers on the Main Distribution Frame (MDF), Intermediate Distribution Frames (IDFs), and Tie-Cable Frames. Outside plant work is any non-recurring activity on facilities that occur between the central office and the customer's premises. This includes any cross-connect activity at the Feeder/Distribution Interface (FDI), cross-connect box, pedestal or pole, and Network Interface Device (NID). According to witness Richter, Verizon's cost team then utilized time and motion studies, system reports, order volumes, workgroup hours, and Subject Matter Expert (SME) estimates to establish the hours expended for each activity required to install each type of order. The activity times were multiplied by the LLR for the central office and field personnel to develop the costs.

A. Cost Development

According to Verizon's cost study, UNE NRCs were developed by Verizon using the following methods of data collection:

- Worksampling and SME estimates for the National Market Center ordering activities;
- Time and motion studies for the National Accounts Customer Center (NACC) and National Order/Referral Entry Center (NOREC);
- Time and motion studies, SME inputs and database reports for the provisioning activities;
- Time and motion studies for the Central Office Installation activities; and
- Database reports and time and motion studies for Field Work activities.

The SMEs and the cost team collected activity times and determined task probabilities. Activity times are the times required to perform UNE activities and probabilities are the likelihood that a certain activity will be performed when an ALEC orders products and services from an ILEC. Using the most current Loaded Labor Rates, the cost team then calculated the costs for each type of UNE order using the standard non-recurring cost calculation:

Cost = Activity Time x Probability x Labor Rate.

Verizon determined the costs for orders received both manually and electronically. A manual order is received via fax and a Verizon representative reviews the fax to ensure all information is complete and accurate. If there is an error, or missing information, the representative contacts the ALEC for the correction. The service representative then inputs all Local Service Request (LSR) information into the Secure Integrated Gateway System (SIGS), the ordering interface, and provides a Firm Order Confirmation (FOC) to the ALEC. A FOC is Verizon's response to a service order from an ALEC. The Service Representatives in the NOREC, located in San Angelo, Texas, enter all faxed orders (manual orders) into SIGS.

ALECs can input LSRs directly into SIGS through a mechanized ordering system at their location or (if they do not have their own ordering systems) through Verizon-West's Wholesale Internet Service

Engine (WISE) via the Internet, which transmits LSRs into SIGS. Verizon states that its front-end edits in SIGS will identify errors and return error information electronically to the CLEC. Once through the front-end edits, the order is distributed to a Verizon service representative who inputs the order into Verizon's National Order Collection Vehicle (NOCV), where the actual order is created.

According to witness Richter, there are five UNE order types processed through LSRs:

- New - a new order for a local wholesale UNE establishes a UNE or combination for the first time or adds additional lines or telephone numbers at an existing CLEC location
- Change - A change order applies when the CLEC requests changes in central office switch features for an existing local wholesale UNE; this can be either a "Change feature" or a "Change Switch Feature Group" type order. A Change order also applies when the CLEC requests a change in Central Office Connection.
- Disconnect- A disconnect order for a local wholesale UNE applies when the CLEC requests that all or a portion of a local wholesale UNE or combination be removed.
- Record - A record order applies when the CLEC changes existing records without changing the UNE itself. An example of a Record order is a change of the billing address.
- Migration - A migration order applies when the CLEC requests conversion of an existing UNE combination: Retail to UNE-P and Resale to UNE-P.

According to witness Richter, there are four categories of UNE orders: (1) Exchange - Basic; (2) Exchange - Complex; (3) Special/Advanced - Basic; and (4) Special/Advanced - Complex. Whether a UNE fits within an Exchange or Special/Advanced category depends on whether or not a UNE requires design and engineering. The Exchange category does not require design or engineering. The Special/Advanced category requires design and engineering work based on variables specific to the order placed by the CLEC.

Witness Richter states that Verizon's ordering process reflects adjustments for flow-through and expected efficiency gains, which are applicable to both the manual and semi-mechanized ordering processes. Verizon utilizes SIGS, the ordering interface, to access data from the Verizon ordering system or to transmit orders electronically for processing. The order then passes into Verizon's National Order Collection Vehicle (NOCV) system where the actual order is created. Witness Richter testifies that currently approximately 40% of UNE Exchange-Basic orders are mechanically generated without human intervention in response to electronic orders received from the CLEC. This is otherwise known as simple order flow-through. Verizon has also projected productivity improvements of 15% in the NMC due to planned projects to enhance OSS functionalities. Witness Richter states that the costs for the NMC personnel have been adjusted to reflect these enhancements.

According to witness Richter, Verizon's cost study does not assume that all provisioning will be electronic, because neither Verizon nor any other Incumbent Local Exchange Company (ILEC) has systems that can provide 100% automatic processing end-to-end for all telecommunications requests. Witness Richter states that while many basic ordering functions can be processed mechanically, certain activities for all types of orders will remain manual because mechanization costs for every activity would create a situation where costs for mechanization exceed manual labor savings.

Witness Richter testifies that Verizon also developed costs for other CLEC requests or requirements, including:

- CLEC Account Establishment - Verizon establishes the CLEC account in each state billing system in which that CLEC orders UNEs. Once a CLEC account has been established for a state, the CLEC may submit a local service request for processing.
- Coordinated Conversion - used to establish a specific appointment for the completion of the service order, and wants Verizon to contact it for authorization to proceed prior to beginning work, as well as after work is complete.
- Hot Cut Coordinated Conversion - this service adds to the coordinated conversion by adding the feature that the CLEC, the Verizon coordinator and the Verizon technicians remain on a conference call for the duration of the service order completion process.
- Expedite - refers to a request by a CLEC to advance the completion of the LSR earlier than the next standard due date that is normally available.

Sidney L. Morrison filed testimony on behalf of the ALEC Coalition to assess the reasonableness of Verizon's proposed non-recurring costs. Witness Morrison, in his direct testimony, states that he was able to recalculate six individual NRC elements by substituting reasonable assumptions and inputs where Verizon had included unrealistic and overstated time, effort and manual processes.

Witness Morrison states that where he has not been able to completely recalculate an alternative rate, a "reduction factor" has been calculated that he believes we should apply to those remaining non-recurring rates to rid the NRC results of the systematic overestimation caused by the Verizon analysis. Based upon his analysis, witness Morrison believes Verizon's cost model overstates ordering charges by approximately 50% and overstates provisioning charges by more than 66%. Therefore, witness Morrison believes that reduction factors of 50% for ordering charges and 66% for provisioning charges should be applied to Verizon's proposed rates.

Witness Morrison believes that Verizon's NRC models appear to be needlessly complex. He states that many work steps often appear to be unnecessary, duplicative, or both. Witness Morrison believes the work times are largely unsubstantiated and are based on numbers of observations of work activities that have no supporting documentation. Further, those numbers of observations are multiplied by a number of minutes for which there is no support.

Witness Morrison complains that the observations are hard-coded into the study without any supporting documentation. He states that the fact that the values are hard-coded makes it impossible for reviewers to determine their source or veracity. Witness Morrison contends that hard-coded values make it impossible to audit the calculations or results arrived at by their use.

Witness Morrison states that Verizon develops direct minutes for certain work steps by multiplying the number of observations for each work step by an arbitrary and unsupported 15 minutes. Verizon then grosses-up those minutes by an indirect percentage factor. Witness Morrison complains that nowhere in the studies did he find any explanation as to why the application of this indirect percentage is appropriate or necessary.

The ALEC Coalition believes that Verizon's assertion that the indirect percentage must be used in its calculations since there are activities that were not observed, conflicts with the assumption that the observations already reflect the activities being performed by employees during the periods when they were not observed.

Witness Morrison states that although he is not taking issue with Verizon's flow-through percentage of 40%, he has serious concerns given that its use is not explained in the NRC studies. He believes a 40% flow-through percentage is indicative of a very inefficient process. Verizon's flow-through percentage applies to both mechanized and semi-mechanized orders to reduce activity times after the orders are entered into Verizon's NOCV system. Witness Morrison recommends a flow through closer to 95% to 98%.

Witness Morrison states that Verizon's cost study does not appear to acknowledge the possibility that an order could be processed without human intervention and believes this is an oversight that the Florida Commission should remedy. Witness Morrison is not recommending that Verizon do away with the 100% manual form of ordering.

B. UNBUNDLED LOOP

Witness Morrison states that Verizon is proposing a manual charge of $56.07 to order the first unbundled loop on a LSR and that it is comprised of five components. The five components include:

- Establishing a new order
- Establishing a disconnect order
- Preordering
- Record order
- NMC Shared/Fixed Costs

1. ESTABLISHING A NEW ORDER

Witness Morrison states that the "New Order" includes manual receipt, manual entry, manual editing, order processing, and off-line processing stages of order delivery. The "New Order" component accounts for $31.90 of the $56.07 NRC for ordering an initial loop on a 100% manual basis.

According to witness Morrison, Verizon's "manual receipt of an order" includes a large amount of time dedicated to entering an ALEC's LSR into a tracking system. In the second step, manual entry, the LSR is reviewed and entered into Verizon's SIGS. Witness Morrison opines that in a forward-looking system the entry of the order into the ordering interface, SIGS, should automatically populate the tracking system. Witness Morrison states that Verizon's assumption that a Verizon employee will need to enter the LSR data first into the tracking system, and then enter the same LSR information into the actual ordering interface is not efficient. Witness Morrison testifies that the observations and times associated with entry of the LSR into a tracking system are redundant and unnecessary.

Witness Morrison states that the third component of a new order references manual edits performed on the LSR. The work steps listed by Verizon include verification steps once any edits have occurred. Witness Morrison contends that the edits appear to occur in Verizon's SIGS system and therefore the multiple verifications may not be necessary. Witness Morrison also states that there was no further support for the actual work times required for order processing and off-line processing. Witness Morrison states that the fourth step involves order processing, which involves entering the new order into Verizon's SIGS system. According to witness Morrison, the fifth step of a new order is off-line processing which includes activities such as faxing error reports, working with directory listings, and a host of unsubstantiated activities.

2. ESTABLISHING A DISCONNECT ORDER

Witness Morrison points out that "establishing a disconnect order" accounts for $15.74 of the $56.07 for ordering an initial loop on a 100% manual basis; however, he believes that Verizon has previously included disconnect costs in the "New Order" component.

3. PREORDERING

Witness Morrison also points out that the preordering component accounts for $2.52 of the manual initial loop order and states that no description of the work activities for preordering is provided whatsoever.

4. RECORD ORDER

The fourth component is the record order which accounts for $1.48 of the $56.07, and witness Morrison believes it is duplicative of components already accounted for in other stages of cost development.

5. NMC SHARED/FIXED COSTS

Witness Morrison describes the fifth component of the unbundled loop NRC as the rate additive to recover Verizon's NMC Shared/Fixed Costs, where these orders are processed. Witness Morrison states that Verizon estimated costs for three centers (Idaho, North Carolina and Indiana) and then divided those costs by the number of orders it expects to process each year. The number of orders is an annual average of a five-year total, 2001 through 2005. According to witness Morrison, Verizon has included a myriad of anticipated costs that are overstated or simply unreasonable. Witness Morrison cites as examples costs related to recruiting personnel and anticipated employee relocations.

Witness Morrison testifies that Verizon Florida's portion of the NMC shared and fixed costs of $18.498 million that Verizon Florida seeks to recover through ALEC LSR charges is inappropriate. Witness Morrison refers to ALEC Coalition witness Ankum's testimony, where he discusses the cost of capital and depreciation assumptions included in the NMC annual shared and fixed costs. Witness Morrison states that if the Florida Commission denies the ALEC Coalition's recommendation to reject recovery of the NMC expenses, then it should require Verizon to adjust these costs to reflect appropriate cost of capital and depreciation assumptions.

Witness Morrison's alternative recommendation for the NMC costs would be for us to expand the base of ratepayers as the California Public Utilities Commission did in its Decision 01-09-063 dated September 20, 2001. Witness Morrison states that the California PUC applied a surcharge to Verizon's bills for toll, exchange, and access services so that the customer surcharge could be smaller by using a larger billing base.

Witness Morrison describes how he adjusted Verizon's NRCs by adjusting the number of observations in order to alter existing work times. Witness Morrison believes this method of adjusting the NRC study to be terribly inefficient. Witness Morrison states that Verizon has developed work times for various tasks by determining a number of observations of different work activities and then applying a certain number of minutes to those observations. Witness Morrison believes this is disconcerting since not all work step observations take the same amount of time. The following describes the detail of how witness Morrison adjusted Verizon's NRC model.

C. UNBUNDLED LOOP ACTIVITIES

1. Exchange-Basic-Initial-Ordered 100% Manual

Witness Morrison eliminated the activity of entering the LSR into the tracking system by setting the number of observations to 0, as he believes this task should be done during the order entry process for OSS as opposed to being done in two steps. Witness Morrison testifies that the manual process of two entries creates a situation where input errors can cause data mismatches between systems and lost orders that require additional steps to resolve. Witness Morrison also reduced the number of observations reported in the NRC study for order entry into SIGS to 100 entries, which brought the entry time from 12 minutes to 6 minutes.

Under manual LSR editing, witness Morrison set the number of "verification of changes" to zero because he believes Verizon's electronic system should be able to handle verification activities. Witness Morrison also set the number of observations for "verification of final steps in SIGS" to 0 and states that these steps should not be required in a forward-looking system. Witness Morrison also reduced the number of observations for "reviewing the LSR" to 5 as he believes the number of LSR reviews to be excessive because this type of activity can be designed into support systems to eliminate this type of redundancy.

Witness Morrison set the number of observations for "order processing for order entry" from 106 to 60 and states that this has the effect of providing for 15 minutes of order entry time. Witness Morrison believes that this is more than generous based on his experience and that the systems should be designed to expedite order entry. Witness Morrison set the number of observations for "directory listing inquiries for resale LMS corrections" from 299 to 0 because there was no explanation of this activity, and from the cost study description these items appear to be directory sales items and should not be performed at the expense of the ALECs.

Witness Morrison set the "directory listing quality check revisions and corrections" from 38 and 154, respectively, to zero in both instances because he believes that accuracy would be accomplished and expected by a properly designed electronic ordering system in a forward-looking process. Witness Morrison also set the number of observations of "service activation reports" to 0, the "late order reports" to 0, the "state projects observations" to 0, and the "miscellaneous disconnects" to 0. Witness Morrison states that he set all of these to 0 because no explanations were provided as to why these activities were appropriate. Witness Morrison believes that these items appear to be reports without a purpose or benefit to the processing of an ALEC service request.

For "disconnects order entry" into SIGS, witness Morrison changed the number of observations to 10 because customer information is generated during the connect process and the disconnect process generates a disconnect record with minimum input. For "manual LSR editing", witness Morrison set the number of observations for reviewing the LSR to 0 because he considers this to be redundant work given the other order entry activity.

For "disconnect order processing," witness Morrison set the number of observations for disconnect order entry to 5 because he believes that disconnect order entry should be a simpler overall process, only indicating to business systems that the service is to be removed. For "preordering," witness Morrison changed the number of observations to 0 because no explanation of the actual work activities or a description of why these activities are necessary was given.

Witness Morrison reduced the observations for "recording the order" to 0 because he believes no supporting information was presented for this process and an electronic ordering system should provide whatever reports or recording are needed with or without manual intervention.

For the NMC/Shared Fixed costs, witness Morrison set the additive to 0 as he believes these costs are not appropriate. The result of all the adjustments proposed by witness Morrison reduces the rate proposed by Verizon for ordering a UNE loop on a 100% manual basis from $56.07 to $29.81.

2. <u>Exchange-Basic-Initial-Ordered Semi-Mechanized</u>

Witness Morrison's recommended reductions in the semi-mechanized ordering process for an unbundled loop, exchange-basic-initial, results in a rate of $19.23, down from Verizon's proposal of $36.91. Witness Morrison points out that the semi-mechanized ordering charge for an unbundled loop is comprised of four of the same five components required for the manual charge which are (1) Establishing a new order; (2) Establishing a disconnect order; (3) Preordering; and (4) NMC shared/fixed costs. Semi-mechanized ordering for an unbundled loop, exchange-basic-initial, does not include a record order charge, where as manual ordering does.

3. Exchange-Basic-Initial-Service Connection

Witness Morrison recommends reducing Verizon's proposed service connection rates from $102.84 to $19.00 for an initial loop. Witness Morrison states in his testimony that he believes facility assignment is one of the most repetitious tasks in an assignment center and technicians become very skilled in the task. Witness Morrison contends that facility assignment should rarely take more than 3 minutes. For the central office provisioning of a new unbundled loop, witness Morrison eliminated the average drive times. Witness Morrison believes that existing cross-connects can be left up and reused for the next inbound service utilizing the same facility and that OSSs for facility assignment support this program and can handle this type of cross-connect activity on a flow-through basis. Witness Morrison also reduced the time to "run jumpers" to 2 minutes because he believes the forward-looking network would use an efficient common systems main interconnect (COSMIC) type main distribution frame (MDF). Witness Morrison believes this is a generous time for running jumpers on COSMIC MDF configurations supported by OSSs. Pertaining to fieldwork, Witness Morrison states that the technician must place a cross-connect at the facility distribution interface (FDI) and establish that continuity exists to the customer premise. Witness Morrison states that in his experience these activities, including average drive time and the actual work time, should not exceed 40 minutes per initial circuit.

4. Exchange-Basic-Additional-Service Connection

Witness Morrison recommends reducing the service connection charges for an additional loop from $100.23 to $9.24 as he recommends the same changes for facilities assignment and central office work that he did for the initial unit. Witness Morrison changed the number of minutes for each additional circuit in the field to ten minutes because he believes that the technician is adding an additional line while installing the original line, therefore repeating the task he performed to install the initial line while at the same location. Thus witness Morrison believes that installing the additional line is more efficient than installing the initial line, and recommends ten minutes as a reasonable time for this task.

D. UNBUNDLED PORT

1. Exchange-Basic-Initial-Ordered 100% Manual and Semi-Mechanized

Witness Morrison recommends reducing Verizon's proposed ordering charges for an unbundled port from $51.54 to $21.24 for a 100% manual order, and from $32.38 to $10.66 for a semi-mechanized order. Witness Morrison states that the five components of these charges listed previously for the unbundled loop are essentially the same for the unbundled port. Witness Morrison notes that several of his recommended changes described for the unbundled loop flowed through to the unbundled port calculations, which included charges for the manual LSR entry, order editing and off-line processing. For the "ordering process" component, witness Morrison changed the Verizon work time estimate to 10 minutes, and states that ordering a port differs substantially from ordering a loop in that there are fewer systems that must be accessed. Witness Morrison also states that for "disconnect order processing" for the unbundled port he changed Verizon's work time estimate to 5 minutes. Witness Morrison also eliminated the NMC additive included by Verizon for the unbundled port.

2. Exchange-Basic-Initial and Additional-Service Connections

For Unbundled Port - Service Connection Charges, for the initial and additional units, witness Morrison made changes by modifying the times presented by Verizon for provisioning (i.e., facility assignment) the unbundled port for new service installation of the initial port and disconnection of service of the initial port. Witness Morrison changed Verizon's estimate of new installation times to 5 minutes, and the estimate for the additional service connection to 2 minutes. Witness Morrison's recommended changes result in Verizon's proposed NRC rate of $45.68 being reduced to $8.83 for the initial service connection for an unbundled port, and $44.84 being reduced to $4.49 for each additional unit.

(E). Enhanced Extended Links

1. Initial-Ordering-Manual and Semi-Mechanized

Witness Morrison also reviewed the NRCs for the ordering and service connection costs for initial DS1/DS3 Enhanced Extended Links. Witness Morrison changed the work time for "manual faxing" to 5 minutes and changed the work time to "fax a firm order confirmation" to 3 minutes. Witness Morrison states that operating a modern fax machine to send a large volume of paper is a relatively simple task and therefore 5 minutes and 3 minutes, respectively, are adequate for two fax transmissions. Witness Morrison also changed the time to enter a new order to 15 minutes based on his experience.

Witness Morrison eliminated the time spent on "error correction" as he believed it to be an unnecessary step and that the order should have been reviewed as a part of the Production Order Entry system edits doing the error correction task. Witness Morrison reduced the minutes for "escalation" and "quality checks" to zero for both. Witness Morrison believes that these business processes are an indication of failure on the part of the ILEC and should not be paid for by the ALEC.

Witness Morrison reduced the time required to enter a disconnect order to 10 minutes, as he believes that disconnect order entry is a relatively simple task and involves little in building data bases or record entries. Witness Morrison set the "error correction" and "quality check" work times to zero, and for the "record order" function set the minutes for "manual receipt" of an order to 2 minutes. Witness Morrison, under the "record order" function, set the number of minutes for order processing to 20 minutes for the 100% manual order, because he believes "record orders" are one of the simpler orders to process and require no actual work on the service delivered to the customer, but are designed to correct record issues relative to customer service. Witness Morrison also set the number of minutes for the semi-mechanized "order process" to 10 minutes because he believes the semi-mechanized "order process" should be utilizing efficiencies gained from OSS that are designed to speed up tasks such as order processing.

Witness Morrison's changes described above change the cost proposed by Verizon for ordering a DS1/DS3 EEL on a 100% manual basis from $174.68 to $45.01, and on a semi-mechanized basis from $115.54 to $30.93.

2. Service Connection-Initial

Witness Morrison proposed changes for the service connection for an initial DS1 EEL, including reducing the "service order entry" time to 10 minutes, the "facilities assignment for Hi-Cap prework" to 15 minutes, and the "local loop assignment time" to 10 minutes per occurrence. Witness Morrison reduced the "design group" time to 10 minutes to recognize the support provided by OSS. Witness Morrison also reduced Verizon's estimate for "testing" to 15 minutes because of the widespread availability and use of multi-purpose test equipment to expedite testing.

For the central office portion of a "service connection" for a DS1 EEL, witness Morrison reduced the work estimate to 1 hour based on his experience in establishing DS1 service in a central office. For the field work portion of a "service connection" for a DS1 EEL, witness Morrison reduced the time to 1.5 hours based on his experience.

Witness Morrison, for the "service disconnection" portion of the DS1 EEL Service Connection Charge, reduced the "service order entry" time to 10 minutes, the "facilities assignment for Hi-Cap prework" to 15 minutes, and the "local loop assignment" time to 10 minutes per occurrence. Witness Morrison reduced the "order entry" time to 10 minutes and the "local loop assignment" to 0 minutes as he believes the service order entry process for disconnect automatically performs the local loop and facility assignment disconnect operations at disconnect. For a disconnect for the "design group," witness Morrison reduced the minutes to 0 because he believes there are no design requirements when a service is disconnected. Witness Morrison, for the "central office disconnection times," reduced Verizon's estimate to 30 minutes because he believes by its very nature, removal of these circuits is efficient. For "disconnection of the service by field personnel," witness Morrison took issue with Verizon's estimate because he believes that the only activity that needed to occur was the removal of the high frequency cross-connects and therefore witness Morrison reduced the time, including drive time, to 40 minutes.

The effect of the above described changes recommended by witness Morrison for service connection of a DS1 EEL results in Verizon's proposed charge of $931.87 being reduced to $294.11.

Table 8d-1 compares Verizon's proposed NRCs with witness Morrison's proposed NRCs:

Table 8d-1								
	Proposed by Verizon				Calculated by witness Morrison			
	Manual	Semi-Mech	Initial	Add'l	Manual	Semi-Mech	Initial	Add'l
Unbundled Loop Exchange-Basic Ordering-Init	$56.07	$36.91			$29.81	$19.23		
Serv. Connect.			$102.84	$100.2			$19.00	$9.24
Unbundled Port Exchange-Basic Ordering -Init.	$51.54	$32.28			$21.24	$10.66		
Serv. Connect.			$45.68	$44.84			$8.83	$4.49
Enhan.Ex.Links (EELs) Ordering-Init.	$174.68	$115.54			$45.01	$30.93		
Serv. Connect.			$931.87	n/a			$294.11	n/a

Witness Morrison summarizes his testimony by stating that Verizon's NRC model suffers from many fatal flaws. Witness Morrison states that the most egregious flaw is Verizon's failure to utilize simple and direct time and motion studies to support work times used to derive its cost estimates. Witness Morrison recommends that where he has been able to recalculate more reasonable NRCs, we should adopt his recalculated charges. Where witness Morrison was not able to recalculate, he recommends that we reduce all ordering activity NRCs to 50% of Verizon's proposed rates and all provisioning activity NRCs to 33% of Verizon's proposed rates.

Verizon witness Richter, in his surrebuttal testimony, disagrees with witness Morrison's criticism of the hard-coded values contained in Verizon's NRC study. Witness Richter states that the source information for any hard-coded values can be found either within the "source" column of the study worksheets or, if all the values in the column are from the same source, in the column header. He testifies that notes in the study identify whether a hard-coded value is derived from SME input, work sampling study, or time and motion study.

Witness Richter responds to witness Morrison's criticism of using an indirect method for determining minutes per order by stating that Verizon's development of its work times and related cost estimates is based on sound reasoning and widely-accepted survey methodologies. Witness Richter states that, with the assistance of Arthur Anderson, Verizon used a work sampling method to develop a weighted average time for each specific activity based upon observations, taken in 15-minute intervals, of all of the activities of National Order Referral/Entry Center (NOREC) service representatives during a two-week period.

Witness Richter also responds to witness Morrison's concern regarding Verizon's use of an "indirect percentage" in developing its work times:

> Verizon uses an indirect percent to capture the costs associated with activities that normally occur in connection with the provisioning of LSRs, but are simply not captured by the specific activities listed in Verizon's work sampling survey - the reason being that a survey simply cannot capture the panoply of activities that service representatives engage in during the course of a day. For example, often times, when there is an error with an ALEC service order, a representative must consult with a supervisor or call the ALEC to remedy the discrepancy. Other times, a service representative must devote additional time arranging for expedited treatment of a given order. Resolving problems such as this and handling special requests were not included in the work sampling survey conducted by Verizon. All of these activities, along with many others, are vital to the accurate and timely processing of service orders and must be accounted for in any work time estimates. Verizon's indirect percent is designed to do just that.

Witness Richter believes that the primary reason for disruption of order flow-through is input errors, and the chief source of input errors is the ALECs themselves. In response to witness Morrison's recommended flow-through rate of 95%-98%, witness Richter states that estimating costs based on a flow-through that is much higher than is actually achieved, eliminates any incentive for the ALECs to provide more accurate LSRs for processing and would deny Verizon proper cost recovery. Witness Richter states that as the ALECs become more proficient, the flow-through percentage will increase, thereby lowering the cost of processing the LSRs. Witness Richter states that the percentage can be adjusted in the NRC very easily and, moreover, Verizon's study assumes a 15% productivity improvement in the processing of LSRs.

Witness Richter states that the consequences of reducing the number of observations for one activity to achieve a pre-determined result affects a variety of other activities. According to witness Richter, by arbitrarily reducing the number of observations for a given activity, witness Morrison has wittingly or unwittingly distorted the cost estimates for a number of associated activities and the integrity of the entire work time study is sacrificed in the process.

Witness Richter criticizes witness Morrison's recommendation to use a reduction factor of 50% for all of Verizon's ordering NRCs and a reduction factor of 66% for Verizon's provisioning activities, stating there is absolutely no data or analysis to support these reductions; they are based solely on witness Morrison's purported "good sense of the inherent magnitude by which the Verizon cost model overestimates actual, forward-looking NRCs."

Witness Richter states that witness Morrison's reduction of the disconnect order entry value based on his view that the disconnect record is generated with minimum input is not justified. According to witness Morrison, when an ALEC submits an order manually, a Verizon representative must populate a variety of fields within SIGS with information provided by the ALEC.

Witness Richter states that witness Morrison's claim that Verizon's preordering activities are not adequately explained is untrue. According to witness Richter, Verizon's NRC study documentation explains that the preordering function allows the ALEC to reserve a telephone number or a service due date, verify an address as one in Verizon's territory, and determine what services are available in the central office.

Witness Richter also disagrees with witness Morrison's contention that all order entries should be input in a manner that automatically populates the tracking process. Witness Richter states that the tracking system is designed to provide an ALEC with the order number and date, and thus does not contain all of the information contained within a LSR order. Witness Richter contends that to automate the function, as Mr. Morrison suggests, would require developing an interface between SIGs and the tracking system, which would not be cost effective given the low quantity of manual orders being processed and the limited amount of information input into the tracking system.

Witness Richter also disputes witness Morrison's reductions to service connections work times and advanced service requests for EELs. Witness Richter states that witness Morrison does not appreciate the processes necessary to provide the service at hand and the complexity of the orders. Witness Richter contends that witness Morrison completely disregards the functions performed by the span technician, who is tasked with installing any repeater equipment in the circuit - equipment that could be in the central office, in the outside plant facility or at the customer's premises. Witness Richter states that witness Morrison's description of the work activities necessary to complete an EEL order ignores these necessary activities.

Witness Richter, in his surrebuttal testimony, states that witness Morrison's reductions of the times for advanced services requests (ASRs) for EELs are not valid. In response to witness Morrison's challenge of the time involved in verifying the accuracy of an ASR, witness Richter testifies that ASRs are very involved, multiple-page orders that require the involvement of numerous Verizon provisioning departments. Witness Richter believes that witness Morrison ignores the complexity of the orders - many involve multiple circuits, while others require certain types of equipment to be ordered and configurations to be addressed. Witness Richter believes that Verizon's work times accurately reflect the complicated and time-intensive nature of these essential activities.

In response to witness Morrison's suggestion that jumper cables can be run very quickly, witness Richter states that it is dependent on the existence of a network in which COSMIC frames, or other single-sided main distribution frame technology, are widely deployed. Witness Richter states that, in the real world, this is not the case; the use of COSMIC frames is very limited in Verizon's serving areas and witness Morrison makes no allowance for the additional costs associated with the ubiquitous deployment of COSMIC frames. Witness Richter does not agree with witness Morrison that jumpers need not be removed on a disconnect request because, according to witness Richter, when an ALEC requests a disconnect, the jumper must be removed to free up the ALEC's block, as well as the ILEC's loop or port so it can be assigned to a retail customer or another ALEC.

Witness Richter states that witness Morrison's reductions to the fieldwork activities are not appropriate. Witness Richter believes that witness Morrison's reductions are based on nothing more than his personal experience, whereas Verizon's work times for the fieldwork portion are based on the actual times collected from its Standard Time and Activity Reporting.

Witness Richter does not believe witness Morrison is correct when he suggests that Verizon's NRCs include numerous unnecessary verifications for an LSR. Witness Richter states that not even witness Morrison can claim that a trained technician will not make any errors in the order input process and as such, Verizon's verification activities will always remain integral to the efficient and accurate operation of the order processing and provisioning systems.

Witness Richter does not agree with witness Morrison that off-line processing involves a host of unsubstantiated activities and states that the off-line processing group is responsible for handling the more complicated and complex LSRs, as well as tracking any special projects, all of which are not typically part of the LSR process.

Witness Richter, in his surrebuttal testimony, states that witness Morrison's recommendation to reject all of the national market center (NMC) costs is not justified. Witness Richter contends that it is not feasible or practical to combine Verizon's retail and wholesale order processing into one center as witness Morrison suggests. Witness Richter states that the wholesale product offerings to ALECs (e.g., loops, ports, UNE-Ps, etc.) bear no resemblance to retail product offerings (e.g., residential single-line service, etc.) Witness Richter points out that witness Morrison was not aware of a single ILEC that provisions its retail and wholesale orders out of the same facility and nowhere in his analysis does witness Morrison account for the additional costs associated with absorbing Verizon's wholesale ordering process into its retail ordering process.

