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December 3, 2004

Ms. Beth W. Salak, Director
Division of Competitive Markets and Enforcement
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Dear Ms. Salak:

Attached are copies of new tariff pages filed as part of our Verizon Florida Inc. Facilities for Intrastate Tariff. See Attachment A for a listing of the impacted tariff sheets.

The purpose of this filing is to introduce Verizon's standardized Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS). The ATM CRS tariff filing includes an optional UNI Inverse Multiplexing (ATM) Port Connection.

If you require additional information, please contact Carlton A. Ball at (813) 483-2529.

Sincerely,
David M. Christian
Assistant Vice President
Regulatory Affairs Florida

DMC:sv
Attachments

Attachment A

Facilities for Intrastate Access

Section 2 General Regulations

Third Revised Page 16

Section 16 Advanced Communications Networks

Tenth Revised Contents Page 1

Original Page 25

Original Page 26

Original Page 27

Original Page 28

Original Page 29

Original Page 30

Original Page 31

Original Page 32

Original Page 33

Original Page 34

Original Page 35

Original Page 36

Original Page 37

Original Page 38

Original Page 39

Original Page 40

Original Page 41

VERIZON FLORIDA INC.
ATM Standardization
Executive Summary

INTRODUCTION

Verizon is proposing to both grandfather ATM service as well as standardize a uniform Asynchronous Transfer Mode (ATM) Product across the entire Verizon footprint. Uniformity will include a similar tariff structure, comparable pricing points, and equivalent language. The following explains the nature of the new tariffs being proposed. The new FCC and State tariffs are part of a hybrid of Verizon FCC tariffs of the former GTE and Bell Atlantic offerings. The standardized tariff will take the place of both the original FCC HiBAC and Verizon ATM tariffs. The new structure will be implemented in Verizon at both the state and federal levels.

PRODUCT DESCRIPTION

The new Verizon tariffs will be comprised of User to Network Interfaces (UNIs). UNIs will be offered both as a port only service and as a bundled port and access service. For speeds of OC3c and OC12c, the service will be made available using SONET facilities.

Available speeds will be DS1, DS3, OC3c, and OC12c. DS3, OC3c, and OC12c UNIs will be available either with full bandwidth, or incremental bandwidth, which can be purchased in 5Mbps increments for DS3 and OC3c UNIs, 15Mbps for OC12c UNIs. DS1 UNIs will be available only with full bandwidth. Bandwidth will be sold per UNI, not end to end and there will be no additional charge for Permanent Virtual Circuits (PVCs). Quality of service levels supported will be Constant Bit Rate (CBR), Virtual Bit Rate – real time (VBRrt), Virtual Bit Rate – non-real time (VBRnrt,) and Unspecified Bit Rate (UBR). Pricing for each bundled rate will be based on a tiered approach determined by the distance between the customer’s local serving office and the closest ATM hub. Tiers are structured as follows:

| | Tier 1 | Tier 2 | Tier 3 |
|----------|-----------|------------|-------------|
| Between: | 1-5 miles | 5-25 miles | 25-50 miles |

The service can be provided to customers over 50 miles via an ICB, unless the end user wants to purchase a port only arrangement and order transport out of the private line tariffs. Virtual connections will include two types of PVCs – VCCs and VPCs (Virtual Channel Connections and Virtual Path Connections). SVCs, (Switched Virtual Circuits) will also be available. Incremental bandwidth can be purchased for SVCs or PVCs.

There will be no Non Recurring charges for installation of the standardized service. The only incremental charge will be for subsequent activity to add or change items like bandwidth, PVCs, etc.

Following is a list of new features indicated above along with a more detailed description:

- **ATM Switched Virtual Connections (SVCs)** allow customers to dynamically set up and take down connections as their applications require, without the intervention of Verizon provisioning processes. This is accomplished by the customer premise equipment (CPE) sending a signaling message to the network, requesting setup of a SVC. Similarly, when the application is complete, the CPE sends a disconnect message.
- **OC12c Cell Relay** service consists of a 622.08 Mb/s connection from the customer premises terminating on a port in Verizon's ATM Cell Relay network. (The actual payload available for ATM cells is 599.04 Mb/s, due to SONET overhead). It is available as a User to Network Interface (UNI), as well as an IISP carrier interface, and may be purchased bundled with an access circuit, or as a port only. As with similar options for DS1, DS3, OC3c ports, the OC12c Port Only Connection provides either a UNI or Interim Interswitch Signaling Protocol (IISP) connection to an appropriate Port Only Cross-Connect within a wire center. OC12c UNIs are available today in selected jurisdictions in Verizon – West. This introduction seeks to make the feature more widely available, and to standardize on the service offering, provisioning and design. **Full/Incremental UNIs:** UNIs are available at the DS1, DS3, OC3c, and OC12c levels, and provides dedicated connections to an ATM hub. There are two types of UNIs: Full and Incremental. The Full UNI includes all available bandwidth in one rate, and the Incremental UNI is sold and provisioned with PVC and/or SVC bandwidth increments (the DS1 UNI is not offered in increments). Increments are available in 5 Mb/s increments each for SVC and PVC bandwidth on DS3 and OC3c UNIs, and in 15 Mb/s increments on OC12c UNIs.
- **Direct, Protected and Diversely Routed Loop Options:** Customers may purchase a port only (and purchase an access circuit from another tariff or another service provider) or a bundled port and access circuit. If they choose a bundled port and access circuit, then there are 2 loop options for OC3c and OC12c UNIs: (1) SONET protected and (2) SONET Protected/Diverse.
- **Unspecified Bit Rate (UBR)** Class of Service is a best effort service with no performance guarantees. It enables the customer to burst to the full line rate of the port, and if the bandwidth is not being used by other higher priority applications, the cells will be forwarded.
- **Virtual Path / Virtual Channel Connections** are two modes of Permanent Virtual Connections. They are currently available in Verizon – West, but have never been explicitly described in the tariff before. The Virtual Channel is switched through the Verizon network based on both the Virtual Path Identifier

(VPI) and Virtual Channel Identifier (VCI). The Virtual Path is switched through the Verizon Network on the VPI alone. Customers may tunnel Virtual Channels inside these Virtual Paths. SVCs are switched virtual channel connections. Switched virtual paths are not currently supported.

- **Mileage Tiers** for UNI pricing is a new pricing construct for ATM Cell Relay Service in Verizon – West. UNIs, when sold bundled with an access circuit, are priced in tiers, based on distance between the customer’s serving wire center and the nearest Verizon ATM switch. There will be three pricing tiers.
- **Point to Point and Point to Multipoint Virtual Connections:** PVCs and SVCs may be provided on a point-to-point or point-to-multipoint basis. When a virtual circuit is provided as a point-to-point virtual connection, transmission is bi-directional, allowing for ATM cells to be transmitted or received over the same PVC. For point-to-multipoint virtual connections, transmission is provided as transmit only, from the “root” to the “leaves”.
- **Over-subscription:** Over-subscription will be 200% for non-real time classes of service (VBRnt and UBR) on full UNIs.
- **QoS Classes and Equivalent Bandwidth:** The new tariff structure calls for customers to purchase bandwidth on each of their ports. For each Virtual Connection they require, customers must specify the Class of Service, as well as traffic descriptors. The combination of the traffic descriptors and Class of Service will determine how much Equivalent Bandwidth (EBW) is required to supports the connections. The customer must have paid for and have available enough bandwidth to support the connection on both ports to be connected before adding a VC.
- **Policing:** All virtual connections are policed at ingress to the Verizon network. This is true for SVCs and PVCs, point-to-point and point-to-multipoint, virtual paths and virtual channels. They are screened to insure that the traffic entering the network does not exceed the contracted Peak Cell Rate (PCR), nor the Sustained Cell Rate (SCR) plus Maximum Burst Size (MBS). Non-conformant traffic is discarded. Once in the network, data is not policed again.

REVENUE / COST ANALYSIS

See Margin Analysis.

CONCLUSION

Business Unit Drivers – This tariff filing is driven by the need to introduce new features that offer value-added services to our customers and help Verizon remain competitive. SVCs and UBR enhance the value of Cell Relay service to our customers by making it more flexible and efficient. OC12c ports meets customers’ need for higher-speed cell relay service, driven by new bandwidth-intensive applications or the need to aggregate many remote ports onto a large ATM hub port. The various options for loop design provide our customers with the appropriate balance between cost savings and disaster avoidance for their applications.