DECISION

A. ORDERING

As witness Richter explained in his direct testimony, the studies for the Exchange-Basic Loop are based on a sampling of observations of actual customer service representative activities.

Verizon states that work sampling is accomplished by monitoring a group of service representatives every quarter hour during the business day and recording the details of the task he or she is conducting at that time. The underlying assumption, according to Verizon, is that the proportion of time the activity is observed in the sample will be the proportion of time spent on the activity in general. Witness Richter stated that the basis for that assumption is that, because Verizon was making systematic observations at 15 minute intervals, at the end of the study period those activities that were observed most often were the types of activity that all the representatives would be doing throughout the study period. The more observations that you have for a specific activity would mean that the activity is performed more often than the other observations that were made. Verizon states that 35 representatives were observed, which represents 18% of those employed as service representatives.

The NOREC work sampling study was conducted by Linda Casey, a former Verizon employee, on August 16-20, 1999. Witness Richter could not say whether Ms. Casey had any special knowledge or training when it comes to statistical analysis. Ms. Casey worked for Verizon for approximately 30 years during which time she held positions in operator services and in the business office area and was in the costing group prior to leaving the company. The backup documentation for the work sampling study was not provided by Verizon because the study consists of voluminous paper documents, and Verizon states that it would be unduly burdensome and time-consuming to copy and produce all of these documents.

Witness Richter states that no work time studies have been conducted since 1999 and that due to the ongoing mechanization of the ordering process, it was determined that adjustments to the work times should be performed via "flow-through" adjustments. Once the mechanization process is completed for new products such as Line Sharing and Line Splitting, Verizon will develop new base work times. Witness Richter agreed that the underlying assumption for the work time study - that the proportion of time the activity is observed in the sample will be the proportion of time spent on the activity in general - is based on a kind of statistical averaging. Witness Richter did not know whether the work sampling study had been statistically validated.

We are concerned with the age of the work time study and the underlying assumptions for the study. Since the observers were making instantaneous observations of employees at the beginning of each 15 minute interval during an 8 hour day there would seem to be considerable room for error in concluding that the sample is representative of the actual time spent on each activity observed. While a time and motion study of the activities would have measured the actual time spent on each activity on a sample basis, the work sampling study methodology does not yield this information. It was Verizon's belief that a work sampling study method would be more cost-effective because of the multiple activities being performed by the service representatives. However, a time and motion study would have provided actual times spent on the activities in the study and therefore would have been more accurate. Verizon could have studied the frequency of occurrences of the activities on a sample basis and determined probabilities of occurrence for each activity per order.

The accuracy of the work sampling study hinges on arriving at the right proportion of observations for the activities included in the study so that the result is representative of the activity in general. Witness Richter did testify that a time and motion study could be used by anyone, anywhere since it is not restrictive in nature. Witness Richter could not rule out that a time and motion study could have been performed in place of a work sample study. Witness Richter does state that there is a +/- 5% statistical confidence level, but did not know if the study was statistically valid. Verizon did perform time and motion studies for the National Access Customer Center which handles Access Service Requests (ASRs) for items such as dark fiber, EELs, and certain other complex orders.

Witness Morrison criticized Verizon's use of hard-coded values in the NRC study as being impossible to audit the calculations or results arrived at by their use. Verizon states that the hard-coded fields are not "values" but rather inputs. If one number is changed in these fields, it will change any other field it is linked to, and the dollar or percentage or any other field that it is fed from will most likely be changed. We did not verify the accuracy of the hard coded values because they are based on data received from SMEs and others or the work sampling study itself.

Verizon does include a 15% productivity improvement in the NRC study which is an estimate made by NMC's support staff. The improvement is based on changes that would be made to the ordering process flows and enhancements made to the ordering systems via OSS projects. NMC's staff support personnel determined the efficiency gain through office productivity reports.

Verizon has included a 40% flow-through adjustment in its NRC study for Exchange-Basic orders to recognize orders that are mechanically generated without human intervention in response to electronic orders received from the ALEC. Witness Richter states that manual and semi-mechanized orders receive the same percentage adjustment for flow-through for order processing. The 40% flow-through is applied to order processing at the NMCs and has the effect of reducing the minutes per order. Witness Richter, in response to why the flow-through adjustment that Verizon makes is the same for manual and semi-mechanized orders, states:

> Once the order is input, whether it be in our manual center or whether it be transmitted to us electronically by a ALEC, the flow-through happens when it is generated into NOCV. It goes from SIGS into NOCV, so it doesn't matter if the order is generated in the manual center or at a ALEC center. Once it gets to that point then flow-through - - it passes all the edits in SIGS. That is where that flow-through percentage is realized on the ordering portion only.

According to witness Richter, Verizon has not measured for this proceeding the flow-through (or the converse, fallout) to manual handling that occurs to an LSR before it reaches the NOCV.

Witness Richter, in response to a question as to whether there is any process change that is being contemplated by Verizon to increase or improve front-end edits, states:

> Improvements in the front-end edits that is an on-going process of implementing new edits . . . The Ordering and Billing Forum (OBF) sets the standard as far as ALECs on what information is going to be in which cells and so forth. Changes are made to those front-end edits right along with our OSS to accommodate any changes. If there are situations that we can identify where we can effectively put in edits up front, then, yes, we will make efforts to do that.

Witness Richter admits that the cost recovery that Verizon is seeking in this proceeding is premised on the present status of Verizon's OSS. Witness Richter states that:

> It is an ongoing effort by Verizon to ensure that the process, that the OSS and the front-end edits and SIGS are

as up-to-date as they can be to catch errors or to fix errors or to make sure that as many of the orders as can be processed mechanically are processed that way.

Witness Morrison, as stated previously, believes that a flow-through figure of 95% to 98% is more appropriate, but rather than adjust the flow-through rate, he instead adjusted the observations as a proxy for changing the flow-through rate. We believe a proper flow-through rate in a forward-looking study is somewhere between 40% and 98%, but we do not approve adjusting the flow-through rate as a means of adjusting UNE NRCs.

Witness Morrison is correct that Verizon's NRC study was very difficult to use and extremely time consuming to analyze due in part to the source and destination references shown on each page not containing tab references and page numbers. Instead, a letter coding was used that required constant reference to an index to ascertain the appropriate source or destination page number. We also found that the study contained unnecessary layers that made analysis more time-consuming.

Witness Morrison was criticized for changing the number of observations for certain tasks that had the effect of changing not only productive time, but also an indirect percentage that is applied to productive time since the indirect percentage is calculated by dividing indirect time into productive time. We find that specific adjustments shall be made to the six NRCs analyzed by Coalition witness Morrison and approve adjusting the activity times by keeping the same indirect percentage as developed by Verizon, since the relationship between productive time and indirect time should remain the same. Verizon's activity times included in their NRC study are confidential.

B. ORDERING - MANUAL: UNBUNDLED LOOP - EXCHANGE - BASIC - INITIAL

1. ESTABLISHING A NEW ORDER

Manual LSR Receipt - We agree with witness Morrison's elimination of the manual process of entering the LSR in the tracking system as these costs appear to be redundant with entering information into Verizon's SIGS.

Manual LSR Order Entry - Witness Morrison reduced the order entry time into SIGS significantly to about six minutes. We find nine minutes to be a reasonable order entry time to recognize that OSS is designed to avoid or minimize manual entries.

Manual LSR Editing - We agree with witness Morrison on the elimination of verification of changes in manual order editing and the verification of the final steps in SIGs. Modern electronic ordering systems should be able to handle these verifications.

Order Processing - Witness Morrison is correct that a reduction in the time for reviewing the LSR is warranted. However, we find it appropriate to decrease the time to 3.5 minutes per order instead of 1.5 minutes as suggested by witness Morrison. The number of reviews appears to be excessive, as there is a review when the order is entered. While witness Morrison reduces order entry for order processing to 15 minutes, we approve 20 minutes as a reasonable time for order entry.

Off-line Processing - While witness Morrison eliminated the time incurred for directory listing inquiries for resale of Local Measured Service (LMS), and directory listing quality check revisions and corrections, these directory services are properly included in the NRCs as being necessary tasks. Witness Morrison also excluded the time assigned to service activation reports, late order reports for projects, state projects, and miscellaneous disconnects. We concur, and exclude these costs in the NRCs as being unnecessary.

2. <u>DISCONNECT</u>

Manual LSR Receipt - We find it appropriate to adjust this category consistent with establishing a new order.

Manual LSR Order Entry - We reduce the time for disconnect for this category as we believe the customer information is generated into SIGS when a manual connect order occurs. However, we reduce the time to 2 minutes per order as the time needed to enter the order into SIGS.

Manual LSR Editing - We eliminate the time for review of the LSR as this step is redundant with the order entry process.

Order Processing - The time for order entry shall be reduced to 10 minutes for disconnect to reflect that the disconnect process should be an easier process than connection.

Off-line Processing - We approve changes for this category consistent with the off-line processing described above for ordering.

3. PRE-ORDERING

Here, we eliminate pre-ordering charges for semi-mechanized orders. Verizon's NRC study narrative states that pre-ordering costs are applied on a per order basis to the manual pre-ordering activities and that semi-mechanized pre-orders are not charged. However, throughout Verizon's study, semi-mechanized ordering costs include a pre-ordering charge. Thus we eliminate the pre-ordering charges included in semi-mechanized orders. As the ALEC Coalition's brief points out, Verizon has stated that it has provided ALECs with the ability to query in an electronic format all information necessary to process a pre-ordering request. ALECs should not be charged for pre-ordering electronically, when they are performing the pre-ordering functions themselves. Verizon does apply an occurrence rate of 50% to the $5.03 preordering rate to arrive at a $2.52 cost that Verizon includes in manual and semi-mechanized pre-ordering. We approve inclusion of the manual $2.52 cost only.

4. RECORD ORDER

We approve adjusting this component for manual receipt and order processing consistent with those same categories described above.

5. NMC - SHARED/FIXED COSTS

Witness Morrison testifies that all of Verizon's NMC shared/fixed costs should be excluded or, as an alternative, should be spread over a larger base of customers. Witness Morrison states that the NMC costs include items such as recruiting personnel and employee relocations, and that the costs are overstated because improper cost of capital and depreciation rates are used. Witness Richter states that the NMC costs themselves are estimates and based on a business case that would have included all of the items that are necessary to turn up and make a center functional in order to receive LSR requests from the ALECs. Witness Richter states that Verizon had to rely on outside vendors and contractors that would have provided the costs to be incurred, since there were no NMCs that existed before.

The NMC costs included in Verizon's study, which add $4.44 to the unbundled loop, unbundled port, UNE-P, and subloop NRC rates, shall be reduced to recognize that the costs were determined in 1996 and included estimates and charges for cost of capital and depreciation that we have not approved. Verizon applies a total annual charge factor to the building, furniture, and computer costs on a per center basis. Included in the annual charge factor is a capital factor which incorporates depreciation and a rate of return of 12.95% and income and property tax factors. The detail supporting these factors was not included in the NRC study.

The NMC shared/fixed rate of $4.44 shall be adjusted to reflect the removal of recruiting and relocation costs, and the changes to depreciation and cost of capital as discussed in Sections VII(b) and VII(c). The recruiting and relocation costs are implementation costs that should not be continually charged to ALECs. We adjust the annual charge factors for each location by 10% to estimate the impact of the recommendations in Section VII (b) and VII(c). We believe these adjustments to the NMC Shared/Fixed costs are conservative and approve reducing the additive to $3.80.

C. ORDERING - SEMI-MECHANIZED: UNBUNDLED LOOP - EXCHANGE - BASIC - INITIAL

Semi-mechanized orders contain the same five components as the manual process:

1. ESTABLISHING A NEW ORDER

Semi-mechanized does not include the Manual LSR Receipt, Manual LSR Entry and Manual LSR Editing components. The same adjustments recommended above for manual order processing and off-line processing flow through to the new semi-mechanized order.

2. DISCONNECT

Disconnect for semi-mechanized includes order processing and offline processing; we approve the same adjustments for order processing and off-line processing previously described for manual orders.

D. UNBUNDLED LOOP - SERVICE CONNECTION - EXCHANGE - BASIC - INITIAL

1. NEW SERVICE

Witness Morrison recommends reducing the time for facilities assignment to 3 minutes for the "new" component. Witness Morrison's recommended reduction is substantial. We find that a more modest reduction to 10 minutes is more reasonable to recognize the availability of mechanized systems and that the process of assigning facilities is repetitive, and approve the same.

2. DISCONNECT

Witness Morrison recommends reducing the time for disconnect under the facility assignment category to 3 minutes, which is a significant reduction. We approve a reduction to 6 minutes as more reasonable for the same reasons cited for new service.

3. CENTRAL OFFICE - NEW SERVICE

We decline to eliminate the average drive time per line/circuit for running jumpers that witness Morrison recommends. However, we do believe that a reduction to the time for running jumpers per line/circuit is appropriate. Witness Morrison recommends a reduction for this activity to 2 minutes, which is a substantial reduction. We find a reduction to 5 minutes would be more reasonable to recognize improvements in technology such as COSMIC. We do not eliminate the time for disconnect as witness Morrison recommends, as we believe that this function is necessary.

4. FIELD INSTALLATION - NEW SERVICE

We believe it appropriate to reduce the fieldwork portion of the calculation for installation of a basic unbundled loop. Witness Morrison recommends a reduction to 40 minutes, which is a significant decrease. We approve a reduction to 60 minutes. Verizon agreed that an error was made in linking the work times for fieldwork to Verizon's summary pages and here we correct the error. We make no adjustments to the disconnect cost for this item.

E. UNBUNDLED LOOP - SERVICE CONNECTION - EXCHANGE- BASIC - ADDITIONAL

We approve the same reductions for an additional unbundled loop - service connection as we did for the initial service connection for an unbundled loop for facilities assignment and central office work. For fieldwork for an additional line, witness Morrison reduces the activity to 10 minutes, but we find a reduction to 60 minutes is more appropriate. The installation of an additional line should be more efficient than the installation of the initial line.

F. ORDERING - MANUAL AND SEMI-MECHANIZED: UNBUNDLED PORT - EXCHANGE - BASIC - INITIAL

1. ESTABLISHING A NEW ORDER

The same reductions recommended for the initial basic unbundled loop would also apply to ordering ports, except for the order processing function. Witness Morrison recommends a significant reduction in the time for order processing, to 10 minutes, because he states there are fewer systems that must be accessed compared to ordering a loop. We approve reducing the order processing time to 20 minutes, as we believe that ordering a port should be easier than ordering a loop. We note that the minutes per order for order processing were provided by NMC Staff Support Personnel rather than provided by a work time study.

2. DISCONNECT

We approve the reduction of disconnect order processing to 5 minutes for the same reasons noted above for establishing a new order.

3. PRE-ORDERING

We find that pre-ordering charges shall be eliminated for semi-mechanized for the same reasons as discussed previously for unbundled loops.

4. RECORD ORDER

We make no changes to Verizon's reported minutes per order for this activity other than for manual receipt and order processing, consistent with unbundled loop. We assume that witness Morrison eliminates this function for reasons similar to his recommendation for the unbundled loop, though his testimony does not address this item.

5. NMC SHARED/FIXED COSTS

We approve the same reductions as described for unbundled loop.

G. UNBUNDLED PORT: SERVICE CONNECTION-EXCHANGE-BASIC

1. NEW SERVICE LINE/CIRCUIT

Initial and Additional - Witness Morrison's reduction in time for the initial service connection of an unbundled port to 5 minutes is a very significant reduction. We approve a time of 15 minutes as a reasonable time for this function. We also approve the same reductions to central office as described for unbundled loop.

2. DISCONNECT

Witness Morrison's reduction to 5 minutes for this activity is also significant. We approve a reduction to 10 minutes for this service as a more reasonable reduction.

H. ENHANCED EXTENDED LINK (EEL)

The work times proposed by Verizon and the ALEC Coalition appear to be extreme in most cases. Appropriate work times should reflect reasonable assumptions, not extremes. Specifically, the work times in a cost study should reflect realities (i.e., there may be times when all systems and processes work as designed and orders are error-free, and there may be other times when the processes and procedures do not work as planned and orders will be overly complex and riddled with error).

I. Ordering - DS1/DS3 EEL - 100% Manual Basis

1. NEW ORDER

Faxing - Witness Morrison recommends reducing the work times for manual faxing to 5 minutes and the time to fax a firm order confirmation (FOC) to 3 minutes. These times are significantly less than those proposed by Verizon (Verizon's specific times are proprietary). Witness Morrison contends that "Operating a modern fax machine to send even a large volume of paper is a relatively simple task considering the technology available today." Verizon did not specifically address this assertion in its rebuttal testimony.

We do believe that faxing is a simple task and the work times included in the Verizon study are excessive. However, there may be times when even a simple fax can be problematic. As such, witness Morrison's times may be overly optimistic. Therefore, we find that a reasonable assumption would be 15 minutes for a manual fax and 4 minutes to fax a FOC.

New Order Entry, Escalations & Quality Checks - This is a prime example of the extremes in work time proposals presented by the parties. ASRs are complex orders, and in many instances may take longer than 15 minutes to enter. However, we are not convinced that the work time proposed by Verizon is reasonable. We find that 30 minutes on average would be an appropriate input. The 30 minute work time would be a balance and represent circumstances when some ASRs would be more complex but other times when they would be less complex.

With regard to error corrections, quality checks, and escalations, we believe that Verizon's times are excessive. Moreover, it appears that these job functions may overlap one another. While we agree with Verizon witness Richter that the representative who takes and creates the order has to precisely input all the particulars of the ALEC request, we do not believe that numerous quality checks are efficient or necessary. The steps outlined by Verizon to achieve a complete and accurate order do not reflect an efficient provider. As such, we find that the time for error correction should be 10 minutes, escalations checks should be 15 minutes, and no time should be included for quality checks.

2. <u>DISCONNECT</u>

Production Order Entry - With regard to the disconnect portion of the ordering charge, witness Morrison reduced the time required to enter a disconnect order to 10 minutes. It appears that there is disagreement as to whether or not entering a disconnect order is a simple or complex activity. We find that neither party provided significant support for their respective position. As such, we find that 20 minutes is an appropriate work time input for this task. Error corrections should be 10 minutes and there should be no time included for quality check for the same reasons cited above.

3. RECORDS ORDERS

Manual Receipt - Witness Morrison set the minutes for manual receipt of an order to 2 minutes. We find 19 minutes to be consistent with the recommended activity time for new orders.

Order Processing - We approve the reduction of this function to 20 minutes for the 100% manual order, as record orders should be a relatively simple process.

Semi-mechanized Order Process - Witness Morrison set the number of minutes to 10. We find appropriate the same time as under manual order processing, or 20 minutes.

Service Connection - Initial- DS1- EEL- Witness Morrison also suggested several adjustments be made to Verizon's inputs for service connection charges for an initial DS1 EEL. As was the case for ordering work times, Verizon's service connection work times are also proprietary.

Order entry - Witness Morrison recommends reducing the activity time to 10 minutes, as he believes that forward-looking OSS improves efficiencies for order entries. We agree that there should be some efficiency benefits, but find 20 minutes to be more appropriate for this activity.

Facilities assignment for Hi-Cap prework - Witness Morrison recommends a substantial reduction to 15 minutes for this activity. We find a more appropriate time to be 40 minutes to recognize OSS efficiencies.

Local Loop Assignment - Witness Morrison recommends a reduction in the time for this activity to 10 minutes per occurrence, which is a very significant reduction. We approve a reduction to 90 minutes as a more reasonable reduction to recognize OSS efficiencies.

Design Group - Witness Morrison reduced Verizon's design group time to 10 minutes, which is also a very significant reduction. We approve a reduction to 60 minutes as being more reasonable for the same reasons cited above.

Testing - Witness Morrison reduced Verizon's testing time to 15 minutes because of the widespread availability and use of multi-purpose test equipment used to expedite testing. This again was a significant reduction when compared to Verizon's proprietary data. We approve a reduction to 40 minutes.

Central Office Work - For the central office portion of a service connection for the DS1 EEL, Verizon includes several hours of work time. Witness Morrison contends that based on his experience, establishing a DS1 service in the central office involves two to three cross-connects: One cross-connect on the MDF from the DSX panel, cross-connect points to the facility, and one or two DSX panel cross-connects, and a continuity test. The witness believes that this work can easily be accomplished in an hour and as such recommends reducing Verizon's estimate to one hour. We find that a more reasonable time to accomplish this activity would be two hours.

Field Work - Witness Morrison also disagrees with Verizon's input for the field work portion of the service connection for a DS1 EEL. He contends that based on his experience, the field technician would need to establish high frequency cross-connects at the serving area interface or the feeder/distribution interface and then deliver the service to the ALEC at the customer premise. He believes that this work should take no longer than 1.5 hours to complete. We approve this reduction.

J. <u>SERVICE DISCONNECTION - DS1 EELS</u>

Service Order Entry - Witness Morrison recommends a reduction to 10 minutes; however, we approve a more reasonable time of 20 minutes, as also approved above for new service order entry.

Local loop assignment - We approve a reduction for this activity time to 0.

Design Group - Witness Morrison reduces this activity time to 0. We approve reducing the time to 1 hour as we did above for new service.

Central Office - Witness Morrison reduces the time for central office service disconnection to 30 minutes because he believes that by its very nature removal of these circuits is efficient. We find that 30 minutes for this activity is appropriate.

Field Work - We approve a reduction for disconnection of the DS1 EELs by field personnel to 40 minutes.

K. OTHER NRC ELEMENTS

We believe that the other NRC elements that have not been addressed to this point should also be adjusted, since many of the remaining NRC elements either use the same NRC costs or are closely related. Witness Morrison recommended reducing all NRCs that he was not able to recalculate by 50% for ordering costs and 66% for provisioning costs. We followed a somewhat similar approach, based on the specific reductions as discussed below.

1. UNBUNDLED LOOP

Ordering - We approve reducing the exchange basic-subsequent, exchange-complex, advanced-basic, and advanced-complex minutes and costs per order based on the reductions previously approved for unbundled loop-exchange-basic-initial, as the components for these NRCs are similar. The result would be a reduction in Verizon's minutes per order and costs per order of approximately 25% for both manual and semi-mechanized. Based on our calculations for unbundled loop-exchange-basic-initial, the disconnect costs should be reduced by approximately 30% for both manual and semi-mechanized.

Service Connection - We approve reducing the corresponding service connection minutes and costs per order for the above described elements by approximately 50% based on our findings for exchange-basic-initial discussed previously for both initial and additional units. The corresponding disconnect times and therefore costs should be reduced by 30% for both initial and additional units.

2. UNBUNDLED PORT

Ordering - We approve reducing the exchange basic-subsequent, exchange-complex, advanced-basic, and advanced-complex minutes and costs per order based on the reductions previously approved for unbundled port-exchange-basic-initial, as the components for these NRCs are similar. The result would be a reduction in Verizon's minutes per order and the NRC costs of approximately 30% for both manual and semi-mechanized. Based on our calculations for unbundled port-exchange-basic-initial, the disconnect costs should be reduced by approximately 30% for manual and 20% for semi-mechanized.

Service Connection - We approve reducing the corresponding service connection minutes and costs per order for the above described NRC elements by 40% based on our findings for unbundled port-exchange-basic-initial discussed previously for both initial and additional units. The corresponding disconnect minutes and costs per order should also be reduced by 40% for both initial and additional units.

3. UNE PLATFORMS (UNE-Ps)

Ordering - We find it appropriate to reduce the exchange basic-subsequent, exchange-complex, advanced-basic, and advanced-complex based on the adjustments previously approved for both unbundled loop-exchange-basic-initial and unbundled port-exchange-basic-initial. We base our reductions for UNE-Ps on both basic loop and basic port since a UNE-P NRC includes both. We conservatively approve a 25% reduction in Verizon's minutes and costs per order for UNE-P.

Service Connection - We approve reducing the corresponding service connection minutes and costs per order for the above described elements by 45% for both initial and additional units, based on a blending of our approvals for exchange-basic-initial discussed previously for both unbundled loop and port, manual and semi-mechanized.

4. SUBLOOPS

We approve the same reduction percentages as described above for unbundled loop for both ordering and service connections as a reasonable surrogate.

5. INTERIM NUMBER PORTABILITY

Here again we approve the same reduction percentages as described above for unbundled loop for both ordering and service connections as a reasonable surrogate.

6. UNBUNDLED NID

We approve the same reduction percentages as described above for unbundled loop for both ordering and service connections as a reasonable surrogate.

7. UNBUNDLED HOUSE AND RISER

We approve the same reduction percentages as described above for unbundled loop for both ordering and service connections as a reasonable surrogate.

8. ENHANCED EXTENDED LINKS (EELS)

We approve reducing EELs minutes per order and the corresponding cost per order consistent with what was recommended for EELs, DS-1 and higher, for Advanced-Basic categories, DSO categories, and DS1/DS3 categories. The resulting reductions are 40% for manual and semi-mechanized ordering and 40% for service connection-initial order. These percentages are conservative and a reasonable surrogate for making reductions to the EEL categories.

9. INTER-OFFICE DEDICATED TRANSPORT

We approve reducing the minutes and costs per order in the Advanced-Basic and Advanced-Complex categories consistent with the reductions recommended above for EELs for both the ordering and service connection-initial unit. We believe the EEL reductions to be a reasonable surrogate for making reductions to Inter-office Dedicated Transport.

10. CLEC DEDICATED TRANSPORT

We approve reducing the minutes and costs per order in the Entrance Facility/Dedicated Transport categories consistent with the percentage reductions recommended above for EELs for both ordering and service connection-initial unit. Here again, we believe the EEL reductions to be a reasonable surrogate for making reductions to CLEC Dedicated Transport.

11. SIGNALING SYSTEM SEVEN (SS7)

We approve reducing the minutes and costs per order for facilities and trunks, trunks only, and STP Ports consistent with the percentage reductions recommended for EELs for ordering and service connection-initial unit. We find the EEL reductions to be a reasonable surrogate for making reductions to SS7.

12. DARK FIBER

We approve reducing the minutes and costs per order for the advanced service categories for dark fiber consistent with the percentage reductions recommended for EELs for ordering and service connection-initial unit. We find the EEL reductions to be a reasonable surrogate for making reductions to Dark Fiber NRCs.

13. COORDINATED CONVERSIONS

We approve reducing the minutes and costs per order for the exchange and advanced minutes per order consistent with the percentage reductions made for the ordering of an unbundled loop for both manual and semi-mechanized. We believe the reductions to the ordering of an unbundled loop to be a reasonable surrogate for making reductions to Coordinated Conversion costs.

14. HOT-CUT COORDINATED CONVERSIONS

We approve reducing the minutes and costs per order for the exchange and advanced minutes per order consistent with the percentage reductions made for the ordering of an unbundled loop for both manual and semi-mechanized. Again, we believe the reductions to the ordering of an unbundled loop to be a reasonable surrogate for making reductions to Hot-Cut Coordinated Conversion costs.

15. EXPEDITES

We approve reducing the minutes and costs per order for the UNE Loop/Port - Advanced Services consistent with the percentage reductions recommended for UNE-P as described above for both manual and semi-mechanized orders. We also believe the reductions to UNE-P to be a reasonable surrogate for making reductions to Expedites.

16. OTHER CHARGES

We approve reducing the CLEC Account Establishment minutes and costs per order by 50% as the minutes appear to be excessive for this activity for both manual and semi-mechanized orders.

L. DISCONNECT CHARGES SEPARATELY STATED

A comparison of rates between Verizon's proposed NRCs and the BellSouth approved rates was made during the hearing. Verizon is proposing a DS-1 loop NRC of $64.43, which is six times higher than

BellSouth's approved NRC for DS-1 of $10.73. Verizon witness Dye refers to the BellSouth case where BellSouth was ordered to negotiate with the ALECs a separate disconnect rate, and remove the disconnect charges from the initial connection charge. Witness Dye states that the disconnect charge for ordering a DS-1 is $15.74, which if excluded would make the manual ordering charge $48.69. Witness Dye admits that even removing the disconnect charges, Verizon's charge to connect a DS-1 loop is still significantly higher than the rate set for BellSouth.

We approve removing the disconnect charges from Verizon's NRC charges and having them listed as separate NRC rate elements, similar to what was approved in Docket No. 960846-TP, Order No. PSC-98-0604-FOF-TP, issued April 29, 1998 and what was adopted in the BellSouth UNE phase of this proceeding, Docket No. 990649-TP, Order No. PSC-01-1181-FOF-TP, issued May 25, 2001. Order PSC-98-0604-FOF-TP states that "eliminating disconnect costs from up-front NRCs is a logical way to relieve some of the burden associated with high start-up costs." As witness Richter states, in the cost study itself, the disconnect costs are isolated under their own element, so it would be very easy to remove these costs from the study and put in a separate element. The disconnect charges are listed separately in Exhibit BIS-2.

We approve the reductions in Verizon's NRC minutes per orders and therefore costs per orders as described above. We also find it appropriate to separately state disconnect costs for each NRC.

VIII(f). <u>ASSUMPTIONS AND INPUTS FOR OTHER ITEMS IN NON-RECURRING UNE COST STUDIES</u>

We now look at the appropriate assumptions and inputs for other items to be used in the forward-looking non-recurring UNE cost studies. We must determine the appropriate assumptions and inputs for any other items that are to be used in the forward-looking non-recurring UNE cost studies.

Although there is substantial testimony relating to Section VIII(f) in the record, there is no record specifically addressing Section VIII(f). Verizon witness Richter states "I have the witness responsibility for supporting Verizon's non-recurring wholesale, retail and access cost studies for all states in which the former GTE operated." In addition, witness Richter states,

> I will present Verizon's study of the non-recurring costs caused by Competitive Local Exchange Carriers (CLECs) when they order unbundled network elements (UNEs) from Verizon. I discuss the processes necessary to order, provision, and connect CLEC orders.

Throughout his testimony, no reference to Section VIII(f) is made and no additional testimony is proffered.

Additionally, ALEC Coalition witness Morrison states "I am addressing portions of Issue 8 as was described in the Commission's 'Order Establishing Procedure Phase III' dated August 2, 2001 in this proceeding." Witness Morrison's testimony primarily discusses what he asserts to be "fatal flaws" with Verizon's NRC model, but never addresses the matters at issue here directly.

DECISION

We note that the parties' post-hearing positions address several issues, all of which are combined under Section VIII(f) as subparts (a) through (f), including this Section. Verizon's post-hearing brief discusses all of these subparts specifically, except the matters at issue in this Section. This supports our conclusion that all of the matters raised by the parties have been adequately addressed in other issues. Furthermore, the ALEC Coalition's brief addresses concerns relating to the inability of third parties to manipulate the inputs to Verizon's model, notes "systemic methodological errors" and lack of documentation, and alleges Verizon's apparent reliance on its "current, embedded practices." As such, we believe that each of these concerns has been discussed in the context of the proper inputs and assumptions associated with specific issues, and need not be addressed again here. Accordingly, we find no action is needed with regard to this issue.