In addition, there is a need to standardize on a single service offering and tariff structure across the Verizon footprint for reasons of efficiency and cost savings. With the merger of GTE and Bell Atlantic, there are now a total of four active tariff structures across the country. This creates a difficult environment for Operations, Sales, Product Management, Regulatory and others that must deal with these services on a day-to-day basis. Each of these organizations must learn each structure and understand in which jurisdiction they reside. It is equally difficult for customers that have services in multiple jurisdictions. Going forward, when long distance service is offered in more and more locations, it will be very important to have the same tariff structure on each end of the long distance connection.

**VERIZON FLORIDA INC.
ATM Standardization
Margin Analysis**



Revenue

Costs

Margin

A large rectangular area with a light gray, textured background, representing a redacted table. It contains three rows corresponding to the labels 'Revenue', 'Costs', and 'Margin'. The 'Revenue' and 'Margin' rows are separated from the 'Costs' row by a solid black horizontal line. The 'Costs' and 'Margin' rows are separated by a double solid black horizontal line.

VERIZON FLORIDA INC.
ATM IMA
Executive Summary

(A) Introduction

This filing introduces ATM IMA (Inverse Multiplexing for ATM) as a new service offering to the existing local tariff.

(B) Product Description

IMA will be introduced as an enhancement to Verizon's local ATM Cell Relay service across the entire Verizon footprint. It provides an economical alternative to other port speeds for ATM customers who have a need for more bandwidth than one DS1, but less than a DS3. VZ's IMA multiplexes between 2 and 6 ATM DS1 IMA links into one virtual interface. The multiplexing of 2, 3, 4, 5 or 6 IMA links into an IMA group, therefore, creates five new port speeds, based on the IMA Data Cell Rate (IDCR).

Each link can take a different path (over different physical facilities and trunk groups) from the source (e.g., the customer's CPE) to the destination (e.g., the VZ network switch). The sending inverse multiplexer verifies the existence and integrity of each channel, segments the data and spreads the data out over each individual data channel. The receiving end accepts the data, reassembles the data into the correct order, accounting for delay variances, and passes it along to the destination. Customers' CPE must support IMA Version 1.1.

IMA is a physical layer specification. As such, all ATM services, such as SVCs and PVCs, ride on it as they would with any other ATM port speed. PVCs and SVCs can be established on an IMA port and connect with either another IMA UNI or a non-IMA UNI.

(C) Forecast

See Units and Revenue of Analysis.

VERIZON FLORIDA INC.
ATM IMA
Executive Summary

(D) Rate Structure

ATM IMA will not have any Non-Reoccurring Charges (NRC). This is in keeping with the Standardized ATM structure. A Monthly Reoccurring Charge (MRC) will apply per IMA member. IMA will be offered as a bundled port and access UNI. A port only option will not be available. As with other bundled port and access circuit ATM UNI offerings, there will be three pricing tiers for each of the IDCR options, based on mileage between the customer's serving CO and the nearest IMA-capable ATM switch.

As with individual DS1 ATM UNIs, IMA will be offered (and priced) as a full bandwidth UNI only. No incremental bandwidth will be sold on an IMA UNI.

Customers must purchase IMA groups of at least two DS1s in order to be eligible for provisioning on an IMA card. They may subsequently grow the size of their IMA IDCR as their bandwidth needs grow, and in most cases, this will not require a service disruption that would be caused by re-provisioning on a new card.

(E) Costing Methodology

Pricing of IMA UNIs is expected to be slightly less than a strict multiple of the T-1 UNI price. The crossover point at which a DS3 ATM UNI price becomes more attractive is expected to be somewhere between 4 and 6 IMA links, but closer to 4.

VERIZON FLORIDA INC.
State of Florida
Inverse Multiplexing for ATM

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|----------------|---------------|---------------|---------------|---------------|---------------|
| Revenue | | | | | |
| Costs | | | | | |
| Margin | | | | | |

VERIZON FLORIDA INC.
 State of Florida
 Inverse Multiplexing for ATM

| | Year 1 Cost | | | | Year 2 Cost | | | | Year 3 Cost | | | | Year 4 Cost | | | | Year 5 Cost | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1 Year Rate | 2 Year Rate | 3 Year Rate | 5 Year Rate | 1 Year Rate | 2 Year Rate | 3 Year Rate | 5 Year Rate | 1 Year Rate | 2 Year Rate | 3 Year Rate | 5 year Rate | 1 Year Rate | 2 Year Rate | 3 Year Rate | 5 year Rate | 1 Year Rate | 2 Year Rate | 3 Year Rate | 5 Year Rate |
| DS1- FULL | | | | | | | | | | | | | | | | | | | | |
| FIRST DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| SECOND DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| THIRD DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| FOURTH DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| FIFTH DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| SIXTH DS-1 | | | | | | | | | | | | | | | | | | | | |
| Tier 1 | | | | | | | | | | | | | | | | | | | | |
| Tier 2 | | | | | | | | | | | | | | | | | | | | |
| Tier 3 | | | | | | | | | | | | | | | | | | | | |
| TOTAL COST | | | | | | | | | | | | | | | | | | | | |

2. GENERAL REGULATIONS

2.6 Definitions (Continued)Four-Wire to Two-Wire Conversion

The term "Four-Wire to Two-Wire Conversion" denotes an arrangement which converts a four-wire transmission path to a two-wire transmission path to allow a four-wire facility to terminate in a two-wire entity such as a central office switch trunk circuit or switching system.

Frame

The term "Frame" denotes a group of data bits, in a specific format, with a flag at either end to indicate the beginning and end of the frame. The defined format enables network equipment to recognize the meaning and purpose of specific bits.

Frame Relay Access Line

Provides access to the Frame Relay Network connecting customer facilities at the network interface with a corresponding Frame Relay Port.

Frame Relay Port

For Frame Relay Service, the physical entry points for access lines and the originating and terminating points for Permanent Virtual Circuits (PVCs). Ports include the electronic equipment used in connecting these service elements to the Frame Relay Network, and enable customers to allocate bandwidth to applications, as needed, at customer designated transmission speeds of either 56 Kbps or 1.544 Mbps.

Ground Start Supervisory Signaling

The term "Ground Start Supervisory Signaling" denotes a type of signaling which provides for the application of ground on the tip side at the point of termination (assuming no signaling conversion has been provided by the Telephone Company) as an initial seizure signal before the application of ringing in the originating direction (towards the customer from the end office).

HUB

(N)

A Company designated serving wire center that is equipped to provide service.

(N)

Immediately Available Funds

The term "Immediately Available Funds" denotes a corporate or personal check drawn on a bank account and funds which are available for use by the receiving party on the same day on which they are received and includes U.S. Federal Reserve bank wire transfers, U.S. Federal Reserve notes (paper cash), U.S. coins, U.S. Postal Money Orders, and New York Certificates of Deposit.

Individual Case Basis

The term "Individual Case Basis" (ICB) denotes a condition where the regulations, if applicable, rates and charges for an offering under the provisions of this tariff are developed based on the circumstances in each case.

Information Service Provider

The term "Information Service Provider" denotes one who offers a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information which may be conveyed via telecommunications, except that such service does not include (1) any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service, or (2) the provision of time, weather, and such other similar audio services that are offered by the Telephone Company.

Initial Address Message (IAM)

The term "Initial Address Message (IAM)" denotes an SS7 message sent in the forward direction to initiate trunk set up with the busy of an outgoing trunk which carries the information about that trunk along with other information relating to the routing and handling of the call to the next switch.

Installed Cost

The term "Installed Cost" denotes the total cost (estimated or actual) by the Telephone Company to provide facilities for the offered services.

16. ADVANCED COMMUNICATIONS NETWORKS

| | <u>Page No.</u> | |
|---|-----------------|-----|
| 16.1 <u>General</u> | 1 | |
| 16.2 <u>Packet Switching Network Service (Discontinued see Section 116)</u> | | |
| 16.3 <u>Transparent LAN Service (TLS)</u> | | |
| (A) Definitions | 4 | |
| (B) Service Description..... | 4 | |
| (C) Conditions | 4 | |
| (D) Application of Rates and Charges..... | 5 | |
| (E) Rates and Charges..... | 6 | |
| (F) (Deleted) | | |
| 16.4 Frame Relay Service | 8 | (D) |
| (A) Service Description..... | 8 | |
| (B) Definitions | 9 | |
| (C) Service Components..... | 10 | |
| (D) Technical Specifications | 11 | |
| (E) Service Provisioning | 12 | |
| (F) Special Conditions..... | 12 | |
| (G) Obligations of the Customer | 13 | |
| (H) Obligations of the Company..... | 14 | |
| (I) Special Facilities Routing..... | 14 | |
| (J) Acceptance Testing | 14 | |
| (K) Application of Rates and Charges..... | 15 | |
| (L) Rates and Charges..... | 18 | |
| 16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) | 25 | (N) |
| (A) General | 25 | |
| (B) Definition | 25 | |
| (C) Description of Service..... | 25 | |
| (D) Service Components..... | 26 | |
| (E) Technical Specifications | 29 | |
| (F) Provision of Service..... | 30 | |
| (G) Tier Structure for Local Serving Offices | 30 | |
| (H) Service Functionality | 30 | |
| (I) Class of Service Parameters..... | 31 | |
| (J) Conditions | 32 | |
| (K) Obligations of the Customer | 32 | |
| (L) Obligations of the Company..... | 32 | |
| (M) Application of Rates and Charges..... | 32 | |
| (N) Rates and Charges..... | 35 | (N) |

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(A) General

This section contains definitions, regulations and charges applicable to the provision of Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) furnished by the Company within the State of Florida, where conditions and facilities permit.

(B) Definitions

In addition to the Definitions set forth in Section 2 General Regulations of this tariff, the following definitions apply:

Maximum Burst Size – The term “Maximum Burst Size” (MBS) denotes the consecutive number of ATM cells that can enter the ATM Cell Relay Service network above the Sustained Cell Rate level and below the Peak Cell Rate level.

(C) Description of Service

Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) is a telecommunications transport and switching service that provides for high-speed connectivity between Customer-designated locations (CDLs). ATM CRS consists of a User Network Interface (UNI) interface. This interface is available in various configurations including Port With Access Line Connection and Port Only Connection, with either incremental or full bandwidth.

The UNI Port With Access Line Connection is a dedicated digital line that provides a link from the CDL to one of Company's ATM CRS hubs¹. UNIs are also provisioned as an Inverse Multiplexing ATM (IMA) Port With Access Line Connection as defined in Section D.2 and as a Port Only Connection as defined in Section D.3.

ATM CRS is a fast-packet, cell-based technology that can support user applications requiring high-bandwidth, high-performance transport and switching. This connectivity is provided via Permanent Virtual Circuits (PVCs) and/or Switched Virtual Circuits (SVCs) that are implemented over access facilities and switches that are dedicated to high-speed telecommunications services.

UNI Port With Access Line Connections, UNI IMA Port With Access Line Connections, UNI Port Only Connections, PVCs and SVCs are further described in Section D.

(N)

¹ For definition, see Section 2.6 of this tariff.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(D) Service Components

The major components of ATM CRS are:

- UNI Port With Access Line Connection
- UNI IMA Port With Access Line Connection
- UNI Port Only Connection
- Permanent Virtual Circuit (PVC)
- Switched Virtual Circuit (SVC)
- Effective Bandwidth

(1) UNI Port With Access Line Connection

UNI Port With Access Line Connections are available at the DS1, DS3, OC3c, and OC12c levels and provide dedicated transport between CDL and an ATM CRS hub. There are two types of UNIs: Full and Incremental. The Full UNI includes all available bandwidth in one rate, and the Incremental UNI is sold and provisioned with PVC and/or SVC bandwidth increments. The DS1 UNI is not offered in increments. UNI Port with Access Line Connection may be ordered under a One (1), Three (3) or Five (5) year term commitment period.

In order for Customer traffic to be carried on the network, each Incremental UNI requires at least one 5 Mbps increment of either PVC or SVC bandwidth. The Customer may elect to subscribe to multiple PVCs. The SVC feature is established over the UNI via connection identifiers, which enables the Customer to have virtual connections to various locations.

UNIs are provided at nominal data rates of 1.5 Mbps (DS1), 45 Mbps (DS3), 155 Mbps (OC3c), or 622 Mbps (OC12c). OC3c and OC12c are provided as a concatenated signal in STS-3c and STS-12c (Synchronous Transport Signal) formats, respectively. The actual throughput into CRS is less than the line rate for the UNI provided.

The rates and charges for a UNI are differentiated by the capacity of the UNI, the location where the UNI originates (i.e., Customer-designated premises) and mileage ranges (expressed as tiers) associated with extending the UNI to the wire center designated as the ATM CRS hub.

The OC3c and OC12c UNI Port With Access Line Connections are provisioned on Protected or Protected Diverse Synchronous Optical Network (SONET). SONET is a standards-based fiber optic communication network that transports both asynchronous and synchronous digital signals using the Synchronous Transport Signal (STS) format. ATM OC3c and OC12c Protected SONET UNI Port With Access Line Connections are provisioned over SONET as a survivable service with a non-diverse alternate facility between the central office and the Customer premises. ATM OC3c and OC12c Protected Diverse SONET UNI Port With Access Line Connections are provisioned over SONET as a survivable service with an alternate and diverse path between the ATM CRS hub and the Customer premises.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(D) Service Components Continued

(2) UNI Inverse Multiplexing ATM (IMA) Port With Access Line Connection

UNI IMA Port With Access Line Connection permits the provisioning of bandwidth greater than DS1 and less than DS3 by binding together multiple DS1 facilities. The inverse multiplexer at each end of the connection aggregates and de-aggregates multiple parallel DS1 leased lines into a single higher speed link. IMA will be offered as full bandwidth only. Two to six DS1 facilities will be permitted in an IMA group providing nominal aggregated bandwidth from three to nine megabits per second. IMA allows for all class of service parameters up to the combined nominal line rate of the aggregated DS1s and all PVCs and/or SVCs that will fit within the bandwidth. Ordering of DS1s within an IMA group must be done in ascending order. Disconnecting DS1s within an IMA group must be done in a descending order. Customer must purchase a minimum of two IMA DS1s.

Requests to change existing UNI Port With Access Line Connections to UNI IMA Port With Access Line Connections will be treated as a disconnect and a new install. Termination liability charges, as set forth in Section 2.8 of this tariff may apply.

(3) UNI Port Only Connection

Port Only Connections can be established as a User Network Interface (UNI) arrangement. The UNI Port Only connection provides an ATM Cell Relay Network connection based on the port connection speeds of DS1, DS3, OC3c and OC12c. The ATM port speed will be consistent with the channel speed of the access channel. The actual throughput of Customer traffic cannot exceed the bandwidth of the access channel and port speed.

UNI Port Only Connections are available as either Incremental or Full. This refers to the bandwidth that is required to provision PVCs on the port. Incremental ports come with no bandwidth and bandwidth is purchased in increments based on Customer bandwidth requirements. Full ports come with all bandwidth included up to the maximum rate of the port. Each port can accommodate multiple PVCs or SVCs depending on the bandwidth purchased. UNI Port Only connections are available on a One (1) year, Three (3) year and Five (5) year term.

Customers may access Port Only Connections via Company-provided digital access facilities or via facilities provided by another carrier. When access facilities are provided by the Company, the associated regulations, rates and charges under the appropriate Company Tariff shall apply in addition to the regulations, rates and charges associated with ATM CRS. Company-provided access facilities may also be provisioned on an Individual Case Basis (ICB) where access facilities are not generally available under the applicable tariff. Interconnection charges to connect access line services provided by the Company or another carrier may apply and will be billed separately. Any special construction or nonstandard charges assessed by the carrier supplying the access facilities will be the responsibility of the Customer.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(D) Service Components Continued

(N)

(4) Permanent Virtual Circuit (PVC)

The PVC defines a virtual connection across a UNI between the Customer premises and Company's ATM CRS hub. Each UNI requires at least one PVC in order for Customer traffic to traverse the network. Each ATM cell carries a unique tag which identifies that ATM CRS cell as belonging to a particular PVC. A PVC is a logical channel connecting two or more Customer-designated premises with virtual connections through a Company provided ATM CRS switch(es). The PVCs may be provided on a point-to-point or point-to-multipoint basis. When a PVC is provided as a point-to-point virtual connection, transmission is bi-directional allowing for ATM CRS cells to be transmitted or received over the same PVC. For point-to-multipoint virtual connections, transmission is provided as transmit only. The virtual connection is set up by the Company based on information contained on a Telecommunications Service Request (TSR) rather than by dial-up signaling.

PVCs consist of two types: Virtual Channel Connections (VCCs) and Virtual Path Connections (VPCs). A VCC is a type of PVC with independent identity and defined service parameters that are provisioned via a TSR and cannot be altered by the Customer without additional TSR activity. A VPC is a type of PVC with defined service parameters that is provisioned via a TSR. Customers may provision their own virtual channels within the VPC, provided that the sum of the service parameters of all of the virtual channels does not exceed the aggregate service parameters of the VPC.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under federal jurisdiction subject to the rates, terms and conditions from the Company's FCC tariff.