IX(a). APPROPRIATE RECURRING RATES (AVERAGED OR DEAVERAGED AS THE CASE MAY BE) AND NON-RECURRING CHARGES FOR CERTAIN UNES

We now decide the appropriate recurring rates (averaged or deaveraged as the case may be) and non-recurring charges for each of the following UNEs.

(1) 2-wire voice grade loop;
(2) 4-wire analog loop;
(3) 2-wire ISDN/DSL loop;
(4) 2-wire xDSL-capable loop;
(5) 4-wire xDSL-capable loop;
(6) 4-wire 56 kbps loop;
(7) 4-wire 64 kbps loop;
(8) DS-1 loop;
(9) high capacity loops (DS3 and above);
(10) dark fiber loop;
(11) subloop elements (to the extent required by us in Issue 4);
(12) network interface devices;
(13) circuit switching (where required);
(14) packet switching (where required);
(15) shared interoffice transmission;
(16) dedicated interoffice transmission;
(17) dark fiber interoffice facilities;
(18) signaling networks and call-related databases;
(19) OS/DA (where required).

Our approved recurring rates are contained in Appendix A-1 and our approved non-recurring rates are contained in Appendix B-1. The recurring rates reflect re-running the appropriate cost models to incorporate our approved inputs. The non-recurring rates reflect adjustments calculated outside Verizon's model as explained in Section VIII(d). The rates in Appendices A-1 and B-1 also reflect, where applicable, the specific rate design findings made in certain other issues (e.g., our finding on ondeaveraging).

IX(b). UNBUNDLING, COMBINING, AND PRICING OTHER UNES

Next, we are next asked if, subject to the standards of the FCC's Third Report and Order, we should require ILECs to unbundle any other elements or combinations of elements, and if so, what are they and how should they be priced.

Verizon witness Trimble states that under FCC rules, we cannot require unbundling of any additional elements unless it determines that access to an element is "necessary" and failure to provide it "impairs" the CLEC's ability to compete. According to witness Trimble, there are no additional elements that meet this test. Witness Trimble believes that we should decline to require unbundling of additional elements or combination of elements here, as it did in BellSouth's UNE pricing proceeding.

No other parties took a position on this issue. As such, we find that ILECs shall not be required to unbundle any additional UNE elements at this time.

X. RATE FOR CUSTOMIZED ROUTING

We now determine the appropriate rate, if any, for customized routing.

We note that Verizon was the only party to testify on this issue. In its Non-Recurring Study Manual, Verizon asserts that,

> Custom Routing provides the capability for routing of calls originating from CLEC lines to dedicated operator assisted or directory assisted trunk groups and the operator platform designated by the CLEC. A bona fide request (BFR) submitted after completion of an Interconnection Agreement is required for ordering of Custom Routing Service. NRCs for Custom Routing are for systems modifications, additional switch memory and labor costs for switch programming.

Verizon witness Trimble asserts that "Verizon Florida offers customized routing in all areas, subject only to site-specific technical limitations." Witness Trimble states that it is his understanding that technical limitations might include "the type of switch and the type of systems that Verizon has. . . ."

The witness goes on to assert that Verizon has not received a customized routing request since 1996. In the event customized routing is requested, witness Trimble states that "Verizon would have the CLEC submit a request at which point in time the engineers and the network folks would work together to develop what the forward-looking cost would be for that request to provision that requirement." As such, Verizon contends that it "does not believe it is necessary to establish costs and prices for customized routing in this proceeding, but will instead do so on a case-by-case basis."

DECISION

There was limited testimony presented in regards to this issue. Other than Verizon, no party filed any testimony regarding the issue. We agree that, when and if customized routing is requested by an ALEC, the costs and prices should be determined on an individual case basis (ICB). As such, we see no benefit in determining "generic" rates for customized routing at this point, especially given the fact that it appears to be so infrequently requested. Thus, we find that rates for customized routing be determined on an individual case basis (ICB) as customized routing is requested.

XI(a). LINE CONDITIONING RATE AND APPLICATION

Here we discern the appropriate rate if any, for line conditioning, and in what situations the rate should apply.

Paragraph 172 of the FCC's UNE Remand Order states:

> We clarify that incumbent LECs are required to condition loops so as to allow requesting carriers to offer advanced services. The terms "conditioned," "clean copper," "xDSL-capable" and "basic" loops all describe copper loops from which bridge taps, low-pass filters, range extenders, and similar devices have been removed. Incumbent LECs add these devices to the basic copper loop to gain architectural flexibility and improve voice transmission capability. Such devices, however, diminish the loop's capability to deliver advanced services, and thus preclude the requesting carrier from gaining full use of the loop's capabilities. Loop conditioning requires the incumbent LEC to remove these devices, paring down the loop to its basic form.

FCC Order 99-238.

Loop Conditioning or line conditioning is the removal of load coils or bridged taps from the local cable pairs[8]. According to Verizon witness Richter, load coils and bridged taps are an integral part of the copper voice grade network. However, they impede the transmission of digital signals. As such, if an ALEC requires copper pairs without load coils or bridged taps for the digital service it offers its customers, then the ALEC has the option of ordering Loop Conditioning from Verizon.

Verizon will, on occasion, condition loops as a normal course of doing business and consistent with its responsibility to groom and otherwise rearrange plant to meet customer demand in the most efficient manner possible. Conditioning loops, however, is seldom undertaken without an ALEC order to do so. This is the case since the loop, prior to conditioning, provides voice service that meets or exceeds voice quality levels. Removing a load coil or bridged tap from a cable pair requires coordination of several Verizon work groups to ensure that cable pairs of other end-users are not affected.

According to Verizon witness Dye, loop conditioning will not be provided in cases where such conditioning significantly degrades traditional voice service that Verizon offers to its end-users. He explains that this is in accordance with paragraph 85 of the FCC's Line Sharing Order[9], which states that "if conditioning a particular loop for shared-line xDSL will significantly degrade that customer's analog voice service, incumbent LECs are not required to condition that loop for shared-line xDSL."

No ALEC witness filed testimony specifically addressing the issue of line conditioning. However, Covad and the ALEC Coalition each addressed this issue in their post-hearing briefs.

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[8] A "load coil" is a device placed on copper POTS lines longer than 18,000 feet to counteract the effect of capacitance that builds up as the length of the loop increases. A "bridged tap" is a three-way splice of a cable pair such that dial tone can appear in two or more different cable pair locations.

[9]In United States Telecom Ass'n v. FCC, 290 F.3d 415 (DC Cir. 2002) the FCC's Line Sharing Order was vacated and remanded back to the FCC. This was decided May 24, 2002, after the record in this proceeding was closed. However, on September 4, 2002, the Court entered a partial stay of its decision until January 2, 2003. Therefore, at least until January, 2003, it appears that the status quo will be maintained.

In its brief, Covad argues that we should reject Verizon's proposal to impose non-recurring charges (NRC) on competitors for loop conditioning activities based upon cost studies that apply assumptions inconsistent with the TELRIC principles reflected in forward-looking recurring loop costs. Instead, Covad contends that we should adopt a $0.00 charge for loop conditioning. Furthermore, Covad argues:

> . . . load coils and bridged tap on loops are features of an antiquated network which has not been modernized in accordance with engineering standards that have been in place for more than 20 years. Accordingly, in the Bell Atlantic territories, Verizon does not even attempt to charge for load coil removal on loops under 18,000 feet in length. The presence of load coils and bridged tap in the Verizon plant today results from Verizon's failure to bring its outside plant up to modern specifications.

Covad contends that the FCC supports the analysis set forth above with explicit instruction that it (the FCC) will "*defer to the states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for nonrecurring costs.*" (emphasis in original) Covad believes that when the FCC's pricing rules for non-recurring costs are applied to the proper forward-looking network there are no conditioning costs for Verizon to recover.

To further support its argument, Covad notes that the Massachusetts Department of Telecommunications and Energy (DTE) reached "this precise conclusion when confronted with arguments from Verizon that were almost identical to the arguments it is making here." Specifically, the Massachusetts DTE found:

> Loop qualification and loop conditioning would not be necessary in a network with all fiber feeder should not be necessary [sic]. The presence or absence of load coils or bridged taps . . . [is] immaterial in a network with 100 percent fiber feeder. Verizon does not dispute this conclusion, but instead argues that "the relevant costs should take into account the network that is being used," and that it is "irrational to develop these costs on a network design . . . that was assumed for the pricing of different types of loops, such as 2-wire analog loops as a surrogate for xDSL loops . . . In so arguing, Verizon ignores our findings in the *Phase 4 Order* and the *Phase 4-*

> *L Order* where we stated that the goal of the TELRIC methodology is "to model a forward-looking telecommunications network" (Phase 4-L Order at 19), not the network in place today.
>
> . . .
>
> Concerning Verizon's argument that the FCC has explicitly allowed it to recover its costs for line qualification and conditioning, we find that this is not a correct interpretation of the FCC's Order. We believe that the FCC's directives related to recovery of loop qualification and conditioning costs are only relevant to states that have assumed copper feeder for purposes of calculating TELRIC. The FCC has not directed states to assume copper feeder in calculating TELRIC, and, without such a directive, it would be illogical for the FCC to mandate the recovery of costs that are relevant only to a network assumption that may not have been approved in a particular state. MA Decision at 86-87.

Covad reiterates that for these same reasons the FPSC should order that loop conditioning charges (load coil removal and bridged tap removal) be set at zero as it did in the BellSouth UNE Order and as the commissions of Georgia and Louisiana have also done.[10]

The ALEC Coalition argues that the FCC's UNE Remand Order states that a forward-looking network would not require voice-enhancing devices (i.e., disturbers such as load coils and repeaters) on loops of 18,000 feet or shorter. Therefore, it believes that any cost recovery for line conditioning, including non-recurring costs, must comply with the FCC's TELRIC pricing rules. Thus, the ALEC Coalition argues that there is no cost-based need to impose any recurring or nonrecurring line conditioning charges on loops that are less than 18,000 feet in length. Moreover, they contend that it would never be appropriate to recover any incremental line conditioning costs through a non-recurring charge.

According to its non-recurring cost study documentation, Verizon developed costs to remove one or multiple bridged taps or

[10]Our decision in the BellSouth UNE order that a zero rate is appropriate was applicable to load coil removal on loops under 18,000 feet, not all loops that required conditioning. Order No. PSC-01-1181-FOF-TP.

load coils. Costs are reflected on a per cable pair basis as "One Occurrence" or "Multiple Occurrences" for bridged tap removal and combinations of bridged tap and load coil removal. Separate costs were developed for load coil removal only, without any bridged tap removal. Unlike other loop conditioning proposals this Commission has reviewed in past proceedings, Verizon's proposed rates are applicable to loops both over and under 18,000 feet. Verizon's proposed loop conditioning elements and their respective rates are shown in Table 11A-1.

TABLE 11A-1
VERIZON'S PROPOSED LOOP CONDITIONING ELEMENTS AND APPLICABLE RATES

Element Name	Initial Non-Recurring Rate	Additional Non-Recurring Rate
Bridged Tap Removal Only	$ 2188.71	$ 52.62
Load Coil Removal Only	$ 2789.47	$ 109.68
Bridged Tap & Load Coil Removal	$ 3507.56	$ 162.30

A. <u>Verizon's Cost Methodology</u>

The times and cost factors associated with load coil and bridged tap removal were developed by Verizon's Outside Plant Construction and Outside Plant Engineering support groups. Subject Matter Experts (SMEs), in conjunction with field managers, identified the activities and times to accomplish loop conditioning activities. Verizon's SMEs are located in Irving, Texas and are the support group for all field forces. The SMEs consulted with the field forces to verify that the times and activities were valid. This information was collected and prepared in April 2000.

B. <u>Load Coil Removal</u>

As noted by witness Richter, he believes that load coils are an integral part of the copper voice grade communications network. Their purpose is to provide for the proper operation of voice grade equipment on loops that exceed normal accepted telecommunications voice grade circuit length. As explained in Verizon's UNE non-recurring study documentation, load coils cannot be removed from exchange plant when required to ensure transmission and signal levels. In addition, load coils have been in the network in the past and are still used today for those loops that exceed the limits of the switching equipment. However, in many cases, based on previous outside plant usage, load coils exist on loops that no longer require them.

Because load coils inhibit the proper transmission of the high frequency signals on the circuit, they are not needed in provisioning of high frequency circuits. In order for the high frequency circuits to work correctly, a loaded cable pair must be deloaded.

Verizon believes that a conservative estimate of the number of load coils by loop footage is as follows:

TABLE 11A-2 LOAD POINTS BY LOOP FOOTAGE		
Cable Footage	**Average Load Coils Initial Pair**	**Average Load Coils Additional Pair**
0 to 18K	2	2
>18K to 21K	3	3
>21K to 27K	4	4

(Source: EXH 50, Section 4, p. 7)

When the ALEC requests a conditioned loop, a request is sent to the local engineering department to analyze the network and draft a work order for the pair to be deloaded. The engineering group will create a work order that will be sent to the outside plant construction forces outlining the work necessary to deload the cable pair. Then the outside plant construction splicing group will review the order and advise the engineering group upon completion. The engineering group will then advise the service office if the order can be worked as requested. All records are updated showing the change in the loading of the pair.

As explained in the NRC study documentation, the cost to remove a load coil considers the amount of aerial, buried and underground plant. The time to perform the activities is then multiplied by the loaded labor rate of a construction cable splicer. In the case of underground cable, two cable splicers are necessary to perform the task. Therefore, the time required to perform this function is doubled. Load coil removal costs are on a per pair basis.

C. Method of Calculation

The first criterion used by Verizon in determining the cost of removing a load coil is to ascertain the footage of aerial, buried cable and underground cable. This is done because of the differences in the amount of time needed for load coil removal in the various types of outside plant. The time for removal is calculated as an average across the various types of outside plant.

Load coils are placed on copper voice grade loops based on the distance from the central office. The load coils are placed at engineering distances to develop the maximum result. Therefore, as the footage of the cable increases from the central office, the number of load coils increases proportionally (see Table 11A-2 above). The length of cable footage is used to determine the number of loads to be removed. An inventory of cable lengths is completed on the specific state. The footages are segregated into the various lengths that require the addition of a load coil. This percentage is then used to weight the time necessary to complete the load coil removal in that type of plant.

The resulting calculation from the two steps above provides the amount of minutes to remove the load coils. The minutes are then multiplied by the loaded labor rate for a construction cable splicer for the specific state. This calculation provides a cost for load coil removal. The engineering costs are calculated by multiplying the minutes required to complete a work order for load coil removal, by the loaded labor rate for an outside plant engineer. The engineering process will be the same regardless of the number of load coils being removed.

While the minutes associated with each activity are proprietary, listed below is a description of the various steps for load coil removal.

TABLE 11A-3 **Load Coil Removal Aerial/Buried Plant** **Description of Field Work Activities**
Receive work assignment from supervisor and travel to job site.
Upon arrival at job site, set up work area protection.
Set up bucket truck and/or ladder and platform.
Identify and open the splice case.
If required, send tone from the central office on the pair to be unloaded.
After identification of the pair, monitor to ensure there is no traffic.
Cut off pair at both ends and splice pair through.
Close splice case.
Tear down site set up and remove work area protection

TABLE 11A-4 **Load Coil Removal Underground Plant** **Description of Field Work Activities**
Receive work assignment from supervisor and travel to job site.
Upon arrival at job site, set up work area protection.
Open manhole and begin purging the manhole to dissipate any stagnant gas, ensure against oxygen deficiency, and provide a complete air change in the manhole.
Pump manhole if necessary.
Test the manhole environment to ensure there is no combustible gas prior to entering.
Set up the inside of the manhole for work to be done.
Identify and open the splice case.
If required, send tone from the central office on the pair from which load coil to be removed.
After identification of the pair, monitor to ensure there is no traffic.
Cut off pair at both ends and splice pair through.
Close splice case.
Tear down site set up and remove work area protection

TABLE 11A-5 Load Coil Removal & Bridged Tap Removal Description of Engineering Work Times
Upon receipt of the Line Sharing service request for an Access Design work order to condition existing facilities: records research, via CAD system(ICGS), AAIS inventory systems, plat extraction for field notes.
Coordinate any customer consultations with customer focal point, Marketing contact representative.
Perform any site-field verification.
Design work order requirements.
Design and research any requirements for permits, traffic plans, etc…
Perform any design loop requirements necessary through ICGS/DSTS systems.
Coordinate scheduling with Operations Center.
Draw work order, and permit in the CAD system (ICGS), populate work order number assignment, and labor scheme. Automatically preposts upon work approval through ICGS & CPMS.
Receive the preliminary work order design in the Facility Assignor Surveyor group for any AAIS posting requirements. Also, if any cut over inventory record is required.
Release approved work order copies to Access Construction and the Operations Center.
Coordinate any customer communication needed for processing with the CLEC.
Update Marketing contact representative and or customer for any processing updates.
Receive completion notice of Access Construction completed through the Operation Center.
Receive the completed closed out work order in the Facility Assignor Survey group for any inventory AAIS posting requirements.
Receive the completed closed out work order in Drafting, for final posting within the CAD (ICGS) system ICGS system translates with the accounting CPR system for accounting purposes

D. Bridged Tap Removal

Bridged tap is a condition in which a cable pair branches off to serve various locations. While the branches provide flexibility in the use of the cable pairs, like load coils, they impair the transmission of high frequency signals. The bridged tap does not affect voice grade signals and according to the cost study documentation, this method of provisioning copper voice grade service has been an accepted method by all telecommunication companies for years.

When the ALEC requests a conditioned loop that requires all the cable pair bridged taps to be removed, Verizon's engineering department is advised and the outside plant engineering records are examined to determine the location of the bridged taps. A work order is created to remove the bridged taps and is sent to the outside plant construction work group. A construction cable splicer is then assigned to the activity and the pair is cleared of the taps.

Verizon determined its costs for removing bridged taps in the same manner as load coil removal. Outside plant engineering and construction support SMEs, in conjunction with field forces, determined the activities and the times required to perform the removal. In addition, it was necessary for Verizon to determine the number of bridged taps that may need to be removed. This was determined by acknowledging that the minimum number of removals would be one, and the maximum number is unknown. It was determined that the maximum number would need to be at least two, and could be three or more taps. As noted in the study documentation, a conservative estimate is to average the minimum of two and three, which results in an average of two and one-half.

E. Method of Calculation

The calculation for bridged tap removal is for both single and multiple occurrences of bridged taps. These occurrences, single or multiple, apply to only one pair. The calculation is based on the amount of time required to remove a bridged tap from the cable pair. This time considers the amount of aerial/buried and underground cable in the specific state. The time to perform the activities is multiplied by the loaded labor rate of a construction cable splicer. The same calculation is performed for the multiple occurrences scenario. The engineering time for bridged tap removal involves the same type functions necessary to determine the number and location of load coils on a cable pair. Therefore, the engineering time is the same for bridged tap removal. The bridged tap costs are on a per pair basis.

While the minutes associated with each activity are proprietary, listed below is a description of the various steps for bridged tap removal. Engineering activities are shown in Table 11A-5.

TABLE 11A-6 **Bridged Tap Removal Aerial/Buried Plant** **Description of Field Work Activities**
Receive work assignment from supervisor and travel to job site.
Upon arrival at job site, set up work area protection.
Set up bucket truck and/or ladder and platform.
Identify and open the splice case.
If required, send tone from the central office on the pair from which bridged tap is to be removed.
After identification of the pair, monitor to ensure there is no traffic.
Cut off bridged tap and splice pair through.
Close splice case.
Tear down site set up and remove work area protection

TABLE 11A-7 **Bridged Tap Removal Underground Plant** **Description of Field Work Activities**
Receive work assignment from supervisor and travel to job site.
Upon arrival at job site, set up work area protection.
Open manhole and begin purging the manhole to dissipate any stagnant gas, ensure against oxygen deficiency, and provide a complete air change in the manhole.
Pump manhole if necessary.
Test the manhole environment to ensure there is no combustible gas prior to entering.
Set up the inside of the manhole for work to be done.
Identify and open the splice case.
If required, send tone from the central office on the pair from which bridged tap is to be removed.
After identification of the pair, monitor to ensure there is no traffic.
Cut off pair at both ends and splice pair through.
Close splice case.
Tear down site set up and remove work area protection

DECISION

Here again there was limited testimony on this issue. However, based on the stated positions of the parties, it is clear that there is disparity as to whether or not any rate should apply to Verizon's proposed loop conditioning elements. As stated in the ALEC Coalition's position statement: "There is no need to impose any recurring or nonrecurring line conditioning charges on loops that are less than 18,000 feet in length. Moreover, it would never be appropriate to recover any incremental line conditioning investment through a nonrecurring charge." Similarly, Covad's position is: "In a forward-looking network line conditioning is unnecessary; hence a zero rate should apply. This was the Commission's policy based-determination in the BellSouth UNE Orders, and it has been presented with no evidence in this docket indicating that a modification of this policy should be made for the benefit of Verizon."

On the other hand, Verizon argues that: "ILECs must be allowed to recover the NRCs incurred to perform loop conditioning." In addition, Verizon witness Dye contends that the loop conditioning non-recurring rates should apply to all loops requiring conditioning. He states that in the BellSouth UNE proceeding, we correctly concluded that the FCC's UNE Remand Order allows ILECs to charge for loop conditioning on all loops, whether over or under 18,000 feet in length. Consistent with this holding, he explains that Verizon will assess its loop conditioning non-recurring charge or rate, regardless of the loop length, when the ALEC specifies on the local service request (LSR) that loop conditioning is required. These non-recurring rates reflect the costs that Verizon will incur to condition loops at the request of ALECs.

Regarding the issue of compensation for loop conditioning, the FCC stated in Order FCC 99-238 (the UNE Remand Order):

> In the Local Competition First Report and Order, the Commission also stated that requesting carriers would compensate the incumbent LECs for the cost of conditioning the loop. Covad and Rhythms argue that, because loops under 18,000 feet generally should not require devices to enhance voice-transmission, the requesting party should not be required to compensate the incumbent for removing such devices on lines of that length or shorter.
>
> . . .
>
> We agree that networks built today normally should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter. Nevertheless, the devices are sometimes present on such loops, and the incumbent LEC may incur costs in removing them. Thus, under our rules, the

> incumbent should be able to charge for conditioning such loops.
>
> . . .
>
> We recognize, however, that the charges incumbent LECs impose to condition loops represent sunk costs to the competitive LEC, and that these costs may constitute a barrier to offering xDSL services. We also recognize that incumbent LECs may have an incentive to inflate the charge for line conditioning by including additional common and overhead costs, as well as profits. We defer to the states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for nonrecurring costs.

FCC Order 99-238 at ¶¶ 192-194.

In their briefs the ALECs identified several reasons why they believe the rates for loop conditioning should be zero. However, none of these reasons was advanced in testimony, and in some cases the ALECs simply make a statement with little or no argument in their brief. For example, the ALEC Coalition contends that it would never be appropriate to recover any incremental line conditioning investment through a non-recurring charge, but they fail to explain why. We are also bothered by the fact that Covad argues that a zero rate should apply to <u>all</u> loop conditioning elements and does not provide this Commission with any information to develop a rate other than zero if it deems appropriate. Covad proffered no evidence to contradict any assumptions or inputs contained in Verizon's loop conditioning cost study.

We believe no charge should apply for loop conditioning for loops under 18,000 feet. As noted by Covad in its brief: " . . . a zero rate should apply. This was the Commission's policy based-determination in the BellSouth UNE Orders, and it has been presented with no evidence in this docket indicating that a modification of this policy should be made for the benefit of Verizon.[11]"

Specifically, in the decision identified above by Covad, we found, in pertinent part:

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[11]As previously noted, Covad's statement is somewhat misleading. Our decision in the BellSouth UNE order that a zero rate is appropriate was applicable to load coil removal on loops under 18,000 feet, not all loops that required conditioning. Order No. PSC-01-1181-FOF-TP.

> . . . loop conditioning for short loops, element A.17.1, shall be eliminated. Based on the record, this does not appear to be consistent with a forward-looking cost methodology.
>
> . . .
>
> Nevertheless, for loops shorter than 18 Kft., loop conditioning does not appear to be consistent with a forward-looking cost methodology.
>
> Therefore, upon consideration, we shall set rates for the loop modification elements, with the exception of A.17.1.

Order No. PSC-01-1181-FOF-TP, BellSouth UNE Order, issued May 25, 2001, pp. 459-460.

In addition, in our Order on Reconsideration we found:

> . . . As recognized in our Order at p. 459, "Nevertheless, for loops shorter than 18 Kft., loop conditioning does not appear to be consistent with a forward-looking cost methodology." We emphasize that there was extensive discussion regarding this issue at the April 18, 2001, Agenda Conference. <u>As clearly stated in the Order, we made our decision to reject nonrecurring charges for load coil removal on short loops based upon a policy decision that a forward-looking network would not have load coils on short loops</u>. BellSouth has not identified anything we overlooked, and in fact, acknowledges that short loops in a forward-looking network would not have load coils on them. As such, BellSouth's Motion on this point shall be denied. (emphasis added) (PSC-01-2051-FOF-TP, BellSouth UNE Reconsideration Order, issued October 18, 2001, p. 15)

As part of our staff's discovery, Verizon was asked to:

> Please explain what circumstances, if any, should result in the FPSC reaching a different decision than that reached in Order PSC-01-1181-FOF-TP and PSC-01-0251-FOF-TP regarding the applicable rate for removing load coils from loops under 18kft.

The company replied:

> Verizon will remove load coils and perform other loop conditioning as requested by each individual CLEC. The very fact that the network assumed by the recurring cost model excludes the costs of removing load coils-for loops both greater than and less than 18kf in length-mandates that the nonrecurring cost study and attendant rates must include them. To do otherwise would place the burden of these costs solely on the incumbent LECs and would give the new entrants an unwarranted competitive advantage. Moreover, the Telecommunications Act of 1996 provides for the recovery of the ILECs' actual costs. The situation predicated in this interrogatory makes it clear that such costs exist, and to prohibit their recovery would violate the Act.

At his April 10, 2002, deposition witness Dye was asked if he would agree that we decided in the BellSouth UNE Order that there should not be a charge to remove load coils from loops under 18 kilofeet. He responded, "I agree that is what it says there, yes." The witness was also asked why a loop under 18 kilofeet would have load coils present. He explained:

> . . . over time that particular loop may have provided voice service at a length over 18 kilofeet. And over time through various grooming activities, et cetera, customer movement, what have you, the loop is now shorter than it was historically. And it perhaps historically needed load coils and now it is shorter. It could be the existence of a new remote CO. The switches perhaps have been replaced over time and moved and now the loop is shorter than it was previously.

The witness believes there are several reasons why loops under 18,000 feet are loaded but "it is mostly historical reasons."

The witness was asked to read several pages from the FPSC's BellSouth UNE Order and then asked a series of questions based on what he read. First, the witness was asked to explain why Verizon does not remove load coils from more than one pair at a time for loops under 18 kilofeet. He explained (assuming 25 pairs were deloaded) that he believes Verizon would severely under recover its cost for deloading the initial cable pair and potentially would never recover its incremental cost of deloading the other 24 loops. Furthermore, he stated that ". . . from a pricing perspective it is a matter of cost-recovery and recovering the expense of deloading the pairs."

The witness was then asked if he thought there could be times when deloading multiple pairs on loops under 18 kilofeet would be more efficient or cost-effective than deloading a single pair at one time. He replied:

> Maybe, maybe not. And let me, again, give you an example. If we only get a demand for one cable pair in the binder group. We go out and we deload that one cable pair, and that is all the demand we receive, then it is more efficient to deload the one cable pair rather than the 25 because there is no incremental cost associated with the time spent deloading the other 24 cable pairs. So efficiency, given the demand to deload the one cable pair is all we ever receive, then it is more efficient to do the one than the 25. There is no reason, there is no economical reason to do 25. It doesn't degrade the voice. If we never received any more requests to do the other 24, it is certainly more efficient to do the one. So it depends.

Finally, the Verizon witness was asked to review pertinent portions of FCC Order 99-238, in conjunction with the FPSC's BellSouth UNE Order, and was asked several questions regarding what he read. He agreed that in the BellSouth docket we decided that there should not be a charge to remove load coils from loops under 18 kilofeet.

While we are aware that Verizon and BellSouth are two distinct companies, we believe that Verizon provided no new facts here that should cause us to reconsider our decision to "reject nonrecurring charges for load coil removal on short loops based upon a <u>policy decision</u> that a forward-looking network would not have load coils on short loops." (emphasis added) PSC-01-2051-FOF-TP, BellSouth UNE Reconsideration Order, issued October 18, 2001, p. 15. As such, we believe that a rate of zero should apply to load coil removal for all loops under 18,000 feet. Verizon was given the opportunity to provide additional information in both an interrogatory response and at deposition as to why a rate other than zero could be appropriate for load coil removal on loops under 18,000 feet. We were not persuaded by the information provided, and therefore, we find that there shall be no charge to remove load coils on loops under 18,000 feet[12].

For loops over 18,000 feet, we believe some charge is appropriate. However, the rates proposed by Verizon appear to be excessive. Since ALEC testimony was lacking, we obtained a great deal of information through deposition and discovery. We believe that there are inputs in the Verizon filing which lack support and frankly, Verizon's rates do not pass the "red face test."

As a starting point, we asked Verizon to provide an explanation as to why its loop conditioning rates appear to be four to five times higher than the loop conditioning rates proposed by BellSouth and Sprint. Verizon responded:

> Verizon objects to Interrogatory 261 because it is unduly burdensome; seeks information that is not relevant to the instant proceeding; and is not calculated to lead to the discovery of relevant or otherwise admissible information. The same objections Verizon made in response to Interrogatory No. 259 apply here. Verizon is not aware of, nor generally familiar with, BellSouth's or Sprint's costs or rate structures for loop conditioning, and thus it would be unduly burdensome for Verizon to conduct the research necessary to attempt to discern why Verizon's rates might be different. Moreover, as discussed in response to Interrogatory No. 259, Sprint's and BellSouth's costs of providing UNEs are irrelevant to the issues to be decided by the Commission in this proceeding.

Verizon's assertion that " . . . Sprint's and BellSouth's costs of providing UNEs are irrelevant to the issues to be decided by us in this proceeding" is less than compelling. We believe it is appropriate to compare like elements as a gauge of reasonableness. Verizon witness Richter attempted to draw a similar comparison at hearing when he stated:

> . . . there is a detailed process that needs to go through -- that anyone would go through in order to deload a cable pair. . . . I am confident that the times that are there

[12] Verizon does not track what percentage of its loops under 18kft have load coils.

> would be representative of times that it would take either a BellSouth employee, a Verizon employee, a Sprint employee, even a contractor that does telecommunications work may be hired to do the work, that the proficiency and the productivity would be basically the same.

However, it appears that witness Richter's comments are not consistent with the significant differences in rates proposed by Verizon and those proposed by BellSouth in our prior UNE proceeding[13].

On cross-examination, Verizon witness Richter was asked to review an exhibit prepared by Covad comparing loop conditioning rates proposed by Verizon in this proceeding, the rates we ordered for BellSouth, and the current rates from the Interconnection Agreement between Verizon and Covad. The Loop Conditioning Cost Comparison was identified as Exhibit 59 and has been reproduced below.

Table 11A-7: Exhibit - 59 Loop Conditioning Cost Comparison

ELEMENT	Nonrecurring		
	Verizon Proposed[1]	Commission-Ordered Rates: BellSouth[2]	Verizon Current (Florida)[3]
Conditioning (short)	$2789.47	$0.00	$0.00
Conditioning (long)	$2789.47	$309.32	$249.91
Bridged tap removal (short)	$2188.71	$0.00	$0.00
Bridged Tap removal (long)	$2188.71	$10.52	$318.71
Loop Makeup (mechanized)[4]	$0.51	$0.68	unknown

[1]Rates cited are extracts from Verizon Exhibit BIS-1 attached to the direct testimony of Mr. Bert I. Steele in Docket No. 990649B-TP before the Florida Public Service Commission.
[2]Rates cited are extracts from the Order No. PSC-01-1181-FOF-TP in Docket No. 990649-TP, Final Order on Rates for Unbundled Network Elements Provided by BellSouth, May 25, 2001.
[3]Rates cited are extracts from the Interconnection Agreement between Verizon and Covad Communications Company.
[4]Loop makeup will be addressed in Section XI(b).

[13]The rates shown in Table 11A-7 are the BellSouth rates ordered by this Commission. In order to compare apples to apples, the BellSouth proposed rates for its various conditioning elements are: Load Coil Removal Short - $65.40; Load Coil Removal Long $710.71 (first), $23.77 (additional); Bridged Tap Removal $65.44. Order No. PSC-01-1181-FOF-TP, Appendix A, p. 564 .

Witness Richter was asked to explain why Verizon's conditioning costs are almost $2800.00. He replied:

> In order to deload that particular cable pair an engineer is going to have to go to the records and find out exactly where the load coils are in the network. First, I would like to say that we never just have one load coil on a loop. . . . Once the engineer has the order drafted and he explains in the work order the work that needs to be done, he will then send that to the outside plant construction forces, those people that would actually go out in the field and actually perform the activity. . . . in underground normally two technicians will go for safety reasons, that you would go out and set up all of your men working signs. . . . the technicians would go to where the manhole is where the first load coil is, set up his work, set up the men working signs, put up all the safety apparatus. Upon opening the manhole, he would have to do his required test for gas, those type things. He would need to set up his equipment to purge the air that is in the manhole. If it is in an area where there is water in the manholes, then he would have to pump the manhole, which takes time depending on how much water would need to be excavated from the manhole. The next thing he would need to do is go down into the manhole where there is going to be numerous cables and identify the cable that he is going to be working on. Once he does that he is going to have to open a sleeve where the cable is spliced into the load coil and then the load coil tail comes out and then goes to the next on down into the field. When you open that sleeve, you have to go to two points on the other side and establish an auxiliary air pressure system, that being nitrogen bottles, because underground cables are pressurized in order to keep the water out. . . . Once you do that you will have someone at the central office put a tone on the specific pair that you need to find. There is no color coding, you would actually have to find the pair from the tone. Once you would do that, you would cut the pair down where it goes into the load coil. You will cut that off, you would see where it comes out of the load coil and goes on to the cable going further down the road. You would take and cut that off and then you would splice those two together. In some cases where the cables are extremely large you have a splice sleeve for the in portion of the load coil and

> you also have a separate sleeve for the out portion of the load coil, so now you have to go into two sleeves and then develop some way to get the cable pair continuity between the two sleeves. You then close up, close up your sleeve. You bolt it up, you test it to make sure that it doesn't have any leaks. You would then after you feel confident that you do not have any leaks on your sleeve, you would then vacate that location and go to the next one and basically perform the same type activities.

He was then asked "Now, when Verizon wants to provide DSL service to one of its own customers, does it have to perform these same functions[14]?" The witness replied that Verizon would perform the same functions regardless of who is making the request for a cable pair to provide DSL service. In addition, the witness was asked to assume that ADSL service sells for $50 a month and that 100 percent of that $50 was applied to the cost of removing a load coil, then it would take nearly 56 months for that loop to become profitable. Witness Richter agreed, but he noted:

> The point that I would like to make, though, is that not every cable pair that is out there is loaded. So there are many more cable pairs that are not loaded that ADSL will function over as it was designed to be versus the quantity of cable pairs where ADSL service is requested that are actually loaded. So, these costs would not apply unless the service address or the cable pair that served that particular address was loaded.

Witness Richter was asked to clarify if the $2,800 cost which was referenced earlier for conditioning, is for conditioning one loop; the witness clarified that yes, it is. The witness was also questioned regarding the costs of conditioning multiple pairs at one time. Specifically, he was asked "Now, what would be the cost if you sent a technician out to do 100 at one time?" The witness replied:

> . . . the only difference would be the time that it would take to actually cut the pair down from going into the load coil and then splicing it back together. All of the

[14] During cross-examination witness Richter agreed that for an ADSL service to be provided, as a general proposition it cannot be provided over a loop that contains a load coil.

> other activities would stay the same. It would just -- you would still open your sleeve, do all of those type things and close it up.

The witness contends that it is Verizon's policy to only condition those pairs that were requested. Witness Richter explains that the reason for this policy is "we don't know if someone in that particular cable complement where we would be taking the loads off is actually going to request additional DSL. And in each complement there are 25 pairs, so you have the potential of 25 customers." He continues by stating:

> We can forecast activity and types of services that will be provisioned out of the central office, but to get it down to a cable complement or a cable pair to say, okay, these two customers on cable pair one and two are going to request DSL service . . . . And I've got a request for cable pair one, so I'm going to go ahead and deload cable pair two. There is no way for us to know that. So we could deload five or ten pair on the trip in, but that doesn't mean that one of those customers that are working on those cable pairs are going to come back and ask for DSL service. We may deload, as an example, pairs one through ten. We have a customer on pair one that now has DSL service, but next week the customer that is working on pair eleven requests service, so we would be out there again deloading that particular pair because it wasn't in the ten that we chose. So there is no way to determine when we are there which actual pairs would be used for DSL service.

The Verizon witnesses were also asked to explain why Verizon's interconnection agreement with Covad has a rate of only $249.91 for loop conditioning, compared to the Verizon proposed rate of $2,789.47. Witness Richter stated that:

> The only thing that I can say is that the $249.91 was a rate that was established. I can tell you that the information that is provided in the cost study which relates in the approximately $2,800 for the loop conditioning are the actual costs that Verizon would incur when they would go out and actually deload a cable pair as we discussed earlier today. This cost study looks at the actual cost based on average times that it would take to perform that activity, and that [sic] what is our cost

> study displays. I am not sure where the $249.91 comes from or what it was based upon.

Witness Dye added that he was not aware how the $249.91 rate was developed. When asked if Verizon would enter into an interconnection agreement if it was not in their economic best interest, he noted that negotiated agreements are generally packages and there is some give and take on various issues. It was quickly pointed out that it appeared that "the give or the take here was approximately $2,500 less than the actual cost of providing the service."

We believe that the inputs to Verizon's loop conditioning study may be flawed. Specifically, we had concerns regarding the minutes per occurrence in the study, which are based on SME opinion and appear to be extreme. Again, we do not believe they pass the "red face test."

Although the numbers in the study are confidential, we attempt to provide examples of inputs which appear to be outrageous. First, in its study Verizon includes more than one business day (i.e., > 8 hours) of engineering time for conditioning a loop. As noted earlier, when the ALEC requests a conditioned loop, a request is sent to the local engineering department to analyze the network and draft a work order for the pair to be deloaded. The engineering group creates a work order that will be sent to the outside plant construction forces outlining the work necessary to deload the cable pair. We find it difficult to believe that this process would take in excess of one business day.

Second, the time allocated for the outside plant construction group to complete its task (those identified in the tables above) for loop conditioning is in excess of three business days (i.e. > than 24 hours). The cumulative times for the work groups are excessive because it should not take an efficient company more than four business days (engineering time and construction time) to complete one loop conditioning request.

In addition, it appears that to determine the work time necessary to condition loops in underground plant, Verizon simply doubles the work time minute inputs for conditioning aerial/buried plant (for those activities common to both environments). For example, to remove load coils or bridged tap in either aerial/buried plant or underground plant one of the first steps identified in Verizon's study is "Receive work assignment from supervisor and travel to job site." There is time in minutes identified for this activity for aerial/buried plant, and this time apparently is simply doubled and included in the study for conditioning underground plant. This appears to be completely inappropriate. While we acknowledge, based on the testimony filed, that there are cost differences when working in various types of plant, we finds it incredulous that the minutes for each activity would double when working underground. We do not believe it should take twice as long for a cable splicer to receive a work assignment from the supervisor and travel to the job site, just because the field work is in underground plant rather than aerial/buried plant.

Verizon provided no new facts here that should cause us to reach a different conclusion from our decision to "reject nonrecurring charges for load coil removal on short loops based upon a policy decision that a forward-looking network would not have load coils on short loops." (emphasis added). PSC-01-2051-FOF-TP, BellSouth UNE Reconsideration Order, issued October 18, 2001, p. 15. As such, our decision that a rate of zero apply to load coil removal for all loops under 18,000 feet is appropriate.

For loops over 18,000 feet, we believe Verizon's proposed rates are excessive. Furthermore, some of the inputs to the loop conditioning cost study are flawed; therefore, the study should not be relied upon to set rates for loop conditioning. As such, the only rates this record will support are those contained in the Covad/Verizon Interconnection Agreement. These rates were negotiated by Verizon and Covad and while we agree that the negotiation process involves give and take, we don't believe Verizon would make a $2500 concession.

Thus, the appropriate rates for line conditioning are those approved in Appendix B-1.

XI(b). LOOP QUALIFICATION INFORMATION RATE AND APPLICATION

Next we determine the appropriate rate, if any, for loop qualification information, and in what situations the rate should apply.

As noted by Verizon witness Richter, the FCC mandates that the ILEC provide requesting ALECs with nondiscriminatory access to the same detailed information about the loop that is available to the ILEC. Specifically, the issue of loop qualification was addressed by the FCC in paragraphs 426 - 429 of its UNE Remand Order. These paragraphs state, in pertinent part:

> . . . the Commission should clarify that the pre-ordering function includes access to loop qualification information. Loop qualification information identifies the physical attributes of the loop plant (such as loop length, the presence of analog load coils and bridge taps, and the presence and type of Digital Loop Carrier) that enable carriers to determine whether the loop is capable of supporting xDSL and other advanced technologies.
>
> . . . an incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent, so that the requesting carrier can make an independent judgement about whether the loop is capable of supporting the advanced services equipment the requesting carrier intends to install.
>
> . . . an incumbent must provide access to the underlying loop information and may not filter or digest such information to provide only that information that is useful in the provision of a particular type of xDSL that the incumbent chooses to offer. . . . the incumbent LEC must provide access to the underlying loop qualification information contained in the engineering records, plant records, and other back office systems so that requesting carriers can make their own judgements about whether those loops are suitable for the services the requesting carrier seeks to offer. Otherwise, incumbent LECs would be able to discriminate against other xDSL technologies in favor of their own xDSL technology.
>
> We disagree, however, with Covad's unqualified request that we require incumbent LECs to catalogue, inventory, and make available to competitors loop qualification information through automated OSS even when it has no such information available to itself. If an incumbent LEC has

> not compiled such information for itself, we do not require the incumbent to conduct a plant inventory and construct a database on behalf of requesting carriers. We find, however, that an incumbent LEC that has manual access to this sort of information for itself, or any affiliate, must also provide access to it to a requesting competitor on a non-discriminatory basis. In addition, we expect that incumbent LECs will be updating their electronic database for their own xDSL deployment and, to the extent their employees have access to the information in an electronic format, that same format should be made available to new entrants via an electronic interface.

Verizon's Mechanized Loop Pre-Qualification Process

Verizon offers a Mechanized Loop Pre-Qualification (MLPQ) process which provides a means for an ALEC to perform a loop qualification analysis. Witness Richter explains that the MLPQ process provides the requesting ALECs with nondiscriminatory access to the same information that was used in Verizon's retail ADSL offering. The information includes: (1) composition of the loop material, including but not limited to fiber optics or copper; (2) the existence, location, and type of any electronic or other equipment on the loop, including but not limited to digital loop carrier or other remote concentration devices, feeder/distribution interfaces, bridged taps, load coils, pair-gain devices, disturbers in the same or adjacent binder groups; (3) the loop length, including the length and location of each type of transmission media; (4) the wire gauge(s) of the loop, and (5) the electrical parameters of the loop, which may determine the suitability of the loop for various technologies.

The ALECs utilize a Graphic User Interface (GUI) on Verizon's Internet-based Wholesale Internet Service Engine (WISE) to access the MLPQ capabilities. Witness Richter notes that this access was chosen because ALECs currently have access to this interface and utilize it on a regular basis. The ALEC accesses the MLPQ form and enters either a working telephone number or a valid address into the system. The WISE system interfaces with a report generation program which then accesses several different systems providing the ALEC with the information listed below.

- NPA and NXX
- Local Termination CLLI
- Existence of a pair gain or DLC and if present, the type
- Existence of DAML in the loop
- Type of loop length provided (actual or electronic measurement)
- Loop length
- Loop length by gauge of cable
- Type of any load coils
- Quantity of load coils
- Location of load coils
- Quantity of bridged taps
- Location of bridged taps
- Type and number of disturbers in the feeder cable of the loop
- Type and number of disturbers in the distribution cable of the loop
- Composition of the feeder and distribution cables
- Wire center name
- OBF response codes and descriptions

Verizon proposes a non-recurring rate additive for recovery of the transition costs associated with allowing ALECs to perform loop qualification utilizing the MLPQ process. Witness Dye asserts that the MLPQ costs should be recovered from ALECs because they are the parties demanding the service. He believes the most efficient pricing structure is one based on access to and use of Verizon's systems. Thus, the witness contends that it is appropriate to establish a loop qualification rate additive based on the relevant OSS costs and the forecasted number of orders, as estimated by Verizon, to provision services to ALECs. Furthermore, he states that it is a relatively straightforward and simple matter to take the total relevant costs and divide them by the forecasted orders to calculate the loop charge.

Witness Richter contends that Verizon incurred approximately $1.014 million in transition costs for the mechanized loop pre-qualification project during 2000. He explains that this includes the costs for two Data Processing Service Requests (DPSR) that provided for the equipment and software to access and interface the systems that contain the facility information. In addition, the systems involved in providing this information worked independently and had only limited interface capabilities; in fact, there was no need to interface these systems until the MLPQ process was implemented. Verizon's Business Analysis Group tracked the financial costs of the two DPSRs. The DPSRs were for ALEC access to WISE, Assignment, Activation and Inventory Services System (AAIS), and other systems that contain the facility information. Software was also needed to format a response containing the requested facility information.

Verizon's proposed charge is an additional $0.51 per ALEC line sharing request. The $0.51 per Local Service Request (LSR) rate additive is the total MLPQ transition costs of $1.014 million incurred in 2000, divided by the three-year projected demand for line sharing LSRs of 2.005 million. As such, witness Dye contends that the proposed rate additive is designed to recover the $1.014 million in OSS MLPQ transition costs incurred over the 2.005 million ALEC line sharing requests expected over the 2001-2003 time period.

Furthermore, witness Dye contends that given the inherent uncertainty in demand forecasts and to ensure that Verizon recovers all of these costs, Verizon proposes that the per-LSR rate additive remain in place until 2.005 million line sharing LSR orders have been processed within the old GTE serving territories. Witness Dye believes that the per-LSR rate additive could be applied beyond the three-year recovery period if demand forecasts are overstated. He believes that this method provides a fair and equitable means of recovering Verizon's MLPQ transition costs.

DECISION

Verizon's MLPQ process comports with the pertinent portions of the FCC's UNE Remand Order. Specifically, it appears that Verizon is providing ALECs with like access to loop information as well as comparable information about the loop so that the requesting ALEC can make an independent judgement about whether the loop is capable of supporting the advanced services equipment the requesting carrier intends to install. In an interrogatory Verizon was asked to explain how its employees access loop qualification information. Verizon responded:

> Verizon employees access loop make-up information through the Interactive Computer Graphic System (ICGS) using the Quality Network Analysis System (QNAS) module. The QNAS module provides Verizon employees with all the information

> associated with a loop make-up request including: item of plant modifier (IPID), cable size, Account, IPID length, cable gauge, cable load, resistance, loss in db, and load sections.
>
> Another system accessed by Verizon employees is Assignment, Activation, and Inventory System (AAIS). The AAIS provides facility information for making loop and central office equipment assignments and maintains an inventory of the vacant and assigned facilities.

Based on this response it appears that Verizon's employees and the ALEC community access information in a similar manner. This comports with the FCC's finding that " . . . to the extent their employees have access to the information in an electronic format, that same format should be made available to new entrants via an electronic interface." FCC 99-238, ¶ 429. In addition, the response demonstrates that Verizon is providing the ALEC community with "the same detailed information about the loop that is available to the incumbent, so that the requesting carrier can make an independent judgement about whether the loop is capable of supporting the advanced services equipment . . . . " FCC 99-238, ¶ 427.

While Verizon's MLPQ process provides the ALECs with like information and non-discriminatory access to that information, Verizon's assessing an additional $0.51 per ALEC line sharing request to recover its MLPQ costs is incorrect. Our concerns are not with the costs themselves but with Verizon's proposed method of recovery.

Verizon witness Dye stated that " . . . the ALECs would access Verizon's database, if you will, to get the makeup of the loop in question to see whether that loop qualifies for xDSL service for line sharing purposes." He explained that when Verizon receives an order for line sharing, the 51-cent charge would apply in addition to any other ordering charges associated with ordering the line sharing. At his deposition, the witness clarified that an ALEC could obtain loop qualification information, but if the ALEC does not submit an order for line sharing, then the ALEC would not be charged for the loop qualification information.

We are troubled by the fact that Verizon has linked its cost recovery for its loop qualification process solely to ALEC line sharing orders. While ALECs that line share may obtain loop qualification information, other ALECs may also obtain this loop information. In fact, the FCC stated that "Loop qualification information identifies the physical attributes of the loop plant . . . that enable carriers to determine whether the loop is capable of supporting xDSL and other advanced technologies." Nowhere in the FCC's UNE Remand Order is line sharing discussed. Furthermore, in United States Telecom Ass'n v. FCC, 290 F.3d 415 (DC Cir. 2002), it was determined that the FCC's Line Sharing Order should be vacated and remanded back to the FCC[15]. However, on September 4, 2002, the Court entered a partial stay of its decision until January 2, 2003. Therefore, at least until January 2003, it appears that the status quo will be maintained.

We find that the additive shall be assessed on each ALEC xDSL loop order and each line sharing order, assuming Verizon still offers line sharing, since it is most likely that those ALECs using the MLPQ process are those ALECs trying to determine if a loop is capable of supporting the advanced services equipment they wish to install[16]. This approach would assess a charge on the majority of cost causers rather than a limited few.

The appropriate rate for Verizon's mechanized loop qualification is $0.51. This rate should apply as an additive on each ALEC xDSL loop order and each ALEC line sharing order. The additive should remain in place until a total of 2.005 million ALEC xDSL loop orders and line sharing orders have been processed within the old GTE serving territories. Verizon should provide staff with its forecasted demand for both ALEC originated xDSL loop orders and line sharing orders and provide an estimate of when it believes it will cease to collect the $0.51 additive charge. This information shall be provided within 30 days after the issuance of the final order in this docket.

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[15]United States Telecom Ass'n v. FCC, 290 F.3d 415 (DC Cir. 2002) was decided May 24, 2002, after the record in this proceeding was closed.

[16]While we believe a "per query" charge is more appropriate, there is no record evidence to support such a proposal.

XII(a). RECURRING AND NON-RECURRING RATES FOR UNE PLATFORM

Here, we examine, without deciding the situations in which such combinations are required, the appropriate recurring and non-recurring rates for the following UNE combinations:

(a) "UNE platform" consisting of: loop (all), local (including packet, where required) switching (with signaling), and dedicated and shared transport (through and including local termination);

Both the ALECs and Verizon proffered testimony regarding the incumbent's obligation to combine UNEs on behalf of the ALEC. Much of that testimony is largely moot because the Supreme Court in Verizon Communications Inc., et al. v. Federal Communications Commission, et al., 152 L. Ed. 2d 701, 122 S. Ct. 1646 (2002), has issued a ruling which addresses the disputes identified by the parties. Moreover, this issue is to address the appropriate rates for UNE combinations, not the situations in which such combinations are required. As such, we decline to consider any testimony which goes beyond the stated issue.

A UNE platform or UNE-P is a combination of a loop, local circuit switching and shared transport. Based on Verizon's proposed UNE loop and port offerings, ALECs will technically have the capability to create four different platforms, which are integrated combinations of a UNE loop and a UNE port as follows:

(1) Basic Analog Platform, which would be comprised of a 2-wire UNE loop and a basic analog line side port;

(2) ISDN BRI Platform, which would be comprised of a 2-wire UNE loop and an ISDN BRI digital line side port;

(3) ISDN PRI Platform, which would be comprised of a DS-1 UNE loop and an ISDN PRI digital port; and,

(4) DS-1 Platform, which would be comprised of a DS-1 UNE loop and a DS-1 digital trunk side port.

Verizon did not propose specific UNE-P rates; instead, as explained by witness Trimble the monthly recurring charge (MRC) for UNE-P will equal the sum of the MRCs for the individual UNEs that are required by the ALEC to create the platform. Thus, the total MRC paid by the ALEC will include a deaveraged UNE loop MRC plus a UNE port MRC. Verizon's switch usage rates (end-office and tandem) and common/shared transport rates will apply, as appropriate, for all minutes of use generated from the platform. Likewise, according to witness Trimble, Verizon's proposed rates for switch features would apply when specific switch features are ordered, as well as Verizon's proposed rates for "non-call set-up" queries to the Company's databases.

An ALEC would order UNE-P using Verizon's standard Local Service Request (LSR) form. Witness Trimble notes that prior to ordering UNE-P, an ALEC is not required to be collocated since no handoff of facilities to the ALEC is necessary. Furthermore, Verizon will provision UNE-P in a manner similar to how it provisions resale of its own retail services. Also, UNE-P is always provisioned as a measured service. The ALEC will be billed for local switching usage, as well as shared transport. Verizon Florida will provide local and access usage files to the ALEC so it can, in turn, bill its end-users and any interexchange companies. Currently, Verizon Florida does not charge for usage files provided to the ALECs. Finally, vertical services can be added to any platform at the ALEC's option; additional charges apply for such vertical services.

According to witness Richter, Verizon will incur costs for ordering and provisioning activities when processing ALEC requests for UNE-P. He explains that because UNE-P is a migration from retail or resale services, central office and field installation activities are not required.

Ordering activities for UNE-P are handled by Verizon's National Marketing Center (NMC). Costs for ordering activities were developed based upon work time studies conducted during August 1999 in the NMC for resale orders; this process is the same as used for UNE-P requests. The work times were multiplied by the loaded labor rate for a NMC representative to develop the costs.

The provisioning activities associated with UNE-P include facility assignment and switch translations, if required. The Assignment Provisioning Center (APC) activities relate to "touches" required to process an ALEC request[17]. To determine its cost for provisioning, Verizon developed the minutes per occurrence based on the number of touches in the APC and applied a factor for the probability that an order would require provisioning work. Witness Richter explains that many UNE-P orders can be provisioned mechanically from network components in inventory. For example, a "Migration as Is" requires only one switch translation to convert to minute of use measurement. However, more complex requests, such as "Migration as Specified" orders, require more manual provisioning due to switch translations, routing instructions, and service arrangements. The work time per touch was weighted by the probability of occurrence and multiplied by the loaded labor rate for APC personnel to determine the costs associated with each type of migration order.

The ALECs filed little specific testimony regarding Verizon's UNE-P proposal.[18] However, in its brief the ALEC Coalition states that:

> The Commission should set Verizon's recurring and nonrecurring rates as recommended in Issues 8 and 9. Verizon's proposal is inappropriate for reasons discussed throughout this brief. Moreover, Verizon's insistence on using UDLC technology instead of IDLC technology creates rates that are highly inappropriate for UNE-P, as discussed more completely in Issue 7(M).

DECISION

It appears that based on the testimony and exhibits provided, the most significant controversy relating to the proposed rates for UNE-P is whether or not UDLC or IDLC technology should be assumed to be deployed. This matter was addressed in detail in Section VII(m). As we found in Section VII(m), the assumption of IDLC technology is appropriate when calculating UNE-P recurring rates. Verizon disagrees.

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[17] A "touch" refers to each instance in which a Verizon employee performs work on a particular service order.

[18] The ALECs explored this issue during the hearing with several Verizon witnesses via cross-examination.

Verizon's proposed UNE-P rates equal the sum of the proposed unbundled port and loop rates because it believes that modeling UNE-P based solely on IDLC will result in rates that understate the cost of unbundling via a UNE-P arrangement in the real network. Verizon explains that an unknown percentage of unbundled loops in the real network that would otherwise be served via IDLC will be served by terminating them on a D4 channel bank over a copper facility. Likewise, some such loops will be served be terminating them on a central office terminal via the fiber facility associated with the IDLC system that they would otherwise be served from. Not all of the loops will be migrated back to the IDLC arrangement if they are subsequently served via UNE-P, so Verizon contends that setting the rates for these loops based on the sum of the unbundled port and loop charge makes sense. Furthermore, Verizon argues that given the ALEC Coalition is unable to identify the location or number of the loops they expect to unbundle with either an unbundled loop or UNE-P arrangement, Verizon chose to set the rate for all UNE-P loops equal to the sum of the unbundled port and loop rates. Verizon reiterates that to assume an IDLC arrangement for all such loops would underestimate the cost of the UNE-P arrangement, since they would not all be provisioned via IDLC. Moreover, setting the UNE-P rate equal to the sum of the unbundled port and loop rates understates the cost of the arrangement because it omits the cost of the jumper and the 4Tel test equipment needed for those loops not served by a DLC. The unbundled loop rate excludes these costs because the jumper and test equipment are not needed when the ALEC provides its own switching.

Although Verizon implicitly advocates the use of UDLC for determining UNE-P rates, we note that it is possible to modify ICM to utilize IDLC in estimating costs. Witness Tucek explains that:

> If the "Retail" option is selected in the run time options screen, ICM-FL will model a network configured with IDLCs. The only thing else that needs to be done is to develop expense inputs that are consistent with this network configuration and that exclude the avoided retail costs. If this is done, the TELRIC for the 2-wire loop falls by \$1.39 to \$21.55 per month.

In addition, on cross-examination witness Tucek acknowledged that Verizon currently uses IDLC in its network. When asked why Verizon uses this technology, the witness explained:

> It uses IDLC to provide service to its own end user customers because those customers can be integrated from the IDLC into the trunk-side of its switch and at a lower cost of providing service to them.

Furthermore, the witness agreed that if an ALEC was providing UNE-P purchased from Verizon, Verizon might use the IDLC facilities that it has in its network to provide the UNE-P traffic. Witness Tucek explains that the two-wire loop cost that is part of Verizon's proposed rates for UNE-P do not assume IDLC, they assume a universal DLC, which is a configuration in which the loop is terminated on the line-side of the switch or at the main distribution frame.

When asked why Verizon did not file the cost for UNE-P based on IDLC, witness Tucek explained:

> That was really a pricing and policy decision that Mr. Trimble decided the price, the UNE-P is a loop plus a port. However, ICM-Florida does have the capability of modeling IDLC architecture and also changing the mapping code to give you a UNE-P that is provisioned via IDLC.

The witness agrees that if UNE-P is provided using IDLCs rather than UDLCs the cost is less.

As addressed in Section VII(m), the use of IDLC is the forward-looking technology when an integrated loop and port are provided to an ALEC. While Verizon witness Tucek stated that ICM can model a network configured with IDLCs, we were not able to model this configuration because of lack of support to "develop expense inputs that are consistent with an IDLC network configuration and that exclude the avoided retail costs." However, we believe that it is reasonable to establish a rate that takes advantage of the benefits achieved when deploying a network which utilizes IDLC. As such, we find that the recurring rates for UNE-P equal the sum of the monthly recurring charges for the individual UNEs that are required to create the platform, less $1.39 to account for the cost saving from using IDLC technology.

With regard to the non-recurring rates for UNE-P, ALEC Coalition witness Morrison notes that he did not recalculate any of the rates proposed by Verizon. He explains that:

> The reason I did not was because I had concerns with certain portions of the rate structure proposed by Verizon. More specifically, if an ALEC were to request UNE-P migration on an "as is" basis where no specified changes were required, I can think of no reason why any service connection charges would apply. Hence I did not audit Verizon's development of the service connection charges, because they should be set at zero.

As addressed in great detail in Section VII(m), we find that utilizing IDLC technology is appropriate for UNE-P. As such, the recurring costs for UNE-P should be reduced by $1.39 to account for the cost saving from using IDLC technology. The appropriate non-recurring charges are those we approve in Appendix B-1. These non-recurring rates were determined based on our findings in Section VIII(d) and all other applicable findings in other sections of this Order.

XII(b). RECURRING AND NON-RECURRING RATES FOR TYPES OF "EXTENDED LINKS" UNE COMBINATIONS

We next determine, without deciding the situations in which such combinations are required, the appropriate recurring and non-recurring rates for the following UNE combinations:

(b) "extended links," consisting of:
- (1) loop, DS0/1 multiplexing, DS1 interoffice transport;
- (2) DS1 loop, DS1 interoffice transport;
- (3) DS1 loop, DS1/3 multiplexing, DS3 interoffice transport.

An EEL is a combination of dedicated transport, multiplexing as required, and unbundled loops. Multiplexing is the division of two or more channels into one single channel for transmission over the telecommunications network. Verizon's non-recurring rates are for costs based on the multiplexing of DS-3 to DS-1 signaling. The multiplexing costs reflect the labor cost for a central office technician to install jumpers on the digital system cross-connect (DSX) panel. EELs do not require a collocation arrangement at each end office. The interoffice dedicated transport (IDT) and multiplexer, either DS3 or DS1, may be combined with loops, either DS3, DS1, or 2- or 4-wire loops. EEL combinations may be comprised of DS3 IDT with a DS3 loop, DS1 IDT with a DS1 loop, or voice grade transport with a voice grade loop.

An EEL facilitates the extension of an unbundled loop beyond the central office that serves an end-user customer. Verizon witness Trimble explains that by using an EEL, the ALEC can avoid the need to collocate at every central office to gain access to the unbundled loops within each central office. Verizon's EEL combinations do not include local circuit switching. An EEL combination also allows an IXC with CLEC status to aggregate UNE loops and transport them back to its switch or distant node without having to collocate in a Verizon central office where the loop originates.

With regard to non-switched EEL combinations, Verizon will offer combinations of network elements that are already combined, including combinations of loop, multiplexing/concentrating equipment, dedicated transport and entrance facilities. In addition, it will provide new (not already combined) EEL combinations for ALECs provisioning customers served by Verizon's local circuit switches that are located in the FCC's density zone 1 in the Tampa-St. Petersburg-Clearwater Metropolitan Statistical Area (MSA). As explained by Verizon witness Trimble, per FCC rule 51.319, the offering of new EEL combinations will exempt Verizon from providing unbundled local circuit switching to requesting ALECs when the ALEC intends to serve a customer with four or more voice grade (DSO) equivalent lines in the Tampa-St. Petersburg-Clearwater area.