(5) Switched Virtual Circuit (SVC)

SVCs are similar in structure to PVCs, but SVCs are provisioned on demand by Customer premises equipment that signals the ATM cell relay network to set up and tear down logical connections. The network will respond to these requests by provisioning a virtual connection across the network based on the class of service parameters requested, provided that sufficient network resources are available to establish the connection. Each UNI that is SVC signal enabled will be provided with a SVC International Code Designator (ICD) prefix that will uniquely identify the UNI. Customers must use this Company assigned prefix when requesting SVC virtual connections across the Company Cell Relay Network. Each Constant Bit Rate (CBR) and Variable Bit Rate (VBR) SVC will be limited to a maximum Peak Cell Rate of 20 Mbps and a maximum Sustained Cell Rate of 20 Mbps.

Closed User Group (CUG) capability is a feature associated with SVCs. A CUG provides the ability to contain SVC calls between certain UNIs. A CUG functionally groups UNIs into logical associations and allows calling privileges to be specified network wide. A CUG provides a network-wide mechanism for access control. CUGs provide a logical grouping of UNIs, creating a SVC community of interest.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(D) Service Components (Continued)

(N)

(6) Effective Bandwidth

Effective bandwidth is the bandwidth reserved for each logical connection (PVC or SVC) that is set up across a UNI. It is based on the Peak Cell Rate (PCR), Sustained Cell Rate (SCR), Maximum Burst Size (MBS), and the class of service parameters selected, i.e., Constant Bit Rate (CBR), Variable Bit Rate real time (VBRrt), Variable Bit Rate non-real time (VBRnrt), or Unspecified Bit Rate (UBR). The total effective bandwidth of all the logical connections on a UNI cannot exceed the total bandwidth available on the UNI. Effective bandwidth prices do not vary by class of service level selected. However, effective bandwidth is consumed in varying degrees based on the class of service parameters selected. The higher the class of service, the more bandwidth will be reserved. A CBR PVC with the same PCR as a VBR PVC will reserve more effective bandwidth.

(E) Technical Specifications

The technical specifications for ATM CRS are delineated in Technical References TR-NWT-001112, GR-1110-CORE, GR-1248-CORE, and SR-3330.

The technical specifications for DS1 and DS3 signals are delineated in TR-INS-000342.

The technical specifications for OC3c and OC12c signals are delineated in GR-253-CORE, Issue 2.

The technical specifications for UNIs are delineated in ATM Forum ATM User Network Interface Specifications V3.0, af-uni-0010.001, and V3.1, af-uni-0010.002. Interface specifications for Customer-provided ATM CRS compatible premises equipment or devices must also be in accordance with the specifications defined in these documents.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(F) Provision of Service

(N)

ATM CRS includes:

- (1) A least one UNI Port With Access Line or Port Only which has a maximum nominal capacity for either DS1 (1.5 Mbps), DS3 (45 Mbps), OC3c (155 Mbps), OC12c (622 Mbps), or two to six UNI IMA Ports with Access Lines which has a capacity of 3Mbps to 9Mbps. The OC3c and OC12c UNIs are provisioned over Protected or Protected Diverse SONET. The Protected and Protected Diverse SONET facilities provide a backup facility that automatically switches in the event of a failure on the primary facility.
- (2) Unlimited usage on purchased bandwidth.
- (3) Incremental UNIs must have at least one increment of effective bandwidth (either PVC or SVC) in order for traffic to traverse the network. The DS1, DS3, OC3c, and OC12c Full UNIs are equipped with the full effective bandwidth.
- (4) Either one or more PVCs. When PVC bandwidth is purchased, one or more PVCs must be selected for Customer traffic to traverse the network.
- (5) Two types of PVCs, (i) Virtual Channel Connections (VCCs) and (ii) Virtual Path Connections (VPCs), which support the following Classes of Service:
 - a. Constant Bit Rate (CBR)
 - b. Variable Bit Rate real time (VBRrt)
 - c. Variable Bit Rate non-real time (VBRnrt)
 - d. Unspecified Bit Rate (UBR)

(G) Tier Structure for Local Serving Offices

Wire centers that provide ATM CRS have been designated by the Company as ATM hubs. Each local serving office has been placed in a Tier 1, 2 or 3, based on its location relative to the closest ATM hub.

(H) Service Functionality

The ATM CRS functionality consists of transporting 53-byte cells of information from the Customer location to a Company ATM hub over a UNI. The traffic is routed in the switch to another UNI, or other suitable network connection.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

- | | | |
|-----|---|-----|
| (1) | <u>Class of Service Parameters</u> | (N) |
| (1) | Constant Bit Rate (CBR) <ul style="list-style-type: none"> a. Peak/Sustained Cell Rate: Customer specified in increments of 64 Kbps up to the maximum speed of the UNI. b. Non-conforming cells: Discarded c. Cell Delay Variation Tolerance (CDVT): DS1 = 600 microseconds DS3 = 600 microseconds OC3c = 600 microseconds OC12c = 600 microseconds | |
| (2) | Variable Bit Rate (VBR) Real Time/Non-Real Time <ul style="list-style-type: none"> a. Sustained Cell Rate (SCR): Customer specified in increments of 64 Kbps up to the maximum speed of the UNI. b. Peak Cell Rate (PCR): Customer selectable in increments of 64 Kbps up to line rate. Default is 200% of SCR for PVCs. (The ratio of PCR to SCR will be signaled by CPE for SVCs. Therefore there is no default value.) c. Non-conforming cells: Discarded d. Cell Delay Variation Tolerance (CDVT): DS1 = 600 microseconds DS3 = 600 microseconds OC3c = 600 microseconds OC12c = 600 microseconds | |
| | | (N) |

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(J) Conditions

(1) ATM CRS is available where facilities and conditions permit. For locations where the Customer requests ATM CRS and digital or SONET facilities are not available, special construction charges may apply.

(2) Maintenance Window

To meet the Customers' requirements, occasional network upgrades must be performed. Network upgrades are needed to provide improved performance and new features. Generally these upgrades will be performed between the hours of 11 PM and 8 AM. Network upgrades are planned to provide Customers reasonable and timely notification in order to minimize any impact on the Customers' service.

(K) Obligations of the Customer

The Customer must provide the necessary compatible premise equipment or ATM CRS device capable of interfacing with the Company's ATM CRS.

(L) Obligations of the Company

Company is responsible for service up to and including the network interface. Company's responsibility is limited to the furnishing of communications facilities and switches suitable for ATM CRS.

ATM CRS is supported by the Company's Single Point of Contact (SPOC) center, which provides continuous support for ATM CRS 24 hours per day, seven days per week (24x7) with the ability to manage all of the Customer's ATM CRS as a single network. The SPOC performs maintenance, trouble resolution and network management functions on a 24x7 basis. Service order processing and network installation functions are performed only during normal business hours.

(M) Application of Rates and Charges

(1) Rate Elements

The following rate elements are applicable to ATM CRS:

- UNI Port With Access Line Connection
- UNI Inverse Multiplexing ATM (IMA) Port with Access Line Connection
- UNI Port Only Connection
- Permanent Virtual Circuits (PVCs)
- Effective Bandwidth for Incremental UNIs
- Closed User Groups (CUG)
- Administrative Charge

(N)

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(M) Application of Rates and Charges (Continued)

(N)

(1) Rate Elements (Continued)

a. UNI Port With Access Line Connection

A monthly rate applies on a per Port With Access Line basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental, SONET - Protected or Protected Diverse) of the access connection. UNI Port and Access is offered as a One (1) year, Three (3) year or Five (5) year term commitment period. Nonrecurring charges are not applicable.

b. UNI Inverse Multiplexing ATM (IMA) Port With Access Line Connection

A monthly rate applies on a per DS1 basis for each sequential DS1 ordered up to the desired bandwidth (i.e., 3 Mbps, 4.5 Mbps, 6 Mbps, 7.5 Mbps or 9 Mbps). IMA is offered as a One (1) year, Two (2) year, Three (3) year or Five (5) year term commitment period. DS1s within an IMA group added subsequent to the initial installation of the first two DS1s will have their own term period. Nonrecurring charges are not applicable.

c. UNI Port Only Connection

A monthly rate applies on a per Port Only basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental) of the port only connection. UNI Port Only is offered as a One (1) year, Three (3) year or Five (5) year term commitment period. Nonrecurring charges are not applicable.

d. Permanent Virtual Circuits (PVCs)

An Administrative charge applies per order. The Administrative charge does not apply when PVCs are installed at the same time as the respective UNIs.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under the federal jurisdiction, subject to the rates, terms and conditions from the Company's FCC tariff.

e. Effective Bandwidth for Incremental UNIs

A monthly rate applies for incremental UNIs for CBR, VBR or UBR PVC and SVC bandwidth at 5 Mbps for DS3 or OC3c and at 15 Mbps for OC12c. Nonrecurring charges are not applicable.