Witness Trimble testifies that there are many potential combinations of loop types, multiplexing arrangements, and transport bandwidth that could be provided under an EEL arrangement. As such, Verizon proposes that the recurring rate for each EEL UNE combination be the sum of the individual loop, transport and multiplexing rates for each of the individual UNEs that make up the combination.[19]

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[19]Verizon witness Trimble also proffered testimony regarding under what conditions an existing special access arrangement can be converted to an EEL. We do not address that testimony because as noted in Issue 12A this issue is to address rates, not provisioning obligations of the ILEC.

Verizon witness Richter testifies that Verizon will incur costs for ordering, provisioning, central office and field connection activities associated with the EEL request.[20] Verizon determined the activities and resulting non-recurring costs associated with EEL requests in the same manner as dark fiber requests. As such, witness Richter refers to his testimony on activities and cost determination for dark fiber requests, noting that it "applies equally to EEL requests."

ORDERING

The ALEC will place its order for an EEL through the Access Service Request (ASR) process. Witness Richter explains that unlike the Local Service Request (LSR) submitted to Verizon-West's National Market Center (NMC), an EEL order is submitted as an ASR through Verizon-West's National Access Customer Center (NACC). The witness explains that the NACC is located in Durham, North Carolina, and staffed by Service Consultants who interface with customers either manually or electronically, based on how the ALEC submits its ASR. The Service Consultants at the NACC are also responsible for processing IXC ASRs. The NACC has existed for approximately 20 years in Verizon-West and according to witness Richter, has a great deal of experience in processing IXC requests for both switched and special access services.

Once the NACC receives an ASR, it is checked for completeness and accuracy. The NACC then releases the order into Verizon-West's access order processing system, which routes it to the appropriate provisioning and central office/field installation groups involved with completing Florida orders.

Verizon-West, in conjunction with Arthur Andersen LLP, conducted time and motion studies of the activities performed by the Service Consultants in the NACC to establish the work times associated with the various types of orders handled there. Witness Richter notes that dark fiber orders were not studied because the offering did not exist at that time; however, he believes that dark

[20]For an EEL migration, which is when an ALEC requests that an existing special access circuit be converted to an EEL with UNE rates, Verizon will incur costs for ordering and provisioning activities associated with the requests.

fiber orders are processed in the same manner as dedicated non-switched transport orders. Therefore, as the witness noted earlier this would also apply to EEL orders. To derive the costs associated with ordering, Verizon has multiplied the work time for the dedicated non-switched transport order by the loaded labor rate (LLR) for the NACC Service Consultants.

PROVISIONING

EEL ASRs are provisioned through Verizon-West's Business Response Provisioning Centers (BRPCs) located in Ft. Wayne, Indiana and Tampa, Florida. The BRPC has Plant Control Office (PCO) and design/engineering responsibilities for EELs. The BRPC receives the order from the NACC, verifies that the order is entered into the facility administration system, which is called Telecom Business Solutions (TBS), checks for accuracy and completeness, and enters a distribution code into TBS to route the order to the required work groups. The BRPC must access facility records in its inventory database, change the records to identify the network configuration requested by the ALEC, and create updated circuit and design layout reports.

The costs for provisioning activities completed by the BRPC were developed by cost managers who used data from the TBS database to determine the number and type of orders or lines worked by each group in the BRPC. The BRPC productive hours were used to develop the time per ASR. This work time was multiplied by the LLR for the BRPC to develop the cost.

CENTRAL OFFICE & FIELDWORK

For central office costs, "jumper-running" studies were conducted to develop the time to install or remove one jumper cable. The time per jumper was multiplied by the central office technician LLR to develop the cost per jumper activity. Costs are based on the number of jumpers required for each of the activities discussed above. Outside plant field work time is based on a drive time study that provides the average time to reach the point of interconnection and place a fiber jumper. Costs were calculated by multiplying the time for the outside plant activity by the LLR for the outside plant technician.

ALEC Coalition witness Ankum believes that Verizon's proposal, that the rate for each EEL UNE combination should be the sum of the individual loop, transport and multiplexing rates for each individual UNE that makes up the combination, will "almost undoubtedly lead to over recovery." He explains that when an ALEC purchases an EEL it is actually purchasing a transmission path that will in most circumstances reach from a customer's premises, through Central Office A and ultimately to Central Office B. When compared to an ALEC purchasing an unbundled loop, multiplexing (or cross-connection), and interoffice transport separately, the facilities provisioned (and indeed the manner by which they are provisioned) will vary substantially. The witness believes an example best illustrates the potential differences. His example is provided:

> Consider an unbundled loop that currently serves a customer using a digital loop carrier architecture. If an ALEC were to order that unbundled loop on a stand-alone basis, Verizon would terminate that unbundled loop via a 2-wire analog jumper directed to the ALEC's collocation space. In doing so, Verizon would include in the cost of that unbundled loop the central office terminal (COT) costs of the digital loop carrier system required to multiplex the signal associated with that individual loop (likely from a DS1 transmission embedded in an OC3 bitstream) into a DS0 equivalent (the COT would also do the digital to analog conversion necessary to arrive at an analog 2-wire interface). These COT costs are a substantial component of Verizon's 2-wire unbundled loop rate.
>
> Consider now that the same ALEC purchases the same loop but instead of terminating that loop in its collocation space, the ALEC chooses to combine that loop with interoffice transport for purposes of gathering that loop at a distant central office (i.e., and [sic] EEL arrangement). In such a circumstance, there would be no need for Verizon to de-multiplex that original signal from its original DS1 or OC3 format (or to execute a digital to analog conversion) because that signal will simply be loaded onto a central office facility (of at least that bandwidth) for delivery to the central office. Because the signal need not be converted at this point to an

analog, 2-wire electrical signal for delivery to the collocation space, costs can be saved.

Witness Ankum states that if Verizon were to de-multiplex and convert the DS0 signal representing the ALEC's unbundled loop used in the EEL arrangement, it would simply be required to re-multiplex and convert the signal again before it could ready the signal for interoffice transmission. He argues that this would be duplicative and inefficient. Furthermore, he believes that if we adopt Verizon's simple "sum of the UNEs involved" approach, it will be sanctioning such inefficient cost recovery.

Witness Ankum explains that many ALECs aggregate individual DS0 unbundled loops at a Verizon central office, multiplex those DS0s onto a higher bandwidth trunk and transport those DS0s across the interoffice network in bulk. He believes that in doing so the ALEC will, at the terminating central office, receive the DS0 signals representing individual unbundled loops, at a DS1 or higher level. In this circumstance, he contends that no de-multiplexing or digital to analog conversion is necessary and that the cost savings associated with avoiding these activities is one of the greatest benefits of the EEL arrangement. However, as previously noted the witness believes Verizon's proposal to add the UNE rates together to arrive at EEL rates negates any of the benefits by allowing Verizon to recover costs that it never incurs (multiplexing and conversion) instead of passing savings associated with avoiding these costs onto the ALEC.

Witness Ankum argues that Verizon should be required to undertake an individual TELRIC study for at least the most common EEL arrangements (i.e., DS0 loop-DS1 interoffice transport, DS1 loop-DS1 transport and DS1 loop-DS3 transport). In addition, he believes Verizon should be required to establish rates for EELs recognizing any cost reductions associated with purchasing the respective elements in combination. He contends that "BellSouth provided rates specific to the most common EELs as stand alone rate elements. Verizon should be required to do the same after having filed (an approved) a cost study recognizing the cost savings associated with combining the individual UNEs comprising an EEL." Furthermore, he believes special attention should be paid to recognizing the cost savings resulting from an integrated combination of transmission facilities for purposes of avoiding unnecessary multiplexing and conversion.

Witness Ankum also expressed concern regarding the multiplexing rates proposed by Verizon for use with EEL arrangements. The witness compared Verizon's proposed multiplexing rates with those approved for other carriers. Specifically, he notes:

> . . . Verizon proposes a monthly recurring rate of \$517.71 per month for DS3 to DS1 multiplexing. By comparison, BellSouth is allowed to charge \$211.19 for this same function (See Order No. PSC-01-2051-FOF-TP, Docket No. 990649-TP, p. 51) Likewise, Verizon in New Jersey is allowed to charge \$364.60. (See NJ Board of Public Utilities, Docket No. TO00060356, Attachment, Page 3 of 5) Ameritech Michigan charges \$262.31 (See Ameritech tariff M.P.S.C. No. 20R, Part 19, Section 12, 2nd Revised Sheet No. 27) Again, Verizon's proposed rate exceeds the average of these comparable rates offered by other carriers by approximately 185%.

Witness Ankum was asked to explain what he believes causes Verizon's "exaggerated rates." He explained that unlike DS1 loops, Verizon calculates multiplexing costs via its ICM model. As a result, the witness stated that he was "unable to view the actual calculation that translates Verizon's material costs into what Verizon terms as TELRIC." Furthermore, the witness explained:

> I can only review the computer code that is used to compute the Verizon numbers and these provide little additional information. As a result, I cannot pinpoint where in Verizon's calculation it errs to the degree of allowing its rates to more than double those of most other carriers for this specific rate element. My expectation, however, is that an abysmally low fill factor (like that evidenced in Verizon's DS1 study) is to blame. As a result, I would recommend that the Commission extend its finding that a 90% fill factor for all 357c equipment (central office non-switch equipment) is a reasonable assumption that must be instituted by Verizon throughout its studies including its multiplexing analysis. It is my expectation that such a decision would go along [sic] way toward correcting the exaggerated result evidenced by Verizon's overstated multiplexing charges.

ALEC Coalition witness Morrison reviewed Verizon's non-recurring charges for the service connection and ordering costs for an initial DS1/DS3 EEL. The witness recommended several changes for ordering a DS1/DS3 EEL on a 100% manual basis. First, witness Morrison recommends reducing the work times for manual faxing to 5 minutes and the time to fax a firm order confirmation to 3 minutes. These times are significantly less than those proposed by Verizon (Verizon's specific times are proprietary). Witness Morrison contends that "Operating a modern fax machine to send even a large volume of paper is a relatively simple task considering the technology available today. Therefore, 5 minutes and 3 minutes respectively are adequate for two fax transmissions."

In addition, witness Morrison recommends reducing the work time to enter a new order to 15 minutes. Again, this is less than the time included in Verizon's study. The witness explains that based on his experience, new order entry utilizing reasonably well designed systems and business processes do not take the amount of time noted in the Verizon study. Furthermore, Verizon proposed several minutes for error correction. However, witness Morrison believes this is an unnecessary step. He argues that the order should have been reviewed as part of the Production Order Entry with system edits doing the error correction task.

Next, witness Morrison contends that the minutes for escalations and quality check should be zero. He believes that "These business processes are an indication of failure on the part of the ILEC." He goes on to explain that the failures typically are records synchronization issues on a system-to-system basis or a mismatch between systems status and the actual status of the physical equipment and should not be paid for by the ILEC. While Verizon's specific numbers for escalations and quality checks are proprietary, they are greater than zero.

With regard to the disconnect portion of the ordering charge, witness Morrison reduced the time required to enter a disconnect order to 10 minutes. The witness contends that he made these changes because the Verizon study relied on unexplained time index calculations that also relied on productive minutes. He states:

> The productive minutes were hard coded and no support was provided for this input, which was important to the calculations. As I have previously stated, disconnect

> order entry is a relatively simple task and involves little in building data bases or records entries, but is the process of removing existing service information from records which is by its nature a much less time intensive activity. Therefore, I believe 10 minutes is a reasonable time for disconnect entry.

Based upon the reasons noted above witness Morrison has set to zero the minutes for both error correction and quality check work times for the new service order. He argues that order entry tasks should be performed accurately with the first effort. Also, expensive follow-up tasks that are designed to ensure accuracy at a later point in the business process are inherently inefficient, and he believes quality work should replace check points in an efficient business process.

Next, witness Morrison addresses records orders. He contends that they are "one of the simpler orders to process, they require no actual work on the service delivered to the customer, but are designed to correct records issues relative to customer service." As such, witness Morrison set the minutes for manual receipt of an order to 2 minutes, and for order processing under the record order function to 20 minutes for the 100% manual order. Witness Morrison's recommendations are significantly less than the minutes included in the Verizon study for these functions.

For the semi-mechanized order process, witness Morrison set the number of minutes to 10. He believes that the semi-mechanized order process should be utilizing efficiencies gained from OSS that are designed to speed up tasks such as order processing.

Applying witness Morrison's suggested changes reduced the charge for ordering a DS1/DS3 EEL (on a 100% manual basis) from $174.68 to $45.01. The charge for semi-mechanized ordering was reduced from $115.54 to $30.93.

Witness Morrison also suggested several adjustments be made to Verizon's inputs for service connection charges for an initial DS1 EEL. As was the case for ordering work times, Verizon's service connection work times are also proprietary.

Witness Morrison suggested the following changes:

- reduce service order entry time to 10 minutes,
- reduce facilities assignment for Hi-Cap prework to 15 minutes, and;
- reduce local loop assignment time to 10 minutes per occurrence.

While Verizon's specific numbers are confidential, we note that witness Morrison's suggested reductions are significant and in some cases he suggested reducing Verizon's inputs by more than 90%.

The ALEC Coalition witness explains the reason he reduced these inputs:

> For the design group activities it must be recognized that, in essence, this is really not a designed circuit. Forward looking OSS support digital loop assignment and provisioning of loops for digital service. These forward-looking OSS improves efficiencies for order entries having qualified facilities inventoried and identified as available for digital services, to increase provisioning efficiencies.

Witness Morrison continues by noting that for the same reasons identified above he reduced Verizon's design group time to 10 minutes.

Witness Morrison then changed Verizon's testing time to 15 minutes. This was a significant reduction when compared to Verizon's proprietary data. The witness contends that modern equipment is efficient and effective. Furthermore, he explains that the industry has designed an array of test equipment designed to meet the requirements of both ILECs and ALECs for testing both digital and analog circuits. Moreover, a wide selection of multi-purpose test equipment is available to expedite testing. He contends that "Because of the widespread availability and use of such equipment, I have lowered the testing time for EELs to 15 minutes."

For the central office portion of a service connection for the DS1 EEL, Verizon includes several hours of work time. Witness Morrison contends that based on his experience, establishing a DS1 service in the central office involves two to three cross-connects: one cross-connect on the MDF from the DSX panel cross-connect points to the facility, and one or two DSX panel cross-connects, and a continuity test. The witness believes that this work can easily be accomplished in an hour and as such recommends reducing Verizon's estimate to one hour.

Witness Morrison also disagrees with Verizon's input for the field work portion of the service connection for a DS1 EEL. He contends that based on his experience, the field technician would need to establish high frequency cross-connects at the serving area interface or the feeder/distribution interface and then deliver the service to the ALEC at the customer premise. He believes that this work should take no longer than 1.5 hours to complete.

For the service disconnection portion of the DS1 EEL service connection charge, witness Morrison recommended the following changes:

- reduce service order entry time to 10 minutes, and
- reduce local loop assignment time to zero.

The witness explains that the reason he reduced the loop assignment time to zero is because he believes that the service order entry process for disconnect automatically performs the local loop and facility assignment disconnect operations at disconnect.

The witness also zeroed out the time for a disconnect for the design group. Again the witness supports this reduction by stating that he believes that the service order entry should automatically process this activity. Furthermore, he explains that there are no design requirements when a service is disconnected. The disconnect process is one of reestablishing the availability of circuit elements for reassignment. Although the specific number is proprietary, we note that Verizon's time is in excess of one hour for this activity.

For the central office disconnection times, the ALEC witness recommends significantly reducing Verizon's work times. Witness Morrison recommends a time of 30 minutes, again significantly less than the time proposed by Verizon. The witness testified that:

> Central office disconnects consist of removing a physical and/or logical network element arrangement. This consists of physical connections or network element data building information. By its very nature, removal of these circuits is efficient. A technician identifies the circuit and its components from a disconnect order, which is a record of the original service installation, and removes physical connects or changes data entries in network elements to reflect the new circuit status.

Witness Morrison also takes issue with Verizon's disconnection of the service by its field personnel. He argues that Verizon's estimate is excessive given "that the only activity that need occur is the removal of the high frequency cross-connects. The time to accomplish this activity, including drive time, should not exceed 40 minutes." In its study Verizon includes more than one hour of time for this activity.

According to the ALEC witness, after applying his changes to Verizon's study for service connection for a DS1 EEL, the rate is reduced from $931.87 to $294.11.

Verizon witness Tucek disagrees with ALEC Coalition witness Ankum's claim that provisioning an EEL is different than provisioning an unbundled loop, multiplexing and interoffice transport. He explains that:

> As a threshold matter, I note that his example at page 69 of his rebuttal testimony does not apply to the 41 percent of loops that ICM-FL models as being directly served by the main distribution frame. To the extent that his position has any merit whatsoever, it would only apply to those loops served by a DLC. Thus, Dr. Ankum's position on EELS is the same as his position on IDLCs -- it is premised on his incorrect claim that it is possible to unbundle a loop from an IDLC using the GR 303 interface. As explained above, no commercially viable means of accomplishing this task exists. The transport facility between the two offices in Dr. Ankum's example is a path dedicated to the voice-grade circuit corresponding to the end-user involved. If the DS-1 from the DLC serving the end-user is integrated into the trunk side of the switch, the only way to dedicate this path is to "hairpin" or

> "nail up" the circuit through the side door port of the switch. This arrangement wastes switch resources as Telcordia and MCI WorldCom have acknowledged. If an entire DS-1 is used to establish this path, then the "loop portion" of the EEL is not an unbundled loop -- it is an entirely different service. Moreover, such arrangements will result in underutilization of DS-1s, particularly as the number of ALECs increases.

Verizon's witness Richter contends that ALEC Coalition witness Morrison's suggested reductions to the service connection times are not justified. Specifically, witness Richter states that "Mr. Morrison's recommended work times for service connection are wholly inadequate to complete the job being performed." Witness Richter believes that witness Morrison has no support for his opinion -- only an unjustified assertion that the study's work times are somehow incorrect. For example, he argues that the reduction in the work time associated with provisioning an EEL is emblematic of witness Morrison's failure to appreciate the processes necessary to provide the service at hand. He specifically notes that witness Morrison " . . . completely disregards the functions performed by the span technician, who is tasked with installing any repeater equipment in the circuit -- equipment that could be in the central office, in the outside plant facility or at the customer's premises." The Verizon witness reiterates that witness Morrison's description of the work activities necessary to complete an EEL order ignores necessary activities.

Witness Richter also believes that witness Morrison's reduced times for ASRs are not valid. He contends that ASRs are very involved, multiple-page orders that require the involvement of numerous Verizon provisioning departments. Again, the Verizon witness states that ALEC Coalition witness Morrison provides no support for his recommended work times for ASRs. Furthermore, witness Richter argues that:

> Indeed, he admits that he has no first-hand experience in the service center or business office of a telecommunications carrier (Morrison Depo. at 8-9), and has never personally processed a UNE order. (Morrison Depo. at 36.) In particular, Mr. Morrison challenges the time involved in verifying the accuracy of an ASR. In doing so, Mr. Morrison ignores the complexity of the

> orders -- many involve multiple circuits, while others require certain types of equipment to be ordered and configurations of equipment to be addressed. Even though an engineer will design the circuit, the representative who takes and creates the order has to precisely input all the particulars of the ALEC request. For these reasons, quality checks are numerous.

Witness Richter also takes issue with witness Morrison's assertion regarding the time involved in inputting a manually-transmitted disconnect order. The witness testifies that disconnect orders are often rather complex and many disconnect requests apply only to certain services at a given location, while others apply only to a portion of the circuits or equipment. He explains that in such instances, the existing records must be removed from the system and replaced with new records that identify the new service, circuit or equipment arrangement. Moreover, he contends that the disconnect request may be for circuits at different locations, which may interface with other carriers who will need to be made aware of the new situation. As such, witness Richter believes Verizon's work times accurately reflect the complicated and time-intensive nature of the various essential activities. Witness Richter contends that given these considerations, there is no basis upon which we can adopt witness Morrison's revised work times.

DECISION

Recurring Rates

ALEC Coalition witness Ankum argues that Verizon's proposal, that the rate for each EEL UNE combination should be the sum of the individual loop, transport, and multiplexing rates that makes up the combination, will lead to over recovery. Furthermore, he believes that if we adopt Verizon's simple "sum of the UNEs involved" approach, it will be sanctioning inefficient cost recovery[21].

Verizon witness Tucek disagrees with witness Ankum and argues that provisioning an EEL is no different than provisioning an

[21] In the BellSouth UNE proceeding we approved summing the costs of each individual UNE present in the combination. Order No. PSC-01-1181-FOF-TP, p. 531.

unbundled loop, multiplexing, and interoffice transport. Witness Tucek also argues that witness Ankum's example (on pages 1216-1217) lacks merit because it is premised on an incorrect claim that it is possible to unbundle a loop from an IDLC using the GR303 interface[22]. As argued by Verizon in Section VII(m) "no commercially viable means of accomplishing this task exists." Moreover, witness Tucek believes that the arrangement presented in the example wastes switch resources, as Telcordia and MCI WorldCom have acknowledged. Last, the Verizon witness explains that "If an entire DS-1 is used to establish this path, then the "loop portion" of the EEL is not an unbundled loop -- it is an entirely different service."

Witness Tucek is correct regarding witness Ankum's example. As addressed in great detail in Section VII(m), in a multi-carrier environment it is not possible to unbundle a single loop from an IDLC using a GR303 interface. Therefore, witness Ankum's example should not be relied upon when determining the appropriate recurring rates for EEL combinations.

Witness Ankum also argues that Verizon should be required to undertake an individual TELRIC study for at least the most common EEL arrangements (i.e., DS0 loop-DS1 interoffice transport, DS1 loop-DS1 transport and DS1 loop-DS3 transport). In addition, he believes Verizon should be required to establish rates for EELs recognizing any cost reductions associated with purchasing the respective elements in combination. He contends that BellSouth provided rates specific to the most common EELs as stand alone rate elements and Verizon should be required to do the same. No Verizon witness specifically address this argument.

We do not believe undertaking a new study at this time would be fruitful. Witness Ankum did not proffer any testimony that details how a new study should be conducted. As such, we believe if Verizon were ordered to conduct and file a new study, that study would also be challenged and we would be no closer to establishing appropriate rates for EELs than we are today. Furthermore, while BellSouth's filing included recurring rates for specific EEL combinations, those recurring rates were developed by summing up the individual UNE costs which make up the EEL combinations. Order No. PSC-01-1181-FOF-TP, p. 531.

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[22]The IDLC issue is addressed in detail in Section VII(m).

Finally witness Ankum expressed concern regarding the multiplexing rates proposed by Verizon for use with EEL arrangements. The issue of multiplexing is addressed in Section VII(r).

Non-Recurring Rates

ALEC Coalition witness Morrison analyzed some of Verizon's non-recurring rates for service connection and ordering associated with EELs. The witness recommended several adjustments. Not surprisingly, Verizon witness Richter disagreed with the suggested changes. Since these specific arguments are analyzed in great detail in Section VIII(d) we will not address them here.

Thus, the recurring charges for EELs should be determined by summing up the individual UNEs which make up that EEL combination. This methodology is consistent with our decision in past UNE cost proceedings. We are not persuaded by the testimony presented here that a different approach would be more appropriate. Accordingly, Verizon's proposed method of calculating recurring rates for EEL combinations is appropriate and it shall be used in conjunction with our approved changes in all other applicable prior issues.

With regard to non-recurring charges for EEL combinations, we did not find any information that would lead us to conclude something other than what has been approved for non-recurring costs in Section VIII(d). Therefore, the non-recurring costs for EEL combinations shall be modified to reflect any changes approved in Section VII(d). The appropriate recurring and non-recurring rates for EELS are those approved in Appendix A-1 and Appendix B-1, respectively.

XIII. WHEN SHOULD THE RECURRING AND NON-RECURRING RATES AND CHARGES TAKE EFFECT?

The issue before us is to determine when the recurring and non-recurring rates and charges resulting from this docket should take effect.

Verizon argues that we should deviate from our finding in Docket No. 990649A-TP, the BellSouth phase, which advocated an amendment and approval process for recurring and non-recurring rates. In support of this proposition, Verizon states that the process outlined by Order No. PSC-01-1181-FOF-TP, is "relatively cumbersome, expensive, and time-consuming." Verizon witness Trimble contends that unless a contract states otherwise, "recurring and non-recurring rates for service already provided under the contract should take effect on the date the Commission issues its final order . . ." In lieu of what was ordered in Docket No. 990649A, Verizon advocates that,

> [t]he best approach for quick and easy implementation of new, Commission ordered rates is to simply inform ALECs of the rate change by distributing notices of revised rates or by posting them on Verizon's website. This is Verizon's current practice. Verizon also typically advises the ALECs that acceptance and payment of the first bill with the revised rates will be deemed acceptance of the new rates.

In addition, Verizon proposes that services not included in a current contract would require an amendment. Witness Trimble states that "this amendment would be negotiated setting forth the terms and conditions (including price) under which they would be provided." Furthermore, witness Trimble asserts that if rates for a particular UNE are established in this proceeding, but not included in a current interconnection agreement, a party would be entitled to the UNE only after executing an amendment. In support, witness Trimble states that " . . . this way, the parties can ensure that all related terms and conditions are included."

In similar fashion, Covad argues in its post-hearing brief that the rates and charges established in this docket should be effective upon the issuance of a Commission order. Covad states:

> [s]uch new or changed rates should automatically govern the purchase by ALECs of services and network elements from Verizon, so that ALECs and Verizon will not be required to amend their interconnection agreements to immediately apply these rates. To the extent that Verizon and ALECs amend interconnection agreements to reflect the results of this proceeding, such amendments should be deemed to apply as of the date of the Commission's order in this proceeding.

Furthermore, Covad claims that by not allowing the rates to apply immediately, Verizon will be placed in a position to delay and possibly prevent ALECs from taking advantage of the new rates. In turn, Covad argues that this would frustrate "the development of local telecommunications competition in Florida."

Although not addressed in the record, the ALEC Coalition (Coalition) argues in its post-hearing brief that,

> [a] suitable effective date for new UNE rates must insure equitable treatment of the parties, should take into account implementation issues, and, ultimately, has to accord proper weight to the Act's goal of promoting competition.

In a footnote, the Coalition states that "[a]s an initial matter, the ALECs agree that for a given UNE or service, new recurring and new nonrecurring rates should have the same effective date." Additionally, the Coalition argues (in its post-hearing brief) that Verizon witness Trimble's testimony did not "square" with our decision in the BellSouth phase or with Verizon's position in the Prehearing Order. The Coalition goes on to propose that if Verizon's proposed rates are ". . . outright rejected, the Commission should order Verizon to implement the ALECs' proposed rates on the date the Commission issues its final order for those services under contract as of the date of the Order." By doing so, the Coalition asserts that "[t]his should motivate Verizon to provide proper and adequate proof of its costs in a subsequent phase of this docket." Otherwise, the Coalition believes "the Commission should order an effective date consistent with what it ordered in the BellSouth case, provided, however, that if either party to negotiation causes undue delay, the Commission may require an earlier implementation date as to specific parties."

DECISION

Despite Verizon's claims that the effective date process ordered in the BellSouth phase is "relatively cumbersome, expensive, and time-consuming," we believe that the process resulting from Docket No. 990649A-TP is sound and just. We note that there is nothing in the record, from any party, supporting the position that the amendment process is, or would be, cumbersome, expensive, or time-consuming. To the contrary, ALECs and ILECs currently submit amendments to the FPSC for a variety of issues on a regular basis. These amendments are routine, and typically address changes to business names and addresses, modifications to the general terms and conditions of an agreement, and the amendment of superseded rates.

Instead, Verizon asserts that "the best approach for quick and easy implementation . . ." of our ordered rates would be to post the rates on Verizon's website, or through the distribution of notices to the parties. In addition, Verizon contends that the acceptance and payment of the first bill containing the revised rates constitutes acceptance of those rates. We are not persuaded by this argument.

Although we agree that the processes previously mentioned would be "quick and easy" for Verizon to implement, we question whether Verizon's proposals represent the "best approach." Instead, requiring the parties to amend their interconnection agreements and submit them to us for approval is the preferred practice. The ALEC Coalition echoed this sentiment in a discovery response; when asked if we should deviate from our decision in Docket No. 990649A-TP, they answered "no."

Through the use of the amend and approve process, we could also alleviate concerns surrounding the equitable treatment of the parties, and insure that implementation issues are adequately addressed. By requiring the parties to file amendments incorporating the new rates, both parties have an opportunity to adjust systems and services during the negotiation process. In addition, this process ultimately furthers the Act's underlying goal of promoting competition.

Unlike other issues in this proceeding which are dependent on cost models and company-specific assumptions and input, this issue is procedural in nature and should be applied uniformly among the companies associated with this docket. Although rates and charges may differ between phases and among companies in this docket, there should be a single standard applicable to effective dates. The "standard" developed in Docket No. 990649A-TP is already applicable to BellSouth, and should also apply to Sprint and Verizon going forward.

We stated in Order No. PSC-01-1181-FOF-TP, Docket No. 990649A-TP:

> . . . UNE rates as established herein, may be incorporated as amendments to existing interconnection agreements. Therefore, upon consideration, we find that it is appropriate for the rates to become effective when the interconnection agreements are amended to reflect the approved UNE rates and the amended agreement is approved by us. For new interconnection agreements, the rates shall become effective when we approve the agreement. Pursuant to Section 252(e)(4) of the Telecommunications Act of 1996, should we fail to act to approve or reject the agreement adopted by negotiation within 90 days after its submission by the parties, the agreement is deemed approved.

We see no reason to create an additional standard for the application of effective dates in this docket. We have already approved a process regarding the effective dates of charges and rates developed as a result of this UNE docket. The amendment and approval process we adopted in the BellSouth phase provides time for proper notice of changing rates and charges, and allows the parties to make the necessary changes to their systems.

We find that recurring and non-recurring rates and charges shall take effect when existing interconnection agreements are amended to incorporate the approved rates, and the amended agreements are deemed approved by us. For new interconnection agreements, the rates shall become effective when the agreements are deemed approved by us. Pursuant to Section 252(e)(4) of the Telecommunications Act of 1996, a negotiated agreement is deemed approved by operation of law after 90 days from the date of submission to us.

Based on the foregoing, it is therefore

ORDERED by the Florida Public Commission that the findings set forth herein regarding the appropriate methodology, assumptions, and inputs for establishing rates for unbundled network elements for BellSouth Telecommunications, Inc., are herein approved. It is further

ORDERED that the rates set forth in Appendices A-1, A-2, and B-1, which are attached and incorporated in this Order, are hereby approved. It is further

ORDERED that the approved rates shall become effective when existing interconnection agreements are amended to incorporate the approved rates, and those agreements become effective. It is further

ORDERED that Docket No. 990649B-TL shall be closed as it relates to Verizon Florida, Inc.

By ORDER of the Florida Public Service Commission this 15th day of November, 2002.

Blanca S. Bayó

BLANCA S. BAYÓ, Director
Division of the Commission Clerk
and Administrative Services

(S E A L)

WDK

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water and/or wastewater utility by filing a notice of appeal with the Director, Division of the Commission Clerk and Administrative Services and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.

RATE TABLES

Attached to this Order are four Appendices. Appendicies A-1, A-2, and B-1 show the rates proposed by the various parties and those we approve for UNEs and UNE combinations. Because proposals varied, it was not possible to present all rates in one table. Appendix C shows our assignment of wire centers to rate zones. Below is a brief description of each of the rate appendices.

APPENDIX A-1 - Appendix A-1 contains the recurring rates proposed by Verizon Florida and those we approve. Because the ALEC Coalition's recurring UNE rates are based on WorldCom's TELRIC rate proposal in the BellSouth 120-day filing and the UNE rates we approved for BellSouth in Orders PSC-01-1181-FOF-TP and PSC-01-2051-FOF-TP, it was not possible to include the ALEC Coalition's proposed recurring rates in Appendix A-1[23].

APPENDIX A-2 - Appendix A-2 contains the recurring monthly rates proposed by the ALEC Coalition. These rates are those that AT&T/WorldCom proposed in the BellSouth 120-day proceeding. For those elements not included in the 120-day proceeding, the recurring rate are those we approved by for BellSouth in Order PSC-01-2051-FOF-TP.

Appendix B-1 - Appendix B-1 contains the non-recurring rates proposed by Verizon Florida, the ALEC Coalition, and those we approve.

Source of Rates

- Verizon Proposed - Recurring and Non-Recurring - Exhibit 47, DBT-4.

- ALEC Proposed - Recurring - WorldCom's TELRIC rate proposal made for BellSouth Florida territory in Docket No. 990649A-TP (BellSouth 120-day proceeding); UNE rates approved by the FPSC for BellSouth in Orders Nos. PSC-01-1181-FOF-TP, issued May 25, 2001, and PSC-01-2051-FOF-TP, issued October 18, 2001. Non-recurring - The ALEC Coalition's non-recurring rate proposal is

[23] In many cases, Verizon and BellSouth do not have identical names for elements or the same rate structure; therefore, it was not possible to provide the ALEC Coalition's proposals in the same table as Verizon's and staff.

based on the recommendations contained in the testimony of ALEC Coalition witness Morrison.

- Commission Approved - Recurring and Non-Recurring - Output of Verizon's cost models with our adjustments.

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED
(THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)

	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
1				
2	**LOCAL LOOPS** (Includes NID)			
3	**2-Wire Loop**	1	$22.17	$12.00
4		2	$30.91	$16.18
5		3	$77.39	$27.54
6				
7	**4-Wire Loop**	1	$53.60	$28.45
8		2	$71.60	$38.36
9		3	$157.71	$65.31
10				
11	**DS-1 Loop/PRI Loop**	1	$235.24	$130.25
12		2	$252.20	$175.63
13		3	$309.27	$299.06
14				
15	**DS3 Loop**			
16	Statewide Average		$1,067.85	$972.23
17				
18	**Supplemental Features (must order with Loop)**			
19	ISDN BRI Line Loop Extension		$6.45	$4.83
20	COIN Loop Extension		$22.32	$16.67
21				
22	**House and Riser Cable**			
23	Statewide Average (Assumes average of 5 floors)		$2.82	$1.78
24				
25	**SUB - LOOPS**			
26				

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED
(THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)

	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
27	**2-Wire Feeder**	1	$9.41	$5.42
28		2	$10.98	$7.31
29		3	$15.09	$12.45
30				
31	**4-Wire Feeder**	1	$29.43	$16.14
32		2	$33.95	$21.77
33		3	$37.15	$37.06
34				
35	**2-Wire Distribution (includes NID)**	1	$15.88	$8.73
36		2	$23.05	$11.77
37		3	$65.42	$20.03
38				
39	**4-Wire Distribution (includes NID)**	1	$27.29	$14.46
40		2	$40.77	$19.49
41		3	$123.69	$33.19
42				
43	**2-Wire Drop (includes NID)**	1	$2.54	$1.50
44		2	$3.25	$2.02
45		3	$5.06	$3.44
46				
47	**4-Wire Drop (includes NID)**	1	$3.02	$1.67
48		2	$3.58	$2.25
49		3	$5.36	$3.84
50				
51	**NETWORK INTERFACE DEVICE**			
52	Per 2-Wire Loop		$1.56	$1.28
53	Per 4-Wire Loop		$2.00	$1.52
54				
55	**LOCAL END OFFICE SWITCHING**			

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
56	Basic Port		$3.37	$2.40
57	Coin Port		$7.14	$4.82
58	DS-1 Port		$70.18	$45.47
59	ISDN BRI Port		$13.41	$8.85
60	ISDN PRI Port		$264.80	$170.37
61				
62	**End Office Switching (must purchase Port)**			
63	per MOU		$0.0029514	$0.0022574
64				
65	**TANDEM SWITCHING**			
66	Per MOU		$0.0018977	$0.0015864
67				
68	**LOCAL TRANSPORT**			
69				
70	**Common / Shared Transport**			
71	Transport Facility (per MOU times ALM)		$0.0000008	$0.0000004
72	Transport Termination (per MOU times Term)		$0.0001046	$0.0000811
73				
74	**Inter-office Dedicated Transport**			
75	IDT DS-0/VG Transport Facility per ALM		$0.03	$0.02
76	IDT DS-0/VG Transport per Termination		$13.21	$11.00
77				
78	IDT DS-1 Transport Facility per ALM		$0.30	$0.19
79	IDT DS-1 Transport per Termination		$27.04	$21.35
80				
81	IDT DS-3 Transport Facility per ALM		$1.48	$0.94
82	IDT DS-3 Transport per Termination		$66.04	$50.50
83				
84	CLEC Dedicated Transport			

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
85	CDT 2-Wire		$37.54	$25.74
86	CDT 4-Wire		$72.98	$49.14
87	CDT DS-1		$240.52	$185.27
88	CDT DS-3		$1,067.85	$972.23
89				
90	**DARK FIBER**			
91	**Unbundled Dark Fiber Loops and Subloops**			
92	Dark Fiber Loop (per fiber strand)		$81.92	$48.74
93	Dark Fiber Sub-Loop Feeder (per fiber strand)		$69.97	$41.67
94	Dark Fiber Sub-Loop Distribution (per fiber strand)		$14.17	$8.75
95				
96	**Unbundled DF Dedicated Transport (per fiber strand)**			
97	Dark Fiber IDT - Faculty per ALM		$55.74	$32.69
98	Dark Fiber IDT - per Termination		$2.21	$1.69
99				
100	**UNE Combinations (UNE-Ps or EELs)**		See note 1.	See note 2.
101				
102	**Multiplexing**			
103	DS1 to Voice Grade Multiplexing		$186.96	$139.91
104	DS3 to DS1 Multiplexing		$514.71	$385.33
105				
106	**SIGNALING SYSTEM 7**			
107				
108	**SS-7 STP Access Service (w/o Verizon Switching)**			
109	DSAL 56 KB		$75.25	$50.56
110	DSAL DS-1 Facility per ALM		$134.56	$98.50
111	DSAT 56 KB Facility per ALM		$2.67	$2.47

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
112	DSAT DS-1 Facility per ALM		$13.96	$12.01
113	STP Port Termination		$520.56	$392.94
114				
115	**SS-7 Transport**			
116	Fixed Transport (w/o Verizon Switching)			
117	Transport -Local STP to Regional STP		$1,059.31	$938.16
118	Transport - Regional STP to Regional STP		$1,339.19	$1,188.59
119				
120	**Query-Based Transportation (only when Verizon Switching used)**			
121	DB800 Query Setup - End Office to Local STP		$0.0003325	$0.0002319
122	CNAM/LIDB Query Setup - End Office to Local STP		$0.0002936	$0.0002047
123				
124	DB800 Query Transport - Local STP to Regional STP		$0.0005183	$0.0004645
125	CNAM/LIDB Query Transport - Local STP to Regional STP		$0.0003328	$0.0002874
126				
127	**SS-7 Database Queries (when CLEC or Verizon Switching used)**			
128	DB800 Query - Carrier Selection Service		$0.0004546	$0.0002918
129	LIDB Query		$0.0004043	$0.0002595
130	CNAM Query		$0.0022363	$0.0020735
131				
132	**SWITCH & ISDN FEATURES**			
133	**SWITCH FEATURES**			
134	Three Way Calling		$1.46	$0.98
135	Call Forwarding Variable		$0.27	$0.18
136	Cust. Changeable Speed Call 1- Digit		$0.20	$0.14
137	Cust. Changeable Speed Call 2- Digit		$0.35	$0.25

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
138	Call Waiting		$0.10	$0.07
139	Cancel Call Waiting		$0.07	$0.05
140	Automatic CallBack		$0.29	$0.20
141	Automatic Recall		$0.15	$0.11
142	Calling Number Delivery		$0.46	$0.34
143	Calling Number Delivery Blocking		$0.25	$0.18
144	Distinctive Ringing / Call Waiting		$0.38	$0.27
145	Customer Originated Trace		$0.14	$0.10
146	Selective Call Rejection		$0.44	$0.30
147	Selective Call Forwarding		$0.39	$0.26
148	Selective Call Acceptance		$0.45	$0.32
149	Call Forwarding Variable CTX		$0.21	$0.13
150	Call Forwarding Incoming Only		$0.19	$0.12
151	Call Forwarding Within Group Only		$0.13	$0.08
152	Call Forwarding Busy Line		$0.17	$0.11
153	Call Forwarding Don't Answer All Calls		$0.17	$0.11
154	Remote Call Forwarding		$2.74	$1.80
155	Call Waiting Originating		$0.13	$0.10
156	Call Waiting Terminating		$0.05	$0.03
157	Cancel Call Waiting CTX		$0.01	$0.01
158	Three Way Calling CTX		$0.26	$0.16
159	Call Transfer Individual All Calls		$0.20	$0.13
160	Add-On-Consult Hold Incoming Only		$0.17	$0.11
161	Speed Calling Individual 1-Digit		$0.08	$0.05
162	Speed Calling Individual 2-Digit		$0.16	$0.10
163	Direct Connect		$0.06	$0.04
164	Distinct Alerting/Call Waiting Indic.		$0.07	$0.05
165	Call Hold		$0.22	$0.15
166	Semi-Restricted (Orig/Term)		$1.21	$0.78

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
167	Fully Restricted (Orig/Term)		$1.21	$0.78
168	Toll Restricted Service		$0.17	$0.11
169	Call Pick-up		$0.06	$0.04
170	Directed Call Pick-up W/Barge-In		$0.05	$0.03
171	Directed Call Pick-up W/O Barge-In		$0.07	$0.05
172	Special Intercept Announce (per C/G)		$8.40	$5.39
173	Conference Call 6-Way Station Contr		$2.14	$1.38
174	Stn Msg Dtl Recording To Rao (per G)		$1.73	$1.29
175	Stn Msg Dtl Recording To Prem (per G)		$3.74	$2.40
176	Fixed Night Service - Key (per C/G)		$2.91	$1.87
177	Attd Camp-On (Non-DI Console)		$0.40	$0.25
178	Attd Busy Line Verification (per C/G)		$15.73	$10.09
179	Control of Facilities (per C/G)		$0.05	$0.03
180	Fixed Night Serv - Call Fwd (per C/G)		$2.09	$1.34
181	Attd Conference (per C/G)		$47.74	$30.63
182	Circular Hunting		$0.09	$0.06
183	Preferential Multiline Hunting		$0.03	$0.02
184	Uniform Call Distribution (per G)		$1.08	$0.69
185	Stop Hunt Key		$4.43	$2.84
186	Make Busy Key		$4.43	$2.84
187	Queuing		$15.42	$9.90
188	Automatic Route Selection		$3.11	$1.99
189	Facility Restriction Level		$0.19	$0.12
190	Expensive Route Warning Tone		$0.03	$0.02
191	Time-Of-Day Route Control (per C/G)		$6.93	$4.45
192	Foreign Exchange Facilities (per T/G)		$4.37	$2.80
193	Anonymous Call Rejection		$4.01	$2.57
194	Basic Bus Group Sta-Sta ICM		$0.35	$0.23
195	Basic Business Group CTX		$0.17	$0.12

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
196	Basic Bus Grp Direct Out Dialing		$0.01	$0.01
197	Basic Bus Group Auto ID Out Dialing		$0.00	$0.00
198	Basic Bus Grp Direct In Dialing		$0.00	$0.00
199	Bus Set Grp Intercom All Calls		$3.89	$2.49
200	Dial Call Waiting		$0.09	$0.06
201	Loudspeaker Paging (per T/G)		$4.30	$2.76
202	Recorded Phone Dictation (per T/G)		$4.55	$2.92
203	On-Hook Queuing-Outgoing Trks		$0.26	$0.17
204	Off-Hook Queuing-Outgoing Trks		$0.02	$0.02
205	Teen Service		$0.08	$0.06
206	Bg - Automatic Call Back		$0.11	$0.07
207	Voice/data Protection		$0.01	$0.00
208	Authorization Codes For Afr		$0.06	$0.04
209	Account Codes For Afr		$0.21	$0.13
210	Code Restriction & Diversion		$0.19	$0.12
211	Code Calling (per T/G)		$6.38	$4.10
212	Meet-Me Conference		$3.47	$2.23
213	Call Park		$0.09	$0.06
214	Executive Busy Override		$0.06	$0.04
215	Last Number Redial		$0.11	$0.08
216	Direct Inward System Access (per G)		$0.10	$0.06
217	Auth Code Immediate Dialing		$0.00	$0.00
218	Bg - Speed Calling Shared		$0.01	$0.00
219	Attend Recall From Satellite		$1.19	$0.77
220	Bg - Speed Calling 2-Shared		$0.01	$0.01
221	Business Set - Call Pick-up		$0.09	$0.06
222	Authorization Code For Mdr		$0.00	$0.00
223	Locked Loop Operation		$0.00	$0.00
224	Attend Position Busy		$3.27	$2.10

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
225	Two-Way Splitting (per A/G)		$4.72	$3.03
226	Call Forwarding - All (Fixed)		$0.30	$0.20
227	Business Group Call Waiting		$0.00	$0.00
228	Music On Hold (per C/G)		$1.09	$0.70
229	Automatic Alternate Routing		$0.29	$0.18
230	Dual-Tone Multifrequency Dialing		$0.00	$0.00
231	BG Dual-Tone Multifreq Dialing		$0.00	$0.00
232	Business Set Access To Paging		$2.15	$1.38
233	Call Flip-Flop (Ctx-A)		$0.28	$0.18
234	Selective Call Waiting (Class)		$0.36	$0.26
235	Direct Inward Dialing		$7.29	$4.68
236	Customer Dialed Acct Recording		$0.68	$0.44
237	Deluxe Automatic Route Selection		$37.92	$24.33
238	MDC Attd Console (per A/G)		$8.93	$5.73
239	Warm Line		$0.04	$0.02
240	Calling Name Delivery		$0.06	$0.04
241	Call Forwarding Enhance (Multipath)		$0.00	$0.00
242	Caller ID Name and Number		$0.27	$0.17
243	Call Waiting ID		$0.04	$0.03
244	Att'd ID on Incoming Calls		$1.42	$0.91
245	Privacy Release		$0.56	$0.36
246	Display Calling Number		$0.28	$0.18
247	Six-Port Conference		$30.71	$19.70
248	Business Set Call Back Queuing		$0.02	$0.01
249	ISDN Code Calling-Answer		$0.23	$0.15
250	Att'd Call Park		$0.56	$0.36
251	Att'd autodial		$0.22	$0.14
252	Att'd Speed Calling		$0.79	$0.51
253	Att'd Console Test		$0.16	$0.10

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
254	Att'd Delayed Operation		$0.00	$0.00
255	Att'd Lockout		$0.00	$0.00
256	Att'd Multiple Listed Directory Number		$0.00	$0.00
257	Att'd Secrecy		$1.14	$0.73
258	Att'd Wildcard Key		$0.47	$0.30
259	Att'd Flexible Consoling Alerting		$0.00	$0.00
260	Att'd VFG Trk GRP Busy Att'd Console		$0.24	$0.15
261	Att'd Console Act/Deact of CFU/CFI		$0.36	$0.23
262	Att'd Dispi of Queued call ICI Key		$0.02	$0.02
263	Att'd Interposition Transfer		$0.31	$0.20
264	Att'd Automatic Recall		$0.97	$0.62
265	Att'd Serial Call		$0.56	$0.36
266	Proprietary Set Interface		$0.48	$0.31
267	Tie Facility Access (per ckt)		$4.03	$2.59
268	WATS Access (per G)		$5.97	$3.83
269	800 Service Access		$5.62	$3.63
270	Call Waiting Deluxe		$0.26	$0.17
271	Call Waiting Incoming Only		$0.05	$0.03
272	Call Transfer Outside		$0.24	$0.15
273	Camp on with Music		$0.00	$0.00
274	Station Billing on Att'd Handled Call		$2.28	$1.46
275	Multiple Console Operations		$1.18	$0.76
276	Business Set Intercom		$0.11	$0.07
277	Display Called Number		$0.10	$0.07
278	Bus Set Mult Appear Dir No Calls		$0.07	$0.05
279	Bus Set Make Set Busy		$0.00	$0.00
280	Direct Station Set / Busy Lamp Field		$0.29	$0.19
281	MBS Auto Inspect Mode		$0.00	$0.00
282	Electronic Business Set as Message Center		$0.07	$0.05

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
283	Call Park Recall Identification		$0.06	$0.04
284	MADN Cut Bridging		$4.46	$2.86
285	Business Set Dial Call Waiting		$0.20	$0.13
286	Business Set Call Waiting Orig		$0.06	$0.04
287	Non-Data Link Console Call Extension		$0.00	$0.00
288	MADN Cut Off on Disconnect		$0.00	$0.00
289	Bus Set Call Fwd Universal / Key Basis		$0.00	$0.00
290	Business Set Malicious Call Hold		$0.09	$0.05
291	Basic Automatic Call Distribution		$113.50	$72.84
292	Basic ACD on 2500 Sets		$0.08	$0.05
293	ACD Directory Numbers		$0.00	$0.00
294	ACD Agent Status Lamp		$7.20	$4.62
295	Call Forcing		$6.14	$3.94
296	Emergency Answer Backup		$2.47	$1.59
297	Call Supervisor		$0.17	$0.11
298	Display Queue Status		$0.21	$0.13
299	Night Treatment		$0.73	$0.47
300	Observe Agent Extended		$4.04	$2.59
301	ACD Queuing Status Lamp		$2.94	$1.89
302	Music on Delay		$3.12	$2.00
303	Call Agent		$0.00	$0.00
304	ACD Second/Third Announcements		$8.87	$5.69
305	ACD Overflow of Enqueued Calls		$0.82	$0.53
306	Multistage - Queue Status Display		$8.26	$5.30
307	ACD Walkaway / Closed Key Operation		$1.39	$0.89
308	Transfer to In-Calls Key		$0.00	$0.00
309	Display Agent Key		$2.56	$1.64
310	Through Dialing		$0.59	$0.38
311	Business Set 3- Way Calling/Call		$3.61	$2.32

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	Zone	VERIZON PROPOSED	COMMISSION APPROVED
312	Business Set Auto Answer Back		$0.00	$0.00
313	Business Set Automatic Dial		$0.33	$0.21
314	Business Set Automatic Line		$0.08	$0.05
315	Business Set Busy Override		$0.67	$0.43
316	Query Time Key		$0.12	$0.08
317	MADN Ring Forward		$1.06	$0.68
318	Individual Page from Group Intercom		$12.12	$7.78
319	Preset Conference		$0.02	$0.01
320	Bus Set Network Class of Service		$0.00	$0.00
321	Business Set Feature Code Access		$0.00	$0.00
322	Console Release		$0.07	$0.05
323	Message Waiting		$0.03	$0.02
324	Code Red / Code Blue		$0.06	$0.04
325	Flexible Display Language		$0.00	$0.00
326	IBN Att'd Console Oper Measure (console)		$75.13	$48.21
327	Peg Counts on LDN's on Att'd Consoles		$0.00	$0.00
328	Immediate Notifi. on Prior Enqueued Calls		$0.00	$0.00
329	Att'd Console DTMF End to End Signaling		$0.05	$0.04
330	Trunk Busy Verify Tone		$0.00	$0.00
331	Uniform Call Distribution from Queue		$0.00	$0.00
332	Meet Me Page		$15.18	$9.74
333	Business Set Listen on Hold		$0.00	$0.00
334	Business Set Hold Calls		$0.00	$0.00
335	Business Set Private Business Line		$0.00	$0.00
336	Business Set On-Hook Dialing		$0.00	$0.00
337	Business Set Ring Again		$1.96	$1.26
338	Secondary MADN Call Forward		$0.00	$0.00
339	Bus Set Orig / Term Line Select		$0.00	$0.00
340	Make Set Busy Except GIC		$0.00	$0.00

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
341	Ring Again From Idle Bus Set		$0.64	$0.41
342	Calling Name Display MADN Sec Members		$3.07	$1.97
343	EBS Music on Hold		$0.23	$0.15
344	Station Camp-On for MBS		$3.38	$2.17
345	Business Set Station Activated Call Forward		$0.19	$0.12
346	Feature Function Button		$0.00	$0.00
347	Emergency Alert Enhanced		$0.03	$0.02
348	Network Name Display for Att'd Consoles		$0.00	$0.00
349	Message Service		$20.65	$13.25
350	Bill Number Screen		$0.40	$0.26
351	ETS Access		$18.52	$11.88
352	ACD 2500 Login / Logout		$1.56	$1.00
353	ACD Automatic Overflow		$1.98	$1.27
354	ACD MIS Interface		$34.02	$21.83
355	ACD Call Transfer with Time		$1.23	$0.79
356	ACD Forced Availability		$0.23	$0.15
357	ACD Calling Name / No. Displayed		$2.12	$1.36
358	ACD Observe Agent from 2500 Set		$0.75	$0.48
359	ACD Distinctive Ring		$0.28	$0.18
360				
361	**ISDN Features**			
362				
363	ISDN Att'd Busy Verif Lines / Trunks		$0.00	$0.00
364	ISDN Att'd Call Thru Test		$0.00	$0.00
365	ISDN Shared Call Appearances DN		$0.29	$0.19
366	ISDN Bridged Call Exclusion		$0.03	$0.02
367	ISDN Key Sys Coverage Analog Line		$1.56	$0.97
368	ISDN Queuing for ISDN Att'd w/CWI		$0.03	$0.02
369	ISDN Att'd Control - Voice Terminals		$0.06	$0.04

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
370	ISDN Att'd Night Svc (Fixed/Flexible)		$0.09	$0.05
371	ISDN Emergency Access to Att'd		$0.00	$0.00
372	ISDN Att'd Direct Trk Grp Selection		$0.00	$0.00
373	ISDN Att'd Emergency Override		$0.00	$0.00
374	ISDN Auto Drop Back to Att'd		$0.10	$0.06
375	ISDN Att'd Orig. Permission Display		$0.01	$0.01
376	ISDN Att'd Timed Reminder		$0.04	$0.02
377	ISDN Att'd Trunk Identification		$0.00	$0.00
378	ISDN ISAT Trunk Queuing		$0.94	$0.60
379	ISDN Att'd Trunk Group Indicators		$0.04	$0.03
380	ISDN Aggr Wrk Time / #Calls Handled		$0.01	$0.01
381	ISDN Total No. Calls Handled Display		$0.14	$0.09
382	ISDN Att'd Traffic		$0.04	$0.02
383	ISDN Att'd Number of Calls on Queue		$0.00	$0.00
384	ISDN Primary Rate Interface		$88.90	$57.05
385	ISDN Circuit Switch Voice/Data - PRI		$23.58	$15.13
386	ISDN Call by Call Access		$139.21	$89.33
387	ISDN Calling Number Delivery to PRI		$1.07	$0.68
388	ISDN Pckt Switch IEO on Dmnd B Ch		$4.89	$3.14
389	ISDN Circuit Switched Voice		$0.93	$0.60
390	ISDN Basic Circuit Switched Data		$10.48	$6.73
391	ISDN Pack Switch IAO D Channel		$0.87	$0.56
392	ISDN X.25 Hunt Groups		$1.15	$0.74
393	ISDN Outgoing Call Line ID		$0.03	$0.02
394	ISDN Att'd - Power Failure Transfer		$0.01	$0.01
395	ISDN EDS Calling Name Display		$0.04	$0.03
396	ISDN Att'd Camp-On		$0.00	$0.00
397	ISDN Att'd Uniform Call Distribution		$0.29	$0.18
398	ISDN Call Forwarding Variable		$0.02	$0.01

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
399	ISDN Att'd Control of Facilities		$0.14	$0.09
400	ISDN Att'd ID on Incoming Calls		$0.00	$0.00
401	ISDN Att'd Direct Station Selection		$0.02	$0.01
402	ISDN Att'd Conference		$7.22	$4.63
403	ISDN Multi Line Hunt Group		$0.80	$0.51
404	ISDN Circular Hunting		$0.14	$0.09
405	ISDN Att'd Position Busy		$0.04	$0.03
406	ISDN Att'd Call Hold		$0.12	$0.07
407	ISDN Call Hold		$0.25	$0.16
408	ISDN Att'd Call Splitting		$1.27	$0.81
409	ISDN Call Pick Up		$0.42	$0.27
410	ISDN Business Group Auto Callback		$0.03	$0.02
411	ISDN Toll Restricted Service		$0.15	$0.10
412	ISDN att'd Through Dialing		$0.00	$0.00
413	ISDN Intercom Functions		$0.01	$0.00
414	ISDN Terminal Management		$0.00	$0.00
415	ISDN Priority Calling Incoming Only		$0.00	$0.00
416	ISDN Multi Directory Number Button		$0.00	$0.00
417	ISDN X.25 Closed User Groups		$0.00	$0.00
418	ISDN X.25 Fast Select		$0.00	$0.00
419	ISDN X.25 Fast Select Acceptance		$0.00	$0.00
420	ISDN X.25 1-Way Out Logical Channel		$0.00	$0.00
421	ISDN X.25 Reverse Charge		$0.00	$0.00
422	ISDN X.25 Reverse Charge Accept		$0.00	$0.00
423	ISDN X.25 Perm Virtual Call Service		$0.00	$0.00
424	ISDN Direct Connect		$0.19	$0.12
425	ISDN Switched Fractional DS 1 / Orig		$3.80	$2.44
426	ISDN Switched Fractional DS 1 / Term		$3.81	$2.44
427	ISDN PRI D-Channel Backup		$0.09	$0.06

APPENDIX A-1 - RECURRING RATES - VERIZON PROPOSED & COMMISSION APPROVED (THE ALEC PROPOSED RECURRING RATES ARE SHOWN IN APPENDIX A-2)				
	ELEMENT DESCRIPTION	**Zone**	**VERIZON PROPOSED**	**COMMISSION APPROVED**
428	ISDN PRI B Channel		$3.12	$2.01
429	ISDN Non-Facility Assoc Signaling		$0.66	$0.42
430	ISDN Facility Restriction Level		$0.16	$0.10
431	ISDN Time and Data Display		$0.03	$0.02
432	ISDN Inspect ISDN Terminals		$0.10	$0.07
433	ISDN Trunking Answer Any Station		$0.20	$0.13
434	ISDN X.25 Flow Control Prmtr Negot.		$0.00	$0.00
435	ISDN X.25 Incoming Calls Barred		$0.00	$0.00
436	ISDN X.25 Outgoing Calls Barred		$0.00	$0.00
437	ISDN X.25 Throughput Class Negot.		$0.00	$0.00
438	ISDN Xmit Delay Selection / Indication		$0.00	$0.00
439	ISDN Bridging		$0.65	$0.42
440	ISDN Delayed & Abbreviated Ringing		$0.02	$0.01
441	ISDN Display Ringing Call Appearance Only		$0.00	$0.00
442	ISDN Feature Inspect		$0.03	$0.02
443	ISDN Intercom Alerting		$0.01	$0.01
444	ISDN Initiated Priority Calling		$0.06	$0.04
445	ISDN Remote Access to Features		$0.45	$0.29
446	ISDN Additional Call Offering		$0.02	$0.01

Notes:

1) Verizon's recurring charges for a UNE combination (UNE-P or EEL) are based on applying the individual UNE rates for the desired loop, the desired transport, the desired switched features, and any usage charges related to end office switching, tandem switching, transport, and SS7 Call Related Database Transport and Queries.

2) Our recurring rate for UNE-P will equal the sum of the monthly recommended recurring charges for the individual UNEs that are required to create the platform, less $1.39 to account for the cost saving from using IDLC technology. Our recurring charges for EELs should be determined by summing up the individual approved recurring rates which make up that EEL combination.