The monthly rate for PVC and/or SVC UBR bandwidth will be waived when the combined VBR and CBR effective bandwidth purchased (either SVC or PVC or any combination) is equal to at least 50% of the effective bandwidth capacity of the UNI. When UBR bandwidth is made available, it is available for both PVCs and SVCs. Nonrecurring charges are not applicable.

f. Closed User Groups (CUG)

A nonrecurring charge applies per order and per UNI for each CUG established and for each subsequent CUG member added to a CUG. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(M) Application of Rates and Charges (Continued)

(N)

(1) Rate Elements (Continued)

(g) Administrative Charge

A nonrecurring charge applies (per order, per UNI) when Customer initiates a change to one or more of the following: UNI bandwidth, PVCs, class of service parameters, and/or other service parameters that do not require changes in physical facilities and that can be provisioned by Company without the dispatch of a technician to Customer location. For each service order issued, the charge will be one Administrative Charge regardless of the number of changes made. The Administrative Charge does not apply for those items ordered on the same service order with the installation of a UNI.

(2) Minimum Period

The minimum period for ATM CRS is one month.

(3) Term Commitment Period

The ATM CRS UNI Port With Access Line Connection, UNI IMA Port With Access Line Connection and UNI Port Only Connection rate elements are available under a Term Commitment Period.

Term commitments of One (1), Three (3) and Five (5) years are available to all Customers at the applicable rates set forth in Section 17.5.

Rate elements must be ordered under the same term commitment period.

a. Termination Liability

In the event ATM CRS is terminated by the Customer prior to completion of the initial term commitment period, Termination Liability charges, as set forth in General Regulations, Section 2.8 of this tariff will apply.

(4) Moves

When the Customer requests a move or relocation of the UNI, the move or relocation will be treated as a termination of the existing service and the establishment of a new service. Service and a new term commitment period will commence.

(5) Special Facilities Routing

The Customer may request that the facilities used to provide ATM CRS be specially routed. Additional charges will apply under an ICB contract arrangement see Section 14 Special Construction in this tariff for terms and conditions.

(6) Acceptance Testing

Upon the Customer's request, the Company will cooperatively test, at the time of installation at no additional charge. Acceptance tests will include tests for the parameters applicable to the Service as specified in the order for Service.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(1) UNI Port with Access Line Connection (Continued)

| | <u>One-Year Monthly Rate</u> | <u>Three-Year Monthly Rate</u> | <u>Five-Year Monthly Rate</u> |
|--------------------------------|--------------------------------------|--|---------------------------------------|
| c. OC3c, each | | | |
| SONET | | | |
| Full, Protected | | | |
| Tier 1 (0 to 5 Miles) | \$ 6,330.00 | \$ 5,381.00 | \$ 5,064.00 |
| Tier 2 (Over 5 to 25 Miles) | 7,447.00 | 6,330.00 | 5,958.00 |
| Tier 3 (Over 25 to 50 Miles) | 8,936.00 | 7,596.00 | 7,149.00 |
| Full, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 7,730.00 | 6,571.00 | 6,184.00 |
| Tier 2 (Over 5 to 25 Miles) | 9,094.00 | 7,730.00 | 7,275.00 |
| Tier 3 (Over 25 to 50 Miles) | 10,913.00 | 9,276.00 | 8,730.00 |
| Incremental, Protected | | | |
| Tier 1 (0 to 5 Miles) | 4,410.00 | 3,749.00 | 3,528.00 |
| Tier 2 (Over 5 to 25 Miles) | 5,188.00 | 4,410.00 | 4,151.00 |
| Tier 3 (Over 25 to 50 Miles) | 6,226.00 | 5,292.00 | 4,981.00 |
| Incremental, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 5,810.00 | 4,939.00 | 4,648.00 |
| Tier 2 (Over 5 to 25 Miles) | 6,835.00 | 5,810.00 | 5,468.00 |
| Tier 3 (Over 25 to 50 Miles) | 8,202.00 | 6,972.00 | 6,562.00 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(1) UNI Port with Access Line Connection (Continued)

| | <u>One-Year Monthly Rate</u> | <u>Three-Year Monthly Rate</u> | <u>Five-Year Monthly Rate</u> |
|--------------------------------|--------------------------------------|--|---------------------------------------|
| d. OC12c, each | | | |
| SONET | | | |
| Full, Protected | | | |
| Tier 1 (0 to 5 Miles) | \$ 19,560.00 | \$ 16,626.00 | \$ 15,648.00 |
| Tier 2 (Over 5 to 25 Miles) | 23,012.00 | 19,560.00 | 18,409.00 |
| Tier 3 (Over 25 to 50 Miles) | 27,614.00 | 23,472.00 | 22,091.00 |
| Full, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 21,160.00 | 17,986.00 | 16,928.00 |
| Tier 2 (Over 5 to 25 Miles) | 24,894.00 | 21,160.00 | 19,915.00 |
| Tier 3 (Over 25 to 50 Miles) | 29,873.00 | 25,392.00 | 23,898.00 |
| Incremental, Protected | | | |
| Tier 1 (0 to 5 Miles) | 13,000.00 | 11,050.00 | 10,400.00 |
| Tier 2 (Over 5 to 25 Miles) | 15,294.00 | 13,000.00 | 12,235.00 |
| Tier 3 (Over 25 to 50 Miles) | 18,353.00 | 15,600.00 | 14,682.00 |
| Incremental, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 14,600.00 | 12,410.00 | 11,680.00 |
| Tier 2 (Over 5 to 25 Miles) | 17,176.00 | 14,600.00 | 13,741.00 |
| Tier 3 (Over 25 to 50 Miles) | 20,612.00 | 17,520.00 | 16,489.00 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(2) UNI Inverse Multiplexing ATM (IMA)

| | <u>One-Year Monthly Rate</u> | <u>Two-Year Monthly Rate</u> | <u>Three-Year Monthly Rate</u> | <u>Five-Year Monthly Rate</u> |
|---|--------------------------------------|--------------------------------------|--|---------------------------------------|
| a. First DS1, each (1.5 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | \$ 684.95 | \$ 650.70 | \$ 581.95 | \$ 547.96 |
| Tier 2 (Over 5 to 25 Miles) | 684.95 | 650.70 | 581.95 | 547.96 |
| Tier 3 (Over 25 to 50 Miles) | 684.95 | 650.70 | 581.95 | 547.96 |
| b. Second DS1, each (3 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| Tier 2 (Over 5 to 25 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| Tier 3 (Over 25 to 50 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| c. Third DS1, each (4.5 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| d. Fourth DS1, each (6 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| e. Fifth DS1, each (7.5 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| f. Sixth DS1, each (9 Mbps total bandwidth) | | | | |
| Full | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

| | | | | | |
|-----|------------------------------|------------------------------------|--------------------------------------|-------------------------------------|-----|
| (N) | <u>Rates and Charges</u> | | | | (N) |
| | (3) UNI Port only Connection | | | | |
| | | One-Year Monthly <u>Rate</u> | Three-Year Monthly <u>Rate</u> | Five-Year Monthly <u>Rate</u> | |
| | a. DS1, each | | | | |
| | Full | \$ 347.00 | \$ 295.00 | \$ 278.00 | |
| | b. DS3, each | | | | |
| | Full | 1,224.00 | 1,040.00 | 979.00 | |
| | Incremental | 588.00 | 500.00 | 471.00 | |
| | c. OC3c, each | | | | |
| | Full | 3,200.00 | 2,720.00 | 2,560.00 | |
| | Incremental | 941.00 | 800.00 | 753.00 | |
| | d. OC12c, each | | | | |
| | Full | 11,247.00 | 9,560.00 | 8,998.00 | |
| | Incremental | 3,529.00 | 3,000.00 | 2,824.00 | (N) |

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(N) Rates and Charges

| | |
|---|--|
| (4) Permanent Virtual Circuits (PVCs) per order | Nonrecurring <u>Charge</u> ¹ |
| a. Virtual Channel Connections (VCCs) | |
| Constant Bit Rate (CBR) | \$ 75.00 |
| Variable Bit Rate real time (VBRrt) | 75.00 |
| Variable Bit Rate non-real time (VBRnrt) | 75.00 |
| Unspecified Bit Rate (UBR) | 75.00 |
| b. Virtual Path Connections (VPCs) | |
| Constant Bit Rate (CBR) | 75.00 |
| Variable Bit Rate real time (VBRrt) | 75.00 |
| Variable Bit Rate non-real time (VBRnrt) | 75.00 |
| Unspecified Bit Rate (UBR) | 75.00 |

¹ Applies per order and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. If multiple UNIs are involved, a nonrecurring charge will apply to each UNI Port on which the virtual connections will reside. The nonrecurring charge does not apply when PVCs are installed at the same time as the respective UNIs.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(5) Effective Bandwidth for Incremental UNIs

| | <u>Monthly Rate</u> | <u>Nonrecurring Charge</u> |
|--|-------------------------|--------------------------------|
| a. CBR or VBR PVC Bandwidth | | |
| DS3, OC3c – 5 Mbps | \$ 80.00 | N/A |
| OC12c – 15 Mbps | 200.00 | N/A |
| b. CBR or VBR SVC Bandwidth | | |
| DS3, OC3c – 5 Mbps | 80.00 | N/A |
| OC12c – 15 Mbps | 200.00 | N/A |
| c. UBR PVC and SVC Bandwidth, Bandwidth up to the UNI line rate | | |
| DS3 | 400.00 | N/A |
| OC3c | 1,200.00 | N/A |
| OC12c | 4,000.00 | N/A |
| 6. Closed User Groups (CUG) ¹ , per order, per UNI | | |
| a. Each CUG | N/A | \$75.00 |
| b. Each subsequent CUG member added to a CUG | N/A | 75.00 |
| 7. Administrative Charge ² , per order | N/A | 75.00 |

¹ Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

² Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply for those items ordered on the same service order with the installation of a UNI.

(N)

2. GENERAL REGULATIONS

2.6 Definitions (Continued)Four-Wire to Two-Wire Conversion

The term "Four-Wire to Two-Wire Conversion" denotes an arrangement which converts a four-wire transmission path to a two-wire transmission path to allow a four-wire facility to terminate in a two-wire entity such as a central office switch trunk circuit or switching system.

Frame

The term "Frame" denotes a group of data bits, in a specific format, with a flag at either end to indicate the beginning and end of the frame. The defined format enables network equipment to recognize the meaning and purpose of specific bits.

Frame Relay Access Line

Provides access to the Frame Relay Network connecting customer facilities at the network interface with a corresponding Frame Relay Port.

Frame Relay Port

For Frame Relay Service, the physical entry points for access lines and the originating and terminating points for Permanent Virtual Circuits (PVCs). Ports include the electronic equipment used in connecting these service elements to the Frame Relay Network, and enable customers to allocate bandwidth to applications, as needed, at customer designated transmission speeds of either 56 Kbps or 1.544 Mbps.

Ground Start Supervisory Signaling

The term "Ground Start Supervisory Signaling" denotes a type of signaling which provides for the application of ground on the tip side at the point of termination (assuming no signaling conversion has been provided by the Telephone Company) as an initial seizure signal before the application of ringing in the originating direction (towards the customer from the end office).

HUB

(N)

A Company designated serving wire center that is equipped to provide service.

(N)

Immediately Available Funds

The term "Immediately Available Funds" denotes a corporate or personal check drawn on a bank account and funds which are available for use by the receiving party on the same day on which they are received and includes U.S. Federal Reserve bank wire transfers, U.S. Federal Reserve notes (paper cash), U.S. coins, U.S. Postal Money Orders, and New York Certificates of Deposit.

Individual Case Basis

The term "Individual Case Basis" (ICB) denotes a condition where the regulations, if applicable, rates and charges for an offering under the provisions of this tariff are developed based on the circumstances in each case.

Information Service Provider

The term "Information Service Provider" denotes one who offers a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information which may be conveyed via telecommunications, except that such service does not include (1) any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service, or (2) the provision of time, weather, and such other similar audio services that are offered by the Telephone Company.

Initial Address Message (IAM)

The term "Initial Address Message (IAM)" denotes an SS7 message sent in the forward direction to initiate trunk set up with the busy of an outgoing trunk which carries the information about that trunk along with other information relating to the routing and handling of the call to the next switch.

Installed Cost

The term "Installed Cost" denotes the total cost (estimated or actual) by the Telephone Company to provide facilities for the offered services.

16. ADVANCED COMMUNICATIONS NETWORKS

| | <u>Page No.</u> |
|---|-----------------|
| 16.1 <u>General</u> | 1 |
| 16.2 <u>Packet Switching Network Service (Discontinued see Section 116)</u> | |
| 16.3 <u>Transparent LAN Service (TLS)</u> | |
| (A) Definitions | 4 |
| (B) Service Description..... | 4 |
| (C) Conditions | 4 |
| (D) Application of Rates and Charges..... | 5 |
| (E) Rates and Charges..... | 6 |
| (F) (Deleted) | |
| _____ { | |
| 16.4 Frame Relay Service | 8 |
| (A) Service Description..... | 8 |
| (B) Definitions | 9 |
| (C) Service Components..... | 10 |
| (D) Technical Specifications | 11 |
| (E) Service Provisioning | 12 |
| (F) Special Conditions..... | 12 |
| (G) Obligations of the Customer | 13 |
| (H) Obligations of the Company..... | 14 |
| (I) Special Facilities Routing..... | 14 |
| (J) Acceptance Testing | 14 |
| (K) Application of Rates and Charges..... | 15 |
| (L) Rates and Charges..... | 18 |
| 16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) | 25 |
| (A) General | 25 |
| (B) Definition | 25 |
| (C) Description of Service..... | 25 |
| (D) Service Components..... | 26 |
| (E) Technical Specifications | 29 |
| (F) Provision of Service..... | 30 |
| (G) Tier Structure for Local Serving Offices | 30 |
| (H) Service Functionality | 30 |
| (I) Class of Service Parameters..... | 31 |
| (J) Conditions | 32 |
| (K) Obligations of the Customer | 32 |
| (L) Obligations of the Company..... | 32 |
| (M) Application of Rates and Charges..... | 32 |
| (N) Rates and Charges..... | 35 |

D

(N)

ALAN F. CIAMPORCERO, PRESIDENT
 TAMPA, FLORIDA

EFFECTIVE: October 19, 2004
 ISSUED: October 4, 2004

(N)

16. ADVANCED COMMUNICATIONS NETWORKS16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(A) General

This section contains definitions, regulations and charges applicable to the provision of Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) furnished by the Company within the State of Florida, where conditions and facilities permit.

(B) Definitions

In addition to the Definitions set forth in Section 2 General Regulations of this tariff, the following definitions apply:

Maximum Burst Size – The term “Maximum Burst Size” (MBS) denotes the consecutive number of ATM cells that can enter the ATM Cell Relay Service network above the Sustained Cell Rate level and below the Peak Cell Rate level.

(C) Description of Service

Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) is a telecommunications transport and switching service that provides for high-speed connectivity between Customer-designated locations (CDLs). ATM CRS consists of a User Network Interface (UNI) interface. This interface is available in various configurations including Port With Access Line Connection and Port Only Connection, with either incremental or full bandwidth.

The UNI Port With Access Line Connection is a dedicated digital line that provides a link from the CDL to one of Company’s ATM CRS hubs¹. UNIs are also provisioned as an Inverse Multiplexing ATM (IMA) Port With Access Line Connection as defined in Section D.2 and as a Port Only Connection as defined in Section D.3.

ATM CRS is a fast-packet, cell-based technology that can support user applications requiring high-bandwidth, high-performance transport and switching. This connectivity is provided via Permanent Virtual Circuits (PVCs) and/or Switched Virtual Circuits (SVCs) that are implemented over access facilities and switches that are dedicated to high-speed telecommunications services.

UNI Port With Access Line Connections, UNI IMA Port With Access Line Connections, UNI Port Only Connections, PVCs and SVCs are further described in Section D.

(N)

¹ For definition, see Section 2.6 of this tariff.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(D) Service Components

The major components of ATM CRS are:

UNI Port With Access Line Connection
UNI IMA Port With Access Line Connection
UNI Port Only Connection
Permanent Virtual Circuit (PVC)
Switched Virtual Circuit (SVC)
Effective Bandwidth

(1) UNI Port With Access Line Connection

UNI Port With Access Line Connections are available at the DS1, DS3, OC3c, and OC12c levels and provide dedicated transport between CDL and an ATM CRS hub. There are two types of UNIs: Full and Incremental. The Full UNI includes all available bandwidth in one rate, and the Incremental UNI is sold and provisioned with PVC and/or SVC bandwidth increments. The DS1 UNI is not offered in increments. UNI Port with Access Line Connection may be ordered under a One (1), Three (3) or Five (5) year term commitment period.

In order for Customer traffic to be carried on the network, each Incremental UNI requires at least one 5 Mbps increment of either PVC or SVC bandwidth. The Customer may elect to subscribe to multiple PVCs. The SVC feature is established over the UNI via connection identifiers, which enables the Customer to have virtual connections to various locations.

UNIs are provided at nominal data rates of 1.5 Mbps (DS1), 45 Mbps (DS3), 155 Mbps (OC3c), or 622 Mbps (OC12c). OC3c and OC12c are provided as a concatenated signal in STS-3c and STS-12c (Synchronous Transport Signal) formats, respectively. The actual throughput into CRS is less than the line rate for the UNI provided.