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
	ELEMENT NUMBER & DESCRIPTION		ZONE	AT&T/MCI PROPOSED
A.0	**UNBUNDLED LOCAL LOOP**			
A.1	**2-WIRE ANALOG VOICE GRADE LOOP**			
	A.1.1	2-Wire Analog Voice Grade Loop - Service Level 1	1	$6.02
			2	$9.19
			3	$19.41
	A.1.2	2-Wire Analog Voice Grade Loop - Service Level 2	1	$7.36
			2	$10.52
			3	$20.74
A.2	**SUB-LOOP**			
	A.2.1	Sub-Loop Feeder Per 2-Wire Analog Voice Grade Loop	1	$4.71
			2	$6.20
			3	$10.98
	A.2.2	Sub-Loop Distribution Per 2-Wire Analog Voice Grade Loop	1	$3.39
			2	$5.08
			3	$10.57
	A.2.11	Sub-Loop Distribution Per 4-Wire Analog Voice Grade Loop	1	$4.77
			2	$10.68
			3	$14.13
	A.2.14	2-Wire Intrabuilding Network Cable (INC)		$3.96
	A.2.15	4-Wire Intrabuilding Network Cable (INC)		$9.37
	A.2.24	Sub-Loop - Per 4-Wire Analog Voice Grade Loop / Feeder Only	1	$10.69
			2	$19.42
			3	$32.26
	A.2.25	Sub-Loop - Per 2-Wire ISDN Digital Grade Loop / Feeder Only	1	$12.41

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			2	$15.74
			3	$26.44
	A.2.29	Sub-Loop - Per 4-Wire 56 or 64 Kbps Digital Grade Loop / Feeder Only	1	$11.41
			2	$18.03
			3	$17.78
	A.2.30	Sub-Loop - Per 2-Wire Copper Loop / Feeder Only	1	$3.41
			2	$3.28
			3	$2.73
	A.2.32	Sub-Loop - Per 4-Wire Copper Loop / Feeder Only	1	$6.10
			2	$5.71
			3	$5.47
	A.2.40	Sub-Loop - Per 2-Wire Copper Loop / Distribution Only	1	$3.16
			2	$4.55
			3	$6.92
	A.2.42	Sub-Loop - Per 4-Wire Copper Loop / Distribution Only	1	$4.40
			2	$6.95
			3	$11.06
A.3	**LOOP CHANNELIZATION AND CO INTERFACE (INSIDE CO)**			
	A.3.12	Unbundled Loop Concentration - System A (TR008)		$449.49
	A.3.13	Unbundled Loop Concentration - System B (TR008)		$53.44
	A.3.14	Unbundled Loop Concentration - System A (TR303)		$487.33
	A.3.15	Unbundled Loop Concentration - System B (TR303)		$90.05
	A.3.16	Unbundled Loop Concentration - DS1 Line Interface Card		$5.04
	A.3.17	Unbundled Loop Concentration - POTS Card		$2.00

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	A.3.18	Unbundled Loop Concentration - ISDN (Brite Card)		$8.00
	A.3.19	Unbundled Loop Concentration - SPOTS Card		$11.90
	A.3.20	Unbundled Loop Concentration - Specials Card		$7.10
	A.3.21	Unbundled Loop Concentration - TEST CIRCUIT Card		$34.68
	A.3.22	Unbundled Loop Concentration - Digital 19, 56, 64 Kbps Data		$10.51
A.4	**4-WIRE ANALOG VOICE GRADE LOOP**			
	A.4.1	4-Wire Analog Voice Grade Loop	1	$14.44
			2	$29.06
			3	$45.25
A.5	**2-WIRE ISDN DIGITAL GRADE LOOP**			
	A.5.1	2-Wire ISDN Digital Grade Loop	1	$14.19
			2	$19.37
			3	$32.80
	A.5.6	Universal Digital Channel	1	$14.19
			2	$19.37
			3	$32.80
A.6	**2-WIRE ASYMMETRICAL DIGITAL SUBSCRIBER LINE (ADSL) COMPATIBLE LOOP**			
	A.6.1wLMU	2-WIRE ASYMMETRICAL DIGITAL SUBSCRIBER LINE (ADSL) COMPATIBLE LOOP (Nonrecurring w/ LMU)		
		A.6.1 2-Wire Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop	1	$5.82
			2	$7.08
			3	$8.90
	A.6.1woLMU	2-WIRE ASYMMETRICAL DIGITAL SUBSCRIBER LINE (ADSL) COMPATIBLE LOOP (Nonrecurring w/o LMU)		

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
		A.6.1 2-Wire Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop	1	$5.82
			2	$7.08
			3	$8.90
A.7	**2-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP**			
	A.7.1wLMU	2-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP (Nonrecurring w/ LMU)		
		A.7.1 2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop	1	$5.18
			2	$6.28
			3	$7.82
	A.7.1woLMU	2-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP (Nonrecurring w/o LMU)		
		A.7.1 2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop	1	$5.18
			2	$6.28
			3	$7.82
A.8	**4-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP**			
	A.8.1wLMU	4-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP (Nonrecurring w/ LMU)		
		A.8.1 4-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop	1	$8.77
			2	$9.57
			3	$10.80
	A.8.1woLMU	4-WIRE HIGH BIT RATE DIGITAL SUBSCRIBER LINE (HDSL) COMPATIBLE LOOP (Nonrecurring w/o LMU)		

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
		A.8.1 4-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop	1	$8.77
			2	$9.57
			3	$10.80
A.9	**4-WIRE DS1 DIGITAL LOOP**			
	A.9.1	4-Wire DS1 Digital Loop	1	$55.39
			2	$74.91
			3	$168.76
	A.9.2	Sub-Loop Feeder Per 4-Wire DS1 Digital Loop	1	$30.11
			2	$49.96
			3	$152.95
A.10	**4-WIRE 19, 56 OR 64 KBPS DIGITAL GRADE LOOP**			
	A.10.1	4-Wire 19, 56 or 64 Kbps Digital Grade Loop	1	$15.35
			2	$25.14
			3	$28.21
A.12	**CONCENTRATION PER SYSTEM PER FEATURE ACTIVATED (OUTSIDE CENTRAL OFFICE)**			
	A.12.1	Unbundled Loop Concentration - System A (TR008)		$455.13
	A.12.2	Unbundled Loop Concentration - System B (TR008)		$79.96
	A.12.3	Unbundled Loop Concentration - System A (TR303)		$488.67
	A.12.4	Unbundled Loop Concentration - System B (TR303)		$113.49
	A.12.5	Unbundled Sub-loop Concentration - USLC Feeder Interface	1	$38.86
			2	$43.46
			3	$100.61
	A.12.6	Unbundled Loop Concentration - POTS Card		$2.03

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	A.12.7	Unbundled Loop Concentration - ISDN (Brite Card)		$8.11
	A.12.8	Unbundled Loop Concentration - SPOTS Card		$12.05
	A.12.9	Unbundled Loop Concentration - Specials Card		$35.12
	A.12.10	Unbundled Loop Concentration - TEST CIRCUIT Card		$10.65
	A.12.11	Unbundled Loop Concentration - Digital 19, 56, 64 Kbps Data		$10.65
A.13	**2-WIRE COPPER LOOP**			
	A.13.1wLMU	2-Wire Copper Loop - short (Nonrecurring w/ LMU)		
		A.13.1 2-Wire Copper Loop - short	1	$5.82
			2	$7.08
			3	$8.90
	A.13.1woLMU	2-Wire Copper Loop - short (Nonrecurring w/o LMU)		
		A.13.1 2-Wire Copper Loop - short	1	$5.82
			2	$7.08
			3	$8.90
	A.13.7wLMU	2-Wire Copper Loop - long (Nonrecurring w/ LMU)		
		A.13.7 2-Wire Copper Loop - long	1	$9.94
			2	$13.36
			3	$26.47
	A.13.7woLMU	2-Wire Copper Loop - long (Nonrecurring w/o LMU)		
		A.13.7 2-Wire Copper Loop - long	1	$9.94
			2	$13.36
			3	$26.47
	A.13.12	2-Wire Unbundled Copper Loop - Non Design	1	$5.00
			2	$6.40

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			3	$8.58
A.14	**4-WIRE COPPER LOOP**			
	A.14.1wLMU	4-Wire Copper Loop - short (Nonrecurring w/ LMU)		
		A.14.1 4-Wire Copper Loop - short	1	$9.50
			2	$11.62
			3	$15.50
	A.14.1woLMU	4-Wire Copper Loop - short (Nonrecurring w/o LMU)		
		A.14.1 4-Wire Copper Loop - short	1	$9.50
			2	$11.62
			3	$15.50
	A.14.7wLMU	4-Wire Copper Loop - long (Nonrecurring w/ LMU)		
		A.14.7 4-Wire Copper Loop - long	1	$18.81
			2	$32.21
			3	$42.29
	A.14.7woLMU	4-Wire Copper Loop - long (Nonrecurring w/o LMU)		
		A.14.7 4-Wire Copper Loop - long	1	$18.81
			2	$32.21
			3	$42.29
A.15	**UNBUNDLED NETWORK TERMINATING WIRE (NTW)**			
	A.15.1	Unbundled Network Terminating Wire (NTW) per Pair		$0.4572
A.16	**HIGH CAPACITY UNBUNDLED LOCAL LOOP**			
	A.16.1	High Capacity Unbundled Local Loop - DS3 - Facility Termination		$287.97
	A.16.2	High Capacity Unbundled Local Loop - DS3 - Per Mile		$10.92
	A.16.4	High Capacity Unbundled Local Loop - OC3 - Facility Termination		$618.65

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	A.16.5	High Capacity Unbundled Local Loop - OC3 - Per Mile		$8.29
	A.16.7	High Capacity Unbundled Local Loop - OC12 - Facility Termination		$1,965.00
	A.16.8	High Capacity Unbundled Local Loop - OC12 - Per Mile		$10.20
	A.16.10	High Capacity Unbundled Local Loop - OC48 - Facility Termination		$1,610.00
	A.16.11	High Capacity Unbundled Local Loop - OC48 - Per Mile		$33.45
	A.16.13	High Capacity Unbundled Local Loop - OC48 - Interface OC12 on OC48		$561.59
	A.16.15	High Capacity Unbundled Local Loop - STS-1 - Facility Termination		$324.29
	A.16.16	High Capacity Unbundled Local Loop - STS-1 - Per Mile		$10.92
A.18	**MULTIPLEXERS**			
	A.18.1	Channelization - Channel System DS1 to DS0		$72.09
	A.18.2	Interface Unit - Interface DS1 to DS0 - OCU-DP Card		$1.37
	A.18.3	Interface Unit - Interface DS1 to DS0 - BRITE Card		$2.70
	A.18.4	Interface Unit - Interface DS1 to DS0 - Voice Grade Card		$.7634
	A.18.5	Channelization - Channel System DS3 to DS1		$162.55
	A.18.6	Interface Unit - Interface DS3 to DS1		$11.47
A.20	**HYBRID COPPER/FIBER xDSL - CAPABLE LOOP**			
	A.20.1	System DSLAM with Administrative DS1	1	$294.08
			2	$294.08
			3	$294.08
B.0	**UNBUNDLED LOCAL EXCHANGE PORTS AND FEATURES**			
B.1	**EXCHANGE PORTS**			
	B.1.1	Exchange Ports - 2-Wire Analog Line Port (Res., Bus., Centrex, Coin)		$1.40
	B.1.3	Exchange Ports - 2-Wire DID Port		$4.93
	B.1.4	Exchange Ports - DDITS Port		$53.95

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	B.1.5	Exchange Ports - 2-Wire ISDN Port		$8.80
	B.1.6	Exchange Ports - 4-Wire ISDN DS1 Port		$81.65
	B.1.7	Exchange Ports - 2-Wire Analog Line Port (PBX)		$1.40
B.4	**FEATURES**			
	B.4.10	Centrex Functionality		$0.00
	B.4.13	Features per port		$2.26
C.0	**UNBUNDLED SWITCHING AND LOCAL INTERCONNECTION**			
C.1	**END OFFICE SWITCHING**			
	C.1.1	End Office Switching Function, Per MOU		$0.0007662
	C.1.2	End Office Trunk Port - Shared, Per MOU		$0.0001640
C.2	**TANDEM SWITCHING**			
	C.2.1	Tandem Switching Function Per MOU		$0.0001319
	C.2.2	Tandem Trunk Port - Shared, Per MOU		$0.0002350
D.0	**UNBUNDLED TRANSPORT AND LOCAL INTEROFFICE TRANSPORT**			
D.1	**COMMON TRANSPORT**			
	D.1.1	Common Transport - Per Mile, Per MOU		$0.0000035
	D.1.2	Common Transport - Facilities Termination Per MOU		$0.0004372
D.2	**INTEROFFICE TRANSPORT - DEDICATED - VOICE GRADE**			
	D.2.1	Interoffice Transport - Dedicated - 2-Wire Voice Grade - Per Mile		$0.0091
	D.2.2	Interoffice Transport - Dedicated - 2- Wire Voice Grade - Facility Termination		$15.33
D.3	**INTEROFFICE TRANSPORT - DEDICATED - DS0 - 56/64 KBPS**			
	D.3.1	Interoffice Transport - Dedicated - DS0 - Per Mile		$0.0091
	D.3.2	Interoffice Transport - Dedicated - DS0 - Facility Termination		$9.51

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
D.4	**INTEROFFICE TRANSPORT - DEDICATED - DS1**			
	D.4.1	Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	D.4.2	Interoffice Transport - Dedicated - DS1 - Facility Termination		$61.47
D.5	**LOCAL CHANNEL - DEDICATED**			
	D.5.1	Local Channel - Dedicated - 2-Wire Voice Grade	1	$12.64
			2	$31.06
			3	
	D.5.2	Local Channel - Dedicated - 4-Wire Voice Grade	1	$13.58
			2	$32.00
			3	
	D.5.24	Local Channel - Dedicated - DS1	1	$28.25
			2	$36.30
			3	$123.44
	D.5.7	Local Channel - Dedicated - DS3 - Per Mile		$8.50
	D.5.8	Local Channel - Dedicated - DS3 - Facility Termination		$531.91
	D.5.10	Local Channel - Dedicated - OC3 - Per Mile		$7.14
	D.5.11	Local Channel - Dedicated - OC3 - Facility Termination		$892.72
	D.5.13	Local Channel - Dedicated - OC12 - Per Mile		$10.20
	D.5.14	Local Channel - Dedicated - OC12 - Facility Termination		$2,614.00
	D.5.16	Local Channel - Dedicated - OC48 - Per Mile		$33.45
	D.5.17	Local Channel - Dedicated - OC48 - Facility Termination		$1,842.00
	D.5.19	Local Channel - Dedicated - OC48 - Interface OC12 on OC48		$555.69
	D.5.21	Local Channel - Dedicated - STS-1 - Facility Termination		$540.69
	D.5.23	Local Channel - Dedicated - STS-1 - Per Mile		$8.50

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
D.6	**INTEROFFICE TRANSPORT - DEDICATED - DS3**			
	D.6.1	Interoffice Transport - Dedicated - DS3 - Per Mile		$3.87
	D.6.2	Interoffice Transport - Dedicated - DS3 - Facility Termination		$673.56
D.7	**INTEROFFICE TRANSPORT - DEDICATED - OC3**			
	D.7.1	Interoffice Transport - Dedicated - OC3 - Per Mile		$7.65
	D.7.2	Interoffice Transport - Dedicated - OC3 - Facility Termination		$2,884.00
D.8	**INTEROFFICE TRANSPORT - DEDICATED - OC12**			
	D.8.1	Interoffice Transport - Dedicated - OC12 - Per Mile		$24.55
	D.8.2	Interoffice Transport - Dedicated - OC12 - Facility Termination		$11,076.00
D.9	**INTEROFFICE TRANSPORT - DEDICATED - OC48**			
	D.9.1	Interoffice Transport - Dedicated - OC48 - Per Mile		$31.62
	D.9.2	Interoffice Transport - Dedicated - OC48 - Facility Termination		$11,898.00
	D.9.4	Interoffice Transport - Dedicated - OC48 - Interface OC12 on OC48		$1,145.00
D.10	**INTEROFFICE TRANSPORT - DEDICATED - STS-1**			
	D.10.1	Interoffice Transport - Dedicated - STS-1 - Per Mile		$3.87
	D.10.2	Interoffice Transport - Dedicated - STS-1 - Facility Termination		$645.04
D.12	**INTEROFFICE TRANSPORT - DEDICATED - 4-WIRE VOICE GRADE**			
	D.12.1	Interoffice Transport - Dedicated - 4-Wire Voice Grade - Per Mile		$0.0091
	D.12.2	Interoffice Transport - Dedicated - 4-Wire Voice Grade - Facility Termination		$13.01
E.0	**SIGNALING NETWORK, DATA BASES, & SERVICE MANAGEMENT SYSTEMS**			
E.1	**800 ACCESS TEN DIGIT SCREENING**			
	E.1.1	800 Access Ten Digit Screening, Per Call		$0.0006252
	E.1.9	800 Access Ten Digit Screening, w/ 8FL No. Delivery		$0.0006252

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION

ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	E.1.10	800 Access Ten Digit Screening, w/ POTS No. Delivery		$0.0006252
E.2	**LINE INFORMATION DATA BASE ACCESS (LIDB)**			
	E.2.1	LIDB Common Transport Per Query		$0.0000203
	E.2.2	LIDB Validation Per Query		$0.0136959
E.3	**CCS7 SIGNALING TRANSPORT**			
	E.3.1	CCS7 Signaling Connection, Per 56Kbps Facility		$17.93
	E.3.2	CCS7 Signaling Termination, Per STP Port		$135.05
	E.3.3	CCS7 Signaling Usage, Per Call Setup Message		$0.0000152
	E.3.4	CCS7 Signaling Usage, Per TCAP Message		$0.0000607
	E.3.7	CCS7 Signaling Connection, Per link (A link)		$17.93
	E.3.8	CCS7 Signaling Connection, Per link (B link) (also known as D link)		$17.93
	E.3.9	CCS7 Signaling Usage, Per ISUP Message		$0.0000152
	E.3.10	CCS7 Signaling Usage Surrogate, per link		$694.32
E.4	**BELLSOUTH CALLING NAME (CNAM) DATABASE (DB) SERVICE**			
	E.4.5	CNAM for DB and Non DB Owners, Per Query		$0.0010240
E.5	**BELLSOUTH ACCESS TO E911 SERVICE**			
	E.5.1	BellSouth E911 Access - Local Channel - Dedicated - 2-wire Voice Grade (Same as D.5.1)	1	$21.94
			2	$29.62
			3	$57.22
	E.5.2	BellSouth E911 Access - Interoffice Transport - Dedicated - 2-wire Voice Grade Per Mile (Same as D.2.1)		$0.0091
	E.5.3	BellSouth E911 Access - Interoffice Transport - Dedicated 2-wire Voice Grade Per Fac. Term (same as D.2.2)		$25.32

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	E.5.4	BellSouth E911 Access - Local Channel - Dedicated - DS1 (Same as D.5.24)	1	$35.28
			2	$47.63
			3	$92.01
	E.5.5	BellSouth E911 Access - Interoffice Transport - Dedicated - DS1 Per Mile (Same as D.4.1)		$0.1856
	E.5.6	BellSouth E911 Access - Interoffice Transport - Dedicated - DS1 Per Facility Termination (Same as D.4.2)		$88.44
E.6	**LNP QUERY SERVICE**			
	E.6.1	LNP Cost Per query		$0.0008520
G.11	**SELECTIVE CARRIER ROUTING (AIN SOLUTION)**			
	G.11.4	Query Cost		$0.0031868
I.1	**INTERIM SERVICE PROVIDER NUMBER PORTABILITY - RCF**			
	I.1.1	Service Provider Number Portability - RCF, Per Number Ported		$2.05
	I.1.2	Service Provider Number Portability - RCF, Per Additional Path		$0.7179
I.2	**SERVICE PROVIDER NUMBER PORTABILITY - DID**			
	I.2.4	Service Provider Number Portability - DID, Per Trunk Termination, Initial		$54.95
	I.2.5	Service Provider Number Portability - DID, Per Trunk Termination, Subsequent		$54.95
I.4	**SERVICE PROVIDER NUMBER PORTABILITY RIPH**			
	I.4.3	Service Provider Number Portability - RI-PH, Per Number Ported		$1.83
J.0	**OTHER**			
J.1	**DARK FIBER**			

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	J.1.2	Dark Fiber, Per Four Fiber Strands, Per Route Mile or Fraction Thereof - Local Channel/Loop		$55.04
	J.1.3	Dark Fiber, Per Four Fiber Strands, Per Route Mile or Fraction Thereof - Interoffice		$26.85
J.3	**LOOP MAKE-UP**			
	J.3.1	Mechanized Loop Make-up		$0.6784
J.5	**ACCESS TO THE DCS**			
	J.5.2	DS1 DCS Termination with DS0 Switching		$27.39
	J.5.3	DS1 DCS Termination with DS1 Switching		$11.70
	J.5.4	DS3 DCS Termination with DS1 Switching		$146.81
K.0	**ADVANCED INTELLIGENT NETWORK (AIN) SERVICES**			
K.1	**BELLSOUTH AIN SMS ACCESS SERVICE**			
	K.1.6	AIN SMS Access Service - Storage, Per Unit (100 Kilobytes)		$0.0028
	K.1.7	AIN SMS Access Service - Session, Per Minute		$0.7809
	K.1.8	AIN SMS Access Service - Company Performed Session, Per Minute		$0.4609
K.2	**BELLSOUTH AIN TOOLKIT SERVICE**			
	K.2.9	AIN Toolkit Service - Query Charge, Per Query		$0.0535927
	K.2.10	AIN Toolkit Service - Type 1 Node Charge, Per AIN Toolkit Subscription, Per Node, Per Query		$0.0063698
	K.2.11	AIN Toolkit Service - SCP Storage Charge, Per SMS Access Account, Per 100 Kilobytes		$0.06
	K.2.12	AIN Toolkit Service - Monthly report - Per AIN Toolkit Service Subscription		$8.34
	K.2.13	AIN Toolkit Service - Special Study - Per AIN Toolkit Service Subscription		$3.73

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	K.2.14	AIN Toolkit Service - Call Event Report - Per AIN Toolkit Service Subscription		$4.73
	K.2.15	AIN Toolkit Service - Call Event Special Study - Per AIN Toolkit Service Subscription		$0.12
L.0	**ACCESS DAILY USAGE FILE (ADUF)**			
L.1	**ACCESS DAILY USAGE FILE (ADUF)**			
	L.1.1	ADUF, Message Processing, per message		$0.00
	L.1.3	ADUF, Data Transmission (CONNECT:DIRECT), per message		$0.00
M.0	**DAILY USAGE FILES**			
M.1	**ENHANCED OPTIONAL DAILY USAGE FILE**			
	M.1.1	Enhanced Optional Daily usage File: Message Processing, Per Message		$0.235115
M.2	**OPTIONAL DAILY USAGE FILE**			
	M.2.1	Optional Daily Usage File: Recording, per Message		$0.00
	M.2.2	Optional Daily Usage File: Message Processing, Per Message		$0.00
	M.2.3	Optional Daily Usage File: Message Processing, Per Magnetic Tape Provisioned		$35.91
	M.2.4	Optional Daily Usage File: Data Transmission (CONNECT:DIRECT), Per Message		$0.00
P.0	**UNBUNDLED LOOP COMBINATIONS**			
P.1	**2-WIRE VOICE GRADE LOOP WITH 2-WIRE LINE PORT (RES, BUS, COIN, CENTREX, PBX)**			
	P.1.RES,BUS	2-Wire VG Loop/Port Combo (Res, Bus, Coin)	1	$6.53
			2	$9.19
			3	$19.70
	P.1.PBX	2-Wire VG Loop/Port Combo (PBX)	1	$6.53
			2	$9.19

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
		ELEMENT NUMBER & DESCRIPTION	**ZONE**	**AT&T/MCI PROPOSED**
			3	$19.70
	P.1.CENTREX	2-Wire VG Loop/Port Combo (Centrex)	1	$6.53
			2	$9.19
			3	$19.70
P.3	**2-WIRE VOICE GRADE LOOP WITH 2-WIRE DID TRUNK PORT**			
	P.3	2-Wire VG Loop/2-Wire DID Trunk Port	1	$12.27
			2	$15.44
			3	$25.66
P.4	**2-WIRE ISDN DIGITAL GRADE LOOP WITH 2-WIRE ISDN DIGITAL LINE SIDE PORT**			
	P.4	2W ISDN Digital Grade Loop/2W ISDN Digital Line Side Port	1	$17.93
			2	$22.49
			3	$36.63
P.5	**4-WIRE DS1 DIGITAL LOOP WITH 4-WIRE ISDN DS1 DIGITAL TRUNK PORT**			
	P.5	4W DS1 Digital Loop/4W ISDN DS1 Digital Trunk Port	1	$137.04
			2	$156.56
			3	$250.41
P.6	**EXTENDED 2-WIRE VOICE GRADE LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT**			
	P.6-1	First 2W VG in DS1	1	$141.68
			2	$144.85
			3	$155.07
	P.6-2	Per Mile		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.6-3	Additional 2W VG in same DS1	1	$8.12
			2	$11.29

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			3	$21.51
P.7	**EXTENDED 4-WIRE VOICE GRADE LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT**			
	P.7-1	First 4W VG in DS1	1	$148.76
			2	$163.38
			3	$179.57
	P.7-2	Per Mile		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.7-3	Additional 4W VG in same DS1	1	$15.20
			2	$29.82
			3	$46.01
P.8	**EXTENDED 4-WIRE 56 OR 64 KBPS DIGITAL LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT**			
	P.8-1	First 4W 56 / 64 in DS1	1	$150.28
			2	$160.07
			3	$163.14
	P.8-2	Per Mile		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.8-3	Additional 4W 56 / 64 in same DS1	1	$16.72
			2	$26.51
			3	$29.58
P.11	**EXTENDED 4-WIRE DS1 DIGITAL LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT**			
	P.11-1	Fixed	1	$116.86
			2	$136.38
			3	$230.23

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	P.11-2	Per Mile		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
P.13	**EXTENDED 4-WIRE DS1 DIGITAL LOOP WITH DEDICATED DS3 INTEROFFICE TRANSPORT**			
	P.13-1	First DS1 in DS3	1	$902.98
			2	$922.50
			3	$1,016.35
	P.13-2	Per Mile		
		D.6.1 Interoffice Transport - Dedicated - DS3 - Per Mile		$3.87
	P.13-3	Additional DS1 in same DS3	1	$66.87
			2	$86.38
			3	$180.23
P.15	**4-WIRE DS1 DIGITAL LOOP WITH DDITS PORT**			
	P.15	4-Wire DS1 Digital Loop with DDITS Port	1	$109.34
			2	$128.86
			3	$222.71
P.16	**2-WIRE LOOP/ 2 WIRE VOICE GRADE IO TRANSPORT/ 2 WIRE PORT**			
	P.16-1	Fixed	1	$24.09
			2	$27.26
			3	$37.48
	P.16-2	Per Mile		
		D.2.1 Interoffice Transport - Dedicated - 2-Wire Voice Grade - Per Mile		$0.0091
P.23	**EXTENDED 2-WIRE VOICE GRADE LOOP/ 2 WIRE VOICE GRADE INTEROFFICE TRANSPORT**			
	P.23-1	Fixed	1	$22.69

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			2	$25.86
			3	$36.08
	P.23-2	Per Mile		
		D.2.1 Interoffice Transport - Dedicated - 2-Wire Voice Grade - Per Mile		$0.0091
P.24	**EXTENDED 4-WIRE VOICE GRADE LOOP/ 4 WIRE VOICE GRADE INTEROFFICE TRANSPORT**			
	P.24-1	Fixed	1	$27.44
			2	$42.06
			3	$58.26
	P.24-2	Per Mile		
		D.12.1 Interoffice Transport - Dedicated - 4-Wire Voice Grade - Per Mile		$0.0091
P.25	**EXTENDED DS3 DIGITAL LOOP WITH DEDICATED DS3 INTEROFFICE TRANSPORT**			
	P.25-1	Fixed		$961.54
	P.25-2	Per Mile - Interoffice		
		D.6.1 Interoffice Transport - Dedicated - DS3 - Per Mile		$3.87
	P.25-3	Per Mile - DS3 Loop		
		A.16.2 High Capacity Unbundled Local Loop - DS3 - Per Mile		$10.92
P.26	**EXTENDED STS1 DIGITAL LOOP WITH DEDICATED STS1 INTEROFFICE TRANSPORT**			
	P.26-1	Fixed		$969.33
	P.26-2	Per Mile - Interoffice		
		D.10.1 Interoffice Transport - Dedicated - STS-1 - Per Mile		$3.87
	P.26-3	Per Mile - Loop		
		A.16.16 High Capacity Unbundled Local Loop - STS-1 - Per Mile		$10.92
P.50	**4-WIRE DS1 LOOP WITH CHANNELIZATION WITH PORT**			

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
	P.50.VG-1	First Voice Grade in DS1	1	$100.71
			2	$120.23
			3	$214.08
	P.50.VG-2	Additional Voice Grade in same DS1		$1.94
	P.50.DID-1	First 2-Wire DID in DS1	1	$104.25
			2	$123.77
			3	$217.62
	P.50.DID-2	Additional 2-Wire DID in same DS1		$5.48
	P.50.ISDN-1	First ISDN in DS1	1	$110.05
			2	$129.57
			3	$223.42
	P.50.ISDN-2	Additional ISDN in same DS1		$11.28
P.51	**EXTENDED 2-WIRE ISDN LOOP WITH DS1 INTEROFFICE TRANSPORT**			
	P.51-1	First 2-Wire ISDN in DS1	1	$150.45
			2	$155.62
			3	$169.05
	P.51-2	Per Mile		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.51-3	Additional 2-wire IDSN in same DS1	1	$16.89
			2	$22.06
			3	$35.49
P.52	**EXTENDED 4-WIRE DS1 DIGITAL LOOP WITH DEDICATED STS-1 INTEROFFICE TRANSPORT**			
	P.52-1	First in DS1 in STS1	1	$874.46
			2	$893.98

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			3	$987.83
	P.52-2	Per Mile		
		D.10.1 Interoffice Transport - Dedicated - STS-1 - Per Mile		$3.87
	P.52-3	Additional DS1 in same STS1	1	$66.87
			2	$86.38
			3	$180.23
P.53	**EXTENDED 2-WIRE VOICE GRADE LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT W/ 3/1 MUX**			
	P.53-1	First 2-Wire VG in First DS1 in DS3	1	$315.70
			2	$318.87
			3	$329.09
	P.53-2	Per Mile per DS1		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.53-3	Additional 2-Wire VG in same DS1	1	$8.12
			2	$11.29
			3	$21.51
	P.53-4	Additional DS1 in same DS3		$145.03
P.54	**EXTENDED 4-WIRE VOICE GRADE LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT W/ 3/1 MUX**			
	P.54-1	First 4-Wire VG in First DS1 in DS3	1	$322.78
			2	$337.40
			3	$353.60
	P.54-2	Per Mile per DS1		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.54-3	Additional 4-Wire VG in same DS1	1	$15.20

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
			2	$29.82
			3	$46.01
	P.54-4	Additional DS1 in same DS3		$145.03
P.55	**EXTENDED 4-WIRE 56 OR 64 KBPS DIGITAL LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT W/ 3/1 MUX**			
	P.55-1	First 4-Wire in First DS1 in DS3	1	$324.30
			2	$334.09
			3	$337.17
	P.55-2	Per Mile per DS1		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.55-3	Additional 4-Wire in same DS1	1	$16.72
			2	$16.72
			3	$29.58
	P.55-4	Additional DS1 in same DS3		$145.03
P.56	**EXTENDED LOOP 2-WIRE ISDN WITH DS1 INTEROFFICE TRANSPORT W/ 3/1 MUX**			
	P.56-1	First 2-Wire in First DS1 in DS3	1	$324.47
			2	$329.65
			3	$343.07
	P.56-2	Per Mile per DS1		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.56-3	Additional 2-Wire in same DS1	1	$16.89
			2	$22.06
			3	$35.49
	P.56-4	Additional DS1 in same DS3		$145.03

APPENDIX A-2-RECURRING RATE PROPOSAL - ALEC COALITION				
ELEMENT NUMBER & DESCRIPTION			ZONE	AT&T/MCI PROPOSED
P.57	**EXTENDED 4-WIRE DS1 DIGITAL LOOP WITH DEDICATED DS1 INTEROFFICE TRANSPORT W/ 3/1 MUX**			
	P.57-1	First 4-Wire DS1 in DS3	1	$290.88
			2	$310.40
			3	$404.25
	P.57-2	Per Mile per DS1		
		D.4.1 Interoffice Transport - Dedicated - DS1 - Per Mile		$0.1856
	P.57-3	Additional 4-Wire DS1 in same DS3	1	$128.33
			2	$147.85
			3	$241.70
P.58	**EXTENDED 4-WIRE 56 OR 64 KBPS DIGITAL LOOP WITH DS0 INTEROFFICE TRANSPORT**			
	P.58-1	Fixed	1	$24.85
			2	$34.64
			3	$37.72
	P.58-2	Per Mile		
		D.3.1 Interoffice Transport - Dedicated - DS0 - Per Mile		$0.0091

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
1	**LOCAL LOOPS** (Includes NID)												
2	**2-Wire Loop**												
3	NRC-depends on type of order placed												
4	Exchange-Basic-Initial	$56.07	$36.91	$102.84	$100.23	$29.81	$19.23	$19.00	$9.24	$30.42	$17.95	$28.55	$27.24
5	Exchange-Basic-Initial Disconnect									$9.05	$6.03	$8.57	$7.26
6	Exchange-Basic-Subsequent	$22.82	$15.41	$19.57	$19.15					$18.46	$10.14	$9.79	$9.58
7	Exchange-Complex Non-digital-Initial	$56.07	$36.91	$102.84	$100.23					$30.42	$17.95	$46.58	$45.27
8	Exchange-Complex Non-digital-Initial-Disconnect									$9.05	$6.03	$8.57	$7.26
9	Exchange-Complex Non-digital-Subsequent	$22.82	$15.41	$19.57	$19.15					$18.46	$10.14	$9.79	$9.58
10	Exchange-Complex Digital - Initial	$56.07	$36.91	$102.84	$100.23					$30.42	$17.95	$46.58	$45.27
11	Exchange-Complex Digital - Initial-Disconnect									$9.05	$6.03	$8.57	$7.26
12	Exchange-Complex Digital - Subsequent	$22.82	$15.41	$19.57	$19.15					$18.46	$10.14	$9.79	$9.58
13	Advanced-Basic-Initial	$56.07	$36.91	$627.09	$536.58					$30.42	$17.92	$187.44	$164.81
14	Advanced-Basic-Initial-Disconnect									$9.05	$6.03	$177.41	$145.61
15	Advanced-Basic-Subsequent	$22.82	$15.41	$97.95	$55.55					$18.46	$10.14	$48.97	$27.98
16													
17	**4-Wire Loop**												
18	Exchange-Basic-Initial	$56.07	$36.91	$102.84	$100.23					$30.42	$17.92	$28.55	$27.24
19	Exchange-Basic-Initial-Disconnect									$9.05	$6.03	$8.57	$7 26

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
20	Exchange-Basic-Subsequent	$22.82	$15.41	$19.57	$19.15					$18.46	$10.14	$9.79	$9.58
21	Advanced-Basic-Initial	$56.07	$36.91	$627.09	$536.58					$30.42	$17.95	$187.44	$164.81
22	Advanced-Basic-Initial-Disconnect									$9.05	$6.03	$177.41	$145.61
23	Advanced-Basic-Subsequent	$22.82	$15.41	$97.95	$55.55					$18.46	$10.14	$48.97	$27.98
24													
25	**DS-1 Loop/PRI Loop**												
26	Advanced-Complex Digital - Initial	$64.43	$36.91	$779.92	$689.41					$37.86	$18.56	$280.20	$257.37
27	Advanced-Complex Digital - Initial-Disconnect									$9.05	$6.03	$154.80	$123.00
28	Advanced-Complex Digital - Subsequent	$22.82	$15.41	$112.99	$70.59					$18.46	$10.14	$56.49	$35.50
29													
30	**DS-3 Loop**												
31	Advanced-Complex Digital - Initial	$64.43	$36.91	$779.92	$689.41					$37.86	$18.56	$280.20	$257.37
32	Advanced-Complex Digital - Initial-Disconnect									$9.05	$6.03	$154.80	$123.00
33	Advanced-Complex Digital - Subsequent	$22.82	$15.41	$112.99	$70.59					$18.46	$10.14	$56.49	$35.50
34													
35	**House and Riser Cable**												
36	Exchange	$67.13	$47.97	$67.23	n/a					$39.89	$26.85	$30.25	n/a
37	Disconnect									$9.44	$6.16	$25.70	n/a
38	**Loop Qualification**												
39	Loop Qualification	$0.51	$0.51	n/a	n/a					$0.51	$0.51	n/a	n/a
40													
41	**Loop Conditioning**												

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
42	Bridged Tap Removal Only	n/a	n/a	$2188.71	$52.62					n/a	n/a	n/a	n/a
43	Bridged Tap Removal-Loops under 18,000 feet	n/a	n/a	n/a	n/a					n/a	n/a	$0.00	$0 00
44	Bridged Tap Removal-Loops over 18,000 feet	n/a	n/a	n/a	n/a					n/a	n/a	$318.71	n/a
45	Load Coil Removal Only	n/a	n/a	$2789.47	$109.68					n/a	n/a	n/a	n/a
46	Load Coil Removal-Loops under 18,000 feet	n/a	n/a	n/a	n/a					n/a	n/a	$0.00	$0.00
47	Load Coil Removal-Loops over 18,000 feet	n/a	n/a	n/a	n/a					n/a	n/a	$249.91	$249.91
48	Bridged Tap and Load Coil Removal	n/a	n/a	$3507.56	$162.30					n/a	n/a	n/a	n/a
49													
50	**SUB-LOOPS**												
51	**2-Wire Feeder**												
52	Exchange-FDI Feeder Connection-Initial	$56.07	$36.91	$67.52	$39.20					$30.42	$17.95	$20.14	$12.83
53	Exchange-FDI Feeder Connection-Initial-Disconnect									$9.05	$6.03	$19.80	$11.29
54	Exchange-FDI Feeder Connection-Subsequent	$22.82	$15.41	$30.42	$13.21					$18.46	$10.14	$15.21	$6.60
55													
56	**4-Wire Feeder**												
57	Exchange-FDI Feeder Connection-Initial	$56.07	$36.91	$67.52	$39.20					$30.42	$17.95	$20.14	$12.83
58	Exchange-FDI Feeder Connection-Initial-Disconnect									$9.05	$6.03	$19.80	$11.29
59	Exchange-FDI Feeder Connection-Subsequent	$22.82	$15.41	$30.42	$13.21					$18.46	$10.14	$15.21	$6.60

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
60													
61	**2-Wire Distribution (includes NID)**												
62	Exchange-FDI Distribution Connection-Initial	$56.07	$36.91	$99.88	$72.40					$30.42	$17.95	$36.58	$29.71
63	Exchange-FDI Distribution Connection-Initial-Disconnect									$9.05	$6.03	$18.71	$9.08
64	Exchange-FDI Distribution Connection-Subsequent	$22.82	$15.41	$30.42	$13.21					$18.46	$10.14	$15.21	$6.60
65													
66	**4-Wire Distribution (includes NID)**												
67	Exchange-FDI Distribution Connection - Initial	$56.07	$36.91	$99.88	$72.40					$30.42	$17.95	$36.58	$29.71
68	Exchange-FDI Distribution Connection - Initial - Disconnect									$9.05	$6.03	$18.71	$9.08
69	Exchange-FDI Distribution Connection-Subsequent	$22.82	$15.41	$30.42	$13.21					$18.46	$10.14	$15.21	$6.60
70													
71	**2-Wire Drop (includes NID)**												
72	Serving Terminal Connection-Initial	$56.07	$36.91	$47.65	$27.93					$30.42	$17.95	$13.17	$8.24
73	Serving Terminal Disconnect									$9.05	$6.03	$14.92	$8.01
74	Serving Terminal Connection-Subsequent	$22.82	$15.41	$24.12	$11.83					$18.46	$10.14	$12.06	$5.91
75													

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
76	**4-Wire Drop (includes NID)**												
77	Serving Terminal Connection-Initial	$56.07	$36.91	$47.65	$27.93					$30.42	$17.95	$13.17	$8.24
78	Serving Terminal Disconnect									$9.05	$6.03	$14.92	$8.01
79	Serving Terminal Connection-Subsequent	$22.82	$15.41	$24.12	$11.83					$18.46	$10.14	$12.06	$5.91
80													
81	**NETWORK INTERFACE DEVICE**												
82	Exchange	$51.39	$37.70	$2.20	n/a					$39.89	$26.85	$1.10	n/a
83													
84	**LOCAL END OFFICE SWITCHING**												
85	**Ports**												
86	NRC-depends on type of order placed												
87	Exchange-Basic-Initial	$51.54	$32.38	$45.68	$44.84	$21.24	$10.66	$8.83	$4.49	$28.93	$16.56	$15.27	$14.85
88	Discinnect									$8.00	$4.98	$12.94	$12.52
89	Exchange-Basic-Subsequent (Port Feature)	$27.94	$20.53	$2.40	$2.40					$21.33	$13.30	$1.44	$1.44
90	Exchange-Basic-Subsequent (CO Connection)	$22.82	$15.41	$19.57	$19.15					$17.74	$9.71	$10.79	$10.58
91	Exchange-Complex Non-digital-Initial	$70.27	$42.75	$127.27	$60.93					$42.77	$24.49	$41.21	$21.50
92	Disconnect									$8.00	$4.98	$36.59	$16.17
93	Exchange-Complex Non-digital-Subsequent (Port Feature)	$38.31	$30.90	$8.72	$8.72					$28.59	$20.56	$5.23	$5.23

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
94	Exchange-Complex Non-digital-Subsequent (Switch Feature Group)	$46.67	$30.90	$42.20	$10.05					$34.44	$20.56	$25.32	$6.05
95	Exchange-Complex Non-digital-Subsequent (CO Connection)	$22.82	$15.41	$19.57	$19.15					$17.74	$9.71	$10.81	$10.60
96													
97	**Coin Port**												
98	Exchange-Basic-Initial	$51.54	$32.38	$45.68	$44.84					$28.93	$16.56	$15.27	$14.85
99	Disconnect									$8.00	$4.98	$12.94	$12.52
100	Exchange-Basic-Subsequent (CO Connection)	$22.82	$15.41	$19.57	$19.15					$17.74	$9.71	$10.79	$10.58
101													
102	**DS-1 Port**												
103	Advanced-Complex-Initial	$82.54	$55.02	$406.09	$321.29					$48.35	$30.07	$165.86	$140.46
104	Disconnect									$11.20	$8.42	$77.21	$51.61
105	Advanced-Complex-Subsequent	$26.39	$18.98	$112.99	$70.59					$20.24	$12.21	$66.03	$40.85
106													
107	**ISDN BRI Port**												
108	Exchange-Complex Digital - Initial	$70.27	$42.75	$113.35	$47.01					$42.77	$24.49	$36.54	$16.82
109	Disconnect									$8.00	$4.98	$32.92	$12.49
110	Exchange-Complex Digital - Subsequent (Port Feature)	$38.31	$30.90	$11.87	$11.87					$28.59	$20.56	$7.12	$7.12
111	Exchange-Complex Digital - Subsequent (Switch Feature Group)	$46.67	$30.90	$42.20	$10.05					$34.44	$20.56	$25.32	$25.32

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
112	Exchange-Complex Digital - Subsequent (CO Connection)	$22.82	$15.41	$19.57	$19.15					$17.74	$9.71	$10.81	$10.60
113													
114	**ISDN PRI Port**												
115	Advanced-Complex-Initial	$82.54	$55.02	$406.09	$321.29					$48.35	$30.07	$165.86	$140.46
116	Disconnect									$11.20	$8.42	$77.21	$51.61
117	Advanced-Complex- Subsequent	$26.39	$18.98	$112.99	$70.59					$20.24	$12.21	$66.03	$40.85
118													
119	**TANDEM SWITCHING**												
120													
121	**LOCAL TRANSPORT**												
122													
123	**Common/Shared Transport** (See NRCs for Local End Office Switching)												
124													
125	**Inter-office Dedicated Transport**												
126	**IDT DS0/VG**												
127	Advanced-Basic-Initial	$157.18	$95.08	$542.25	n/a					$53.12	$33.71	$221.80	n/a
128	Disconnect									$40.59	$24.71	$103.55	n/a
129	Advanced-Basic-Subsequent	$74.99	$42.46	$133.60	n/a					$44.36	$24.94	$80.16	n/a
130													
131	**IDT DS-1**												
132	Advanced-Complex-Initial	$174.68	$112.58	$719.32	n/a					$61.55	$43.16	$314.33	n/a
133	Disconnect									$41.73	$25.01	$119.26	n/a
134	Advanced-Complex-Subsequent	$74.99	$42.46	$144 81	n/a					$44.36	$24.94	$86.89	n/a
135													

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
136	**IDT DS-3**												
137	Advanced-Complex-Initial	$174.68	$112.58	$719.32	n/a					$61.55	$43.16	$314.33	n/a
138	Disconnect									$41.73	$25.01	$119.26	n/a
139	Advanced-Complex-Subsequent	$74.99	$42.46	$144.81	n/a					$44.36	$24.94	$86.89	n/a
140													
141	**CLEC Dedicated Transport**												
142	**CDT 2-Wire**												
143	Entrance Facility Dedicated Transport DS0-Initial	$157.18	$95.08	$713.44	n/a					$53.12	$33.71	$305.60	n/a
144	Disconnect									$40.59	$24.71	$122.46	n/a
145	Entrance Facility Dedicated Transport DS0-Subsequent	$74.99	$42.46	$161.10	n/a					$44.36	$24.94	$96.67	n/a
146													
147	**CDT 4-Wire**												
148	Entrance Facility Dedicated Transport DS0-Initial	$157.18	$95.08	$713.44	n/a					$53.12	$33.71	$305.60	n/a
149	Disconnect									$40.59	$24.71	$122.46	n/a
150	Entrance Facility Dedicated Transport DS0-Subsequent	$74.99	$42.46	$161.10	n/a					$44.36	$24.94	$96.67	n/a
151													
152	**CDT DS-1**												
153	Entrance Facility Dedicated Transport DS1/DS3-Initial	$174.68	$112.58	$904.59	n/a					$53.55	$43.16	$386.17	n/a
154	Disconnect									$41.73	$25.01	$156.58	n/a

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
155	Entrance Facility Dedicated Transport DS1/DS3-Subsequent	$74.99	$42.46	$160.23	n/a					$44.36	$24.94	$96.15	
156													
157	**CDT DS-3**												
158	Entrance Facility Dedicated Transport DS1/DS3-Initial	$174.68	$112.58	$904.59	n/a					$53.55	$43.16	$386.17	n/a
159	Disconnect									$41.73	$25.01	$156.58	n/a
160	Entrance Facility Dedicated Transport DS1/DS3-Subsequent	$74.99	$42.46	$160.23	n/a					$44.36	$24.94	$96.15	n/a
161													
162	**Dark Fiber**												
163	Advanced-Service Inquiry Charge	$528.39	$525.43	n/a	n/a					$316.40	$314.73	n/a	n/a
164													
165	**Unbundled DF Loops & Subloops**												
166	Advanced-Unbundled Loop	$113.96	$111.00	$238.06	n/a					$44.02	$42.35	$67.62	n/a
167	Disconnect									$25.71	$25.71	$67.62	n/a
168													
169	**Dark Fiber Sub-Loop Feeder**												
170	Advanced-Subloop Feeder	$113.96	$111.00	$238.06	n/a					$44.02	$42.35	$67.62	n/a
171	Disconnect									$25.71	$25.71	$67.62	n/a
172													
173	**Dark Fiber Sub-Loop Distribution**												
174	Advanced-Subloop Dist.	$113.96	$111.00	$245.63	n/a					$44.02	$42.35	$69.51	n/a
175	Disconnect									$25.71	$25.71	$69.51	n/a
176													

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
177	**Unbundled DF Dedicated Transport (per Fiber Strand)**												
178	Advanced-UNE Inter-office Dedicated Transport	$113.96	$111.00	$234.29	n/a					$44.02	$42.35	$70.29	n/a
179	Disconnect									$25.71	$25.71	$70.29	n/a
180													
190	**UNE COMBINATIONS (UNE-Ps or EELs)**												
191													
192	**Multiplexing**												
193	Multiplexing-DS1 to Voice	n/a	n/a	$165.70	n/a							$99.42	
194	Multiplexing-DS3 to DS1	n/a	n/a	$165.70	n/a							$99.42	
195													
196	**UNE Platforms (UNE-Ps)**												
197	Exchange-Basic-Subsequent	$22.99	$16.63	$1.89	$1.89					$18.52	$11.17	$1.04	$1.04
198	Exchange-Basic- Changeover (As Specified)	$28.20	$19.55	$13.61	$13.61					$22.43	$13.36	$7.48	$7.48
199	Exchange-Complex Non-digital-Subsequent (Line Feature)	$22.99	$16.63	$8.72	$8.72					$18.52	$11.17	$4.80	$4.80
200	Exchange-Complex Non-digital-Subsequent (Switch Feature Group)	$31.35	$16.63	$42.20	n/a					$24.79	$11.17	$23.21	n/a
201	Exchange-Complex Non-digital-Changeover (As Specified)	$42.50	$25.49	$39.53	$7.38					$33.15	$17.82	$21.74	$4.06
202	Exchange-Complex Digital-Subsequent (Line Feature)	$22.99	$16.63	$11.87	$11.87					$18.52	$11.17	$6.53	$6.53

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				**ALEC PROPOSED[2]**				**COMMISSION APPROVED**			
	ELEMENT DESCRIPTION	**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
203	Exchange-Complex Digital - Subsequent (Switch Feature Group)	$31.35	$16.63	$42.20	n/a					$24.79	$11.17	$23.21	n/a
204	Exchange-Complex Digital - Changeover (As Specified))	$42.50	$25.49	$40.14	$7.99					$33.15	$17.82	$22.08	$4.39
205	Advanced-Complex-Subsequent	$34.48	$19.76	$122.64	$80.66					$27.13	$13.52	$67.45	$44.36
206	Advanced-Complex- Changeover (As Specified)	$62.27	$45.26	$156.16	$114.18					$47.98	$32.64	$85.89	$62.80
207													
208	**Enhanced Extended Links (EELs)-Loop Portion**												
209	Advanced-Basic-Initial	$157.18	$98.04	$721.06	n/a					$53.12	$35.38	$277.83	n/a
210	Disconnect									$40.59	$24.71	$154.79	n/a
211	Advanced-Basic-Subsequent	$74.99	$42.46	$145.68	n/a					$44.36	$24.94	$87.41	n/a
212	Advanced-Basic- Changeover (As Is)	$161.87	$99.77	$41.64	n/a					$96.48	$59.33	$24.98	n/a
213	Advanced-Basic- Changeover(As Is)MOG (Mass Order Generator)[24]	$7.52	$4.56	$41.64	n/a					$3.87	$2.20	$24.98	n/a
214	DS0-Initial	$157.18	$98.04	$637.82	n/a					$53.12	$35.38	$242.65	n/a
215	DS0 -Initial Disconnect									$40.59	$24.71	$140.04	n/a
216	DS0-Subsequent	$74.99	$42.46	$145.68	n/a					$44.36	$24.94	$87.41	n/a
217	DS0-Changeover (As Is)	$161.87	$99.77	$41.64	n/a					$96.48	$59.33	$24.98	n/a
218	DS0-Changeover (As Is) - MOG	$7.52	$4.56	$41.64	n/a					$3.87	$2.20	$24.98	n/a

[24] MOG orders apply to 50 or more units. First unit at changeover with each add'l unit at the changeover MOG rate.

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**		**ORDERING**		**SERVICE CONNECTION**	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
219	DS1/DS3-Initial	$174.68	$115.54	$931.87	n/a	$45.01	$30.93	$294.11	n/a	$61.55	$44.83	$331.84	n/a
220	DS1/DS3 Disconnect									$41.73	$25.01	$176.02	n/a
221	DS1/DS3-Subsequent	$74.99	$42.46	$144.81	n/a					$44.36	$24.94	$86.89	n/a
222	DS1/DS3-Changeover (As Is)	$179.37	$117.27	$41.64	n/a					$106.97	$69.83	$24.98	n/a
223	DS1/DS3-Changeover (As Is) - MOG	$7.52	$4.56	$41.64	n/a					$3.87	$2.20	$24.98	n/a
224													
225													
226	**Inter-office Dedicated Transport**												
227	Advanced-Basic-Initial	$157.18	$95.08	$542.25	n/a					$53.12	$33.71	$221.80	n/a
228	Advanced-Basic-Initial Disconnect									$40.59	$24.71	$103.55	n/a
229	Advanced-Basic-Subsequent	$74.99	$42.46	$133.60	n/a					$44.36	$24.94	$80.16	n/a
230	Advanced-Basic- Changeover (As Is)- EELs Only	TBD	TBD	TBD	n/a								
231	Advanced-Basic- Changeover (As Is)- MOG-EELs Only	TBD	TBD	TBD	n/a								
232	Advanced-Complex-Initial	$174.68	$112.58	$719.32	n/a					$61.55	$43.16	$314.33	n/a
233	Advanced-Complex-Initial-Disconnect									$41.73	$25.01	$119.26	n/a
234	Advanced-Complex-Subsequent	$74.99	$42.46	$144.81	n/a					$44.36	$24.94	$86.89	n/a
235	Advanced-Complex- Changeover (As Is)- EELs Only	TBD	TBD	TBD	n/a								

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
236	Advanced-Complex- Changeover (As Is)-MOG-EELs Only	TBD	TBD	TBD	n/a								
237													
238	**CLEC Dedicated Transport**												
239	Entrance Facility DT DS0-Initial	$157.18	$95.08	$713.44	n/a					$53.12	$33.71	$305.60	n/a
240	DS0-Initial-Disconnect									$40.59	$24.71	$122.46	n/a
241	Entrance Facility DT DS0-Subsequent	$74.99	$42.46	$161.10	n/a					$44.36	$24.94	$96.67	n/a
242	Entrance Facility DT DS0-Changeover (As Is)-EELs Only	TBD	TBD	TBD	n/a								
243	Entrance Facility DT DS0-Changeover (As Is)-MOG-EELs Only	TBD	TBD	TBD	n/a								
244	Entrance Facility DT DS1/DS3-Initial	$174.68	$112.52	$904.59	n/a					$53.55	$43.16	$386.17	n/a
245	DS1/DS3-Initial Disconnect									$41.73	$25.01	$156.58	n/a
246	Entrance Facility DT DS1/DS3-Subsequent	$74.99	$42.46	$160.23	n/a					$44.36	$24.94	$96.15	n/a
247	Entrance Faculty Dedicated Transport DS1/DS3-Changeover (As Is)-EELs Only	TBD	TBD	TBD	n/a								
248	Entrance Faculty DT DS1/DS3-Changeover (As Is)-MOG-EELs Only	TBD	TBD	TBD	n/a								
249													
250	**SIGNALING SYSTEM 7 (SS7)**												
251	**SS-7**												

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
252	Facilities and Trunks- Initial	$412.44	$350.34	$1254.51	n/a					$161.97	$142.56	$456.14	n/a
253	Facilities and Trunks- Initial-Discinnect									$84.59	$72.71	$296.56	n/a
254	Facilities and Trunks-Subsequent (w/Engineering Review)	$121.91	$89.38	$540.10	n/a					$72.51	$53.10	$324.06	n/a
255	Faculties and Trunks-Subsequent (w/o Engineering Review)	$121.91	$89.38	$180.95	n/a					$72.51	$53.10	$108.57	n/a
256	Trunk Only-Initial	$216.97	$154.87	$1112.92	n/a					$81.83	$62.41	$394.59	n/a
257	Trunk Only-Disconnect									$47.72	$32.47	$273.16	n/a
258	Trunk Only-Subsequent (w/ Engineering Review)	$81.73	$49.20	$513.02	n/a					$48.40	$28.99	$307.81	n/a
259	Trunk Only-Subsequent (w/o Engineering Review)	$81.73	$49.20	$180.95	n/a					$48.40	$28.99	$108.57	n/a
260	STP Ports (SS7 Links)	$412.44	$350.34	$1023.55	n/a					$161.97	$142.56	$361.84	n/a
261	STP Ports-Disconnect									$84.59	$72.71	$252.29	n/a
262													
263	**MISCELLANEOUS CHARGES**												
264	**Coordinated Conversions**												
265	Exchange-Standard Interval	$43.02	$43.02	n/a	n/a					$22.27	$22.27	n/a	n/a
266	Exchange-Additional Interval	$35.48	$35.48	n/a	n/a					$17.74	$17.74	n/a	n/a
267	Advanced-Standard Interval	$43.02	$43.02	n/a	n/a					$22.27	$22.27	n/a	n/a
268	Advanced-Additional Interval	$35.48	$35.48	n/a	n/a					$17.74	$17.74	n/a	n/a
269													
270	**Hot-Cut Coordinated Conversions Exchange- Standard Interval**												
271	Exchange-Standard Interval	$149.45	$149.45	n/a	n/a					$75.48	$75.48	n/a	n/a
272	Exchange-Additional Interval	$35.48	$35.48	n/a	n/a					$17.74	$17.74	n/a	n/a

	APPENDIX B-1 - NON-RECURRING RATES - Verizon and ALEC Coalition Proposals, & Commission Approved												
		VERIZON PROPOSED				ALEC PROPOSED[2]				COMMISSION APPROVED			
	ELEMENT DESCRIPTION	ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION		ORDERING		SERVICE CONNECTION	
		100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit	100% Manual	Semi-Mech	First Unit	Add'l Unit
273	Advanced-Standard Interval	$149.45	$149.45	n/a	n/a					$75.48	$75.48	n/a	n/a
274	Advanced-Additional Interval	$35.48	$35.48	n/a	n/a					$17.74	$17.74	n/a	n/a
275													
276	**Expedites**												
277	UNE Loop/Port-Exchange Services	$5.69	$5.69	n/a	n/a					$4.27	$4.27	n/a	n/a
278	UNE Loop/Port-Advanced Services	$43.97	$43.97	n/a	n/a					$25.32	$25.32	n/a	n/a
279													
280	**Other Charges**												
281	Customer Record Search (per account)	$7.13	n/a	n/a	n/a					$7.13	n/a	n/a	n/a
282	CLEC Account Establishment (per CLEC)	$281.82	$281.82	n/a	n/a					$140.91	$140.91	n/a	n/a
283	No Access Customer Will Advise	$90.33	$90.33	n/a	n/a					$90.33	$90.33	n/a	n/a

1. *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Notice of Proposed Rulemaking (November 5, 1999).

1. Witness Morrison recalculated non-recurring charges for six specific Verizon non-recurring elements; these are shown in this appendix. For all other non-recurring charges, witness Morrison recommends two reduction factors. First, he recommends that we reduce all of Verizon's non-recurring ordering activities by 50%. Second, the ALEC witness recommends that we reduce all of Verizon's non-recurring provisioning activities by 66%. However, staff notes that the example provided by witness Morrison, in SLM-1, does not appear to represent the reduction factors recommended in his testimony. Given this inconsistency, staff did not recalculate each Verizon's non-recurring charges based on witness Morrison's recommendations.

APPENDIX C - WIRE CENTERS BY ZONES			
CLLI Code	**Wire Center Name**	**Verizon Proposed**	**Staff Recommended**
TAMPFLXX22H	TAMPA MAIN	1	1
BHPKFLXA28H	BEACH PARK	1	1
UNVRFLXA97H	UNIVERSITY	1	1
SPBGFLXA89H	ST. PETERSBURG MAIN	1	1
SEKYFLXA34H	SIESTA KEY	1	1
SRSTFLXA95H	SARASOTA MAIN	1	1
SARKFLXARSA	ST. ARMANDS KEY	1	1
GNDYFLXA57H	GANDY	1	1
WSSDFLXA87H	WESTSIDE	1	1
SGBEFLXA36H	SOUTH GULF BEACH	1	1
INRKFLXX59H	INDIAN ROCKS	1	1
SWTHFLXA88H	SWEETWATER	1	1
FHSDFLXA57H	FEATHER SOUND	1	1
CLWRFLXA44H	CLEARWATER	1	1
SPBGFLXS86H	ST. PETERSBURG SOUTH	1	1
LRGOFLXA58H	LARGO	1	1
HYPKFLXADS0	HYDE PARK	1	1
ANMRFLXA77H	ANNA MARIA	1	1
CNSDFLXA79H	COUNTRYSIDE	1	2
TMTRFLXADS0	TEMPLE TERRACE	1	2
PSDNFLXA34H	PASADENA	1	2
BRBAFLXA75H	BRADENTON BAY	1	2
PNLSFLXA53H	PINELLAS	1	2
SNSPFLXA37H	SEVEN SPRINGS	1	2
DNDNFLXA73H	DUNEDIN	1	2

LGBKFLXA38H	LONGBOAT	1	2
WLCRFLXA83H	WALLCRAFT	1	2
BAYUFLXA54H	BAYOU	1	2
SLSPFLXA93H	SULPHUR SPRINGS	1	2
NGBHFLXA39H	NORTH GULF BEACH	1	2
SMNLFLXA23H	SEMINOLE	1	2
LLMNFLXADS0	LEALMAN	1	2
YBCTFLXA24H	YBOR CITY	1	2
VENCFLXA48H	VENICE MAIN	1	2
ENWDFLXA47H	ENGLEWOOD	1	2
OLDSFLXA85H	OLDSMAR	1	2
BRTNFLXX74H	BRADENTON MAIN	1	2
SKWYFLXADS0	SKYWAY	1	2
STGRFLXA78H	ST. GEORGE	1	2
CRWDFLXA96H	CARROLLWOOD	1	2
SSDSFLXA92H	SOUTHSIDE	1	2
LKLDFLXA68H	LAKELAND MAIN	1	2
NPRCFLXA84H	NEW PORT RICHEY	1	2
PLSLFLXA79H	PALMA SOLA	1	2
VENCFLXSDS0	VENICE SOUTH	1	2
BRNDFLXA68H	BRANDON	2	2
NRSDFLXA35H	NORTHSIDE	2	2
TAMPFLXEDS0	TAMPA EAST	2	2
TRSPFLXA93H	TARPON SPRINGS	2	2
HGLDFLXA64H	HIGHLANDS	2	2

SPRGFLXA37H	SARASOTA SPRINGS	2	2
CYGRFLXA32H	CYPRESS GARDENS	2	2
WNHNFLXC29H	WINTER HAVEN	2	2
LUTZFLXA94H	LUTZ	2	2
OSPRFLXA96H	OSPREY	2	2
ABDLFLXA96H	AUBURNDALE	2	2
LKLDFLXE66H	LAKELAND EAST	2	2
HDSNFLXA86H	HUDSON	2	3
BARTFLXA53H	BARTOW MAIN	2	3
ZPHYFLXA78H	ZEPHYR HILLS	2	3
PLMTFLXA72H	PALMETTO	2	3
WLCHFLXA97H	WESLEY CHAPEL	2	3
ALFAFLXA67H	ALAFIA	2	3
LKWLFLXA67H	LAKE WALES MAIN	2	3
RSKNFLXA64H	RUSKIN	2	3
NRPTFLXA42H	NORTHPORT	2	3
LKLDFLXN85H	LAKELAND NORTH	2	3
HNCYFLXA42H	HAINES CITY MAIN	2	3
KYSTFLXA92H	KEYSTONE	2	3
MLBYFLXARSA	MULBERRY	2	3
PTCYFLXA75H	PLANT CITY	2	3
BYSHFLXA84H	BAYSHORE	2	3
POINFLXARSA	POINCIANA	2	3
THNTFLXADS0	THONOTOSASSA	2	3
WIMMFLXA63H	WIMAUMA	2	3

MNLKFLXA85H	MOON LAKE	2	3
HNCYFLXN424	HAINES CITY NORTH	2	3
BBPKFLXARSA	BABSON PARK	3	3
LKALFLXA95H	LAKE ALFRED	3	3
DUNDFLXA43H	DUNDEE	3	3
LNLKFLXA99H	LAND O' LAKES	3	3
ALTRFLXARSA	ALTURAS	3	3
PNCRFLXA73J	PINECREST	3	3
PKCYFLXARSA	POLK CITY	3	3
FRSTFLXA63H	FROSTPROOF	3	3
LKWLFLXERSA	LAKE WALES EAST	3	3
BRJTFLXARSA	BRADLEY	3	3
PRSHFLXARSA	PARRISH	3	3
INLKFLXARSA	INDIAN LAKE	3	3
MYCYFLXA32H	MYAKKA CITY	3	3