The rates and charges for a UNI are differentiated by the capacity of the UNI, the location where the UNI originates (i.e., Customer-designated premises) and mileage ranges (expressed as tiers) associated with extending the UNI to the wire center designated as the ATM CRS hub.

The OC3c and OC12c UNI Port With Access Line Connections are provisioned on Protected or Protected Diverse Synchronous Optical Network (SONET). SONET is a standards-based fiber optic communication network that transports both asynchronous and synchronous digital signals using the Synchronous Transport Signal (STS) format. ATM OC3c and OC12c Protected SONET UNI Port With Access Line Connections are provisioned over SONET as a survivable service with a non-diverse alternate facility between the central office and the Customer premises. ATM OC3c and OC12c Protected Diverse SONET UNI Port With Access Line Connections are provisioned over SONET as a survivable service with an alternate and diverse path between the ATM CRS hub and the Customer premises.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

(D) Service Components Continued

(2) UNI Inverse Multiplexing ATM (IMA) Port With Access Line Connection

UNI IMA Port With Access Line Connection permits the provisioning of bandwidth greater than DS1 and less than DS3 by binding together multiple DS1 facilities. The inverse multiplexer at each end of the connection aggregates and de-aggregates multiple parallel DS1 leased lines into a single higher speed link. IMA will be offered as full bandwidth only. Two to six DS1 facilities will be permitted in an IMA group providing nominal aggregated bandwidth from three to nine megabits per second. IMA allows for all class of service parameters up to the combined nominal line rate of the aggregated DS1s and all PVCs and/or SVCs that will fit within the bandwidth. Ordering of DS1s within an IMA group must be done in ascending order. Disconnecting DS1s within an IMA group must be done in a descending order. Customer must purchase a minimum of two IMA DS1s.

Requests to change existing UNI Port With Access Line Connections to UNI IMA Port With Access Line Connections will be treated as a disconnect and a new install. Termination liability charges, as set forth in Section 2.8 of this tariff may apply.

(3) UNI Port Only Connection

Port Only Connections can be established as a User Network Interface (UNI) arrangement. The UNI Port Only connection provides an ATM Cell Relay Network connection based on the port connection speeds of DS1, DS3, OC3c and OC12c. The ATM port speed will be consistent with the channel speed of the access channel. The actual throughput of Customer traffic cannot exceed the bandwidth of the access channel and port speed.

UNI Port Only Connections are available as either Incremental or Full. This refers to the bandwidth that is required to provision PVCs on the port. Incremental ports come with no bandwidth and bandwidth is purchased in increments based on Customer bandwidth requirements. Full ports come with all bandwidth included up to the maximum rate of the port. Each port can accommodate multiple PVCs or SVCs depending on the bandwidth purchased. UNI Port Only connections are available on a One (1) year, Three (3) year and Five (5) year term.

Customers may access Port Only Connections via Company-provided digital access facilities or via facilities provided by another carrier. When access facilities are provided by the Company, the associated regulations, rates and charges under the appropriate Company Tariff shall apply in addition to the regulations, rates and charges associated with ATM CRS. Company-provided access facilities may also be provisioned on an Individual Case Basis (ICB) where access facilities are not generally available under the applicable tariff. Interconnection charges to connect access line services provided by the Company or another carrier may apply and will be billed separately. Any special construction or nonstandard charges assessed by the carrier supplying the access facilities will be the responsibility of the Customer.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(D) Service Components Continued

(N)

(4) Permanent Virtual Circuit (PVC)

The PVC defines a virtual connection across a UNI between the Customer premises and Company's ATM CRS hub. Each UNI requires at least one PVC in order for Customer traffic to traverse the network. Each ATM cell carries a unique tag which identifies that ATM CRS cell as belonging to a particular PVC. A PVC is a logical channel connecting two or more Customer-designated premises with virtual connections through a Company provided ATM CRS switch(es). The PVCs may be provided on a point-to-point or point-to-multipoint basis. When a PVC is provided as a point-to-point virtual connection, transmission is bi-directional allowing for ATM CRS cells to be transmitted or received over the same PVC. For point-to-multipoint virtual connections, transmission is provided as transmit only. The virtual connection is set up by the Company based on information contained on a Telecommunications Service Request (TSR) rather than by dial-up signaling.

PVCs consist of two types: Virtual Channel Connections (VCCs) and Virtual Path Connections (VPCs). A VCC is a type of PVC with independent identity and defined service parameters that are provisioned via a TSR and cannot be altered by the Customer without additional TSR activity. A VPC is a type of PVC with defined service parameters that is provisioned via a TSR. Customers may provision their own virtual channels within the VPC, provided that the sum of the service parameters of all of the virtual channels does not exceed the aggregate service parameters of the VPC.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under federal jurisdiction subject to the rates, terms and conditions from the Company's FCC tariff.

(5) Switched Virtual Circuit (SVC)

SVCs are similar in structure to PVCs, but SVCs are provisioned on demand by Customer premises equipment that signals the ATM cell relay network to set up and tear down logical connections. The network will respond to these requests by provisioning a virtual connection across the network based on the class of service parameters requested, provided that sufficient network resources are available to establish the connection. Each UNI that is SVC signal enabled will be provided with a SVC International Code Designator (ICD) prefix that will uniquely identify the UNI. Customers must use this Company assigned prefix when requesting SVC virtual connections across the Company Cell Relay Network. Each Constant Bit Rate (CBR) and Variable Bit Rate (VBR) SVC will be limited to a maximum Peak Cell Rate of 20 Mbps and a maximum Sustained Cell Rate of 20 Mbps.

Closed User Group (CUG) capability is a feature associated with SVCs. A CUG provides the ability to contain SVC calls between certain UNIs. A CUG functionally groups UNIs into logical associations and allows calling privileges to be specified network wide. A CUG provides a network-wide mechanism for access control. CUGs provide a logical grouping of UNIs, creating a SVC community of interest.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(D) Service Components (Continued)

(N)

(6) Effective Bandwidth

Effective bandwidth is the bandwidth reserved for each logical connection (PVC or SVC) that is set up across a UNI. It is based on the Peak Cell Rate (PCR), Sustained Cell Rate (SCR), Maximum Burst Size (MBS), and the class of service parameters selected, i.e., Constant Bit Rate (CBR), Variable Bit Rate real time (VBRrt), Variable Bit Rate non-real time (VBRnrt), or Unspecified Bit Rate (UBR). The total effective bandwidth of all the logical connections on a UNI cannot exceed the total bandwidth available on the UNI. Effective bandwidth prices do not vary by class of service level selected. However, effective bandwidth is consumed in varying degrees based on the class of service parameters selected. The higher the class of service, the more bandwidth will be reserved. A CBR PVC with the same PCR as a VBR PVC will reserve more effective bandwidth.

(E) Technical Specifications

The technical specifications for ATM CRS are delineated in Technical References TR-NWT-001112, GR-1110-CORE, GR-1248-CORE, and SR-3330.

The technical specifications for DS1 and DS3 signals are delineated in TR-INS-000342.

The technical specifications for OC3c and OC12c signals are delineated in GR-253-CORE, Issue 2.

The technical specifications for UNIs are delineated in ATM Forum ATM User Network Interface Specifications V3.0, af-uni-0010.001, and V3.1, af-uni-0010.002. Interface specifications for Customer-provided ATM CRS compatible premises equipment or devices must also be in accordance with the specifications defined in these documents.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(F) Provision of Service

(N)

ATM CRS includes:

- (1) A least one UNI Port With Access Line or Port Only which has a maximum nominal capacity for either DS1 (1.5 Mbps), DS3 (45 Mbps), OC3c (155 Mbps), OC12c (622 Mbps), or two to six UNI IMA Ports with Access Lines which has a capacity of 3Mbps to 9Mbps. The OC3c and OC12c UNIs are provisioned over Protected or Protected Diverse SONET. The Protected and Protected Diverse SONET facilities provide a backup facility that automatically switches in the event of a failure on the primary facility.
- (2) Unlimited usage on purchased bandwidth.
- (3) Incremental UNIs must have at least one increment of effective bandwidth (either PVC or SVC) in order for traffic to traverse the network. The DS1, DS3, OC3c, and OC12c Full UNIs are equipped with the full effective bandwidth.
- (4) Either one or more PVCs. When PVC bandwidth is purchased, one or more PVCs must be selected for Customer traffic to traverse the network.
- (5) Two types of PVCs, (i) Virtual Channel Connections (VCCs) and (ii) Virtual Path Connections (VPCs), which support the following Classes of Service:
 - a. Constant Bit Rate (CBR)
 - b. Variable Bit Rate real time (VBRrt)
 - c. Variable Bit Rate non-real time (VBRnrt)
 - d. Unspecified Bit Rate (UBR)

(G) Tier Structure for Local Serving Offices

Wire centers that provide ATM CRS have been designated by the Company as ATM hubs. Each local serving office has been placed in a Tier 1, 2 or 3, based on its location relative to the closest ATM hub.

(H) Service Functionality

The ATM CRS functionality consists of transporting 53-byte cells of information from the Customer location to a Company ATM hub over a UNI. The traffic is routed in the switch to another UNI, or other suitable network connection.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(1) Class of Service Parameters

(N)

(1) Constant Bit Rate (CBR)

a. Peak/Sustained Cell Rate:

Customer specified in increments of 64 Kbps up to the maximum speed of the UNI.

b. Non-conforming cells:

Discarded

c. Cell Delay Variation Tolerance (CDVT):

DS1 = 600 microseconds

DS3 = 600 microseconds

OC3c = 600 microseconds

OC12c = 600 microseconds

(2) Variable Bit Rate (VBR) Real Time/Non-Real Time

a. Sustained Cell Rate (SCR):

Customer specified in increments of 64 Kbps up to the maximum speed of the UNI.

b. Peak Cell Rate (PCR):

Customer selectable in increments of 64 Kbps up to line rate. Default is 200% of SCR for PVCs.
(The ratio of PCR to SCR will be signaled by CPE for SVCs. Therefore there is no default value.)

c. Non-conforming cells:

Discarded

d. Cell Delay Variation Tolerance (CDVT):

DS1 = 600 microseconds

DS3 = 600 microseconds

OC3c = 600 microseconds

OC12c = 600 microseconds

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(J) Conditions

(1) ATM CRS is available where facilities and conditions permit. For locations where the Customer requests ATM CRS and digital or SONET facilities are not available, special construction charges may apply.

(2) Maintenance Window

To meet the Customers' requirements, occasional network upgrades must be performed. Network upgrades are needed to provide improved performance and new features. Generally these upgrades will be performed between the hours of 11 PM and 8 AM. Network upgrades are planned to provide Customers reasonable and timely notification in order to minimize any impact on the Customers' service.

(K) Obligations of the Customer

The Customer must provide the necessary compatible premise equipment or ATM CRS device capable of interfacing with the Company's ATM CRS.

(L) Obligations of the Company

Company is responsible for service up to and including the network interface. Company's responsibility is limited to the furnishing of communications facilities and switches suitable for ATM CRS.

ATM CRS is supported by the Company's Single Point of Contact (SPOC) center, which provides continuous support for ATM CRS 24 hours per day, seven days per week (24x7) with the ability to manage all of the Customer's ATM CRS as a single network. The SPOC performs maintenance, trouble resolution and network management functions on a 24x7 basis. Service order processing and network installation functions are performed only during normal business hours.

(M) Application of Rates and Charges

(1) Rate Elements

The following rate elements are applicable to ATM CRS:

- UNI Port With Access Line Connection
- UNI Inverse Multiplexing ATM (IMA) Port With Access Line Connection
- UNI Port Only Connection
- Permanent Virtual Circuits (PVCs)
- Effective Bandwidth for Incremental UNIs
- Closed User Groups (CUG)
- Administrative Charge

(N)

(N)

16. ADVANCED COMMUNICATIONS NETWORKS**16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)**

(M) Application of Rates and Charges (Continued)

(N)

(1) Rate Elements (Continued)

a. UNI Port With Access Line Connection

A monthly rate applies on a per Port With Access Line basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental, SONET - Protected or Protected Diverse) of the access connection. UNI Port and Access is offered as a One (1) year, Three (3) year or Five (5) year term commitment period. Nonrecurring charges are not applicable.

b. UNI Inverse Multiplexing ATM (IMA) Port With Access Line Connection

A monthly rate applies on a per DS1 basis for each sequential DS1 ordered up to the desired bandwidth (i.e., 3 Mbps, 4.5 Mbps, 6 Mbps, 7.5 Mbps or 9 Mbps). IMA is offered as a One (1) year, Two (2) year, Three (3) year or Five (5) year term commitment period. DS1s within an IMA group added subsequent to the initial installation of the first two DS1s will have their own term period. Nonrecurring charges are not applicable.

c. UNI Port Only Connection

A monthly rate applies on a per Port Only basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental) of the port only connection. UNI Port Only is offered as a One (1) year, Three (3) year or Five (5) year term commitment period. Nonrecurring charges are not applicable.

d. Permanent Virtual Circuits (PVCs)

An Administrative charge applies per order. The Administrative charge does not apply when PVCs are installed at the same time as the respective UNIs.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under the federal jurisdiction, subject to the rates, terms and conditions from the Company's FCC tariff.

e. Effective Bandwidth for Incremental UNIs

A monthly rate applies for incremental UNIs for CBR, VBR or UBR PVC and SVC bandwidth at 5 Mbps for DS3 or OC3c and at 15 Mbps for OC12c. Nonrecurring charges are not applicable.

The monthly rate for PVC and/or SVC UBR bandwidth will be waived when the combined VBR and CBR effective bandwidth purchased (either SVC or PVC or any combination) is equal to at least 50% of the effective bandwidth capacity of the UNI. When UBR bandwidth is made available, it is available for both PVCs and SVCs. Nonrecurring charges are not applicable.

f. Closed User Groups (CUG)

A nonrecurring charge applies per order and per UNI for each CUG established and for each subsequent CUG member added to a CUG. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(M) Application of Rates and Charges (Continued)

(N)

(1) Rate Elements (Continued)

(g) Administrative Charge

A nonrecurring charge applies (per order, per UNI) when Customer initiates a change to one or more of the following: UNI bandwidth, PVCs, class of service parameters, and/or other service parameters that do not require changes in physical facilities and that can be provisioned by Company without the dispatch of a technician to Customer location. For each service order issued, the charge will be one Administrative Charge regardless of the number of changes made. The Administrative Charge does not apply for those items ordered on the same service order with the installation of a UNI.

(2) Minimum Period

The minimum period for ATM CRS is one month.

(3) Term Commitment Period

The ATM CRS UNI Port With Access Line Connection, UNI IMA Port With Access Line Connection and UNI Port Only Connection rate elements are available under a Term Commitment Period.

Term commitments of One (1), Three (3) and Five (5) years are available to all Customers at the applicable rates set forth in Section 17.5.

Rate elements must be ordered under the same term commitment period.

a. Termination Liability

In the event ATM CRS is terminated by the Customer prior to completion of the initial term commitment period, Termination Liability charges, as set forth in General Regulations, Section 2.8 of this tariff will apply.

(4) Moves

When the Customer requests a move or relocation of the UNI, the move or relocation will be treated as a termination of the existing service and the establishment of a new service. Service and a new term commitment period will commence.

(5) Special Facilities Routing

The Customer may request that the facilities used to provide ATM CRS be specially routed. Additional charges will apply under an ICB contract arrangement see Section 14 Special Construction in this tariff for terms and conditions.

(6) Acceptance Testing

Upon the Customer's request, the Company will cooperatively test, at the time of installation at no additional charge. Acceptance tests will include tests for the parameters applicable to the Service as specified in the order for Service.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(1) UNI Port with Access Line Connection

| | One-Year Monthly Rate | Three-Year Monthly Rate | Five-Year Monthly Rate |
|------------------------------|-----------------------------|-------------------------------|------------------------------|
| (a) DS1, each | | | |
| Full | | | |
| Tier 1 (0 to 5 Miles) | \$ 665.00 | \$ 565.00 | \$ 532.00 |
| Tier 2 (Over 5 to 25 Miles) | 665.00 | 565.00 | 532.00 |
| Tier 3 (Over 25 to 50 Miles) | 665.00 | 565.00 | 532.00 |
| (b) DS3, each | | | |
| Full | | | |
| Tier 1 (0 to 5 Miles) | 3,355.00 | 2,852.00 | 2,684.00 |
| Tier 2 (Over 5 to 25 Miles) | 3,947.00 | 3,355.00 | 3,158.00 |
| Tier 3 (Over 25 to 50 Miles) | 4,736.00 | 4,026.00 | 3,789.00 |
| Incremental | | | |
| Tier 1 (0 to 5 Miles) | 2,815.00 | 2,393.00 | 2,252.00 |
| Tier 2 (Over 5 to 25 Miles) | 3,312.00 | 2,815.00 | 2,649.00 |
| Tier 3 (Over 25 to 50 Miles) | 3,974.00 | 3,378.00 | 3,179.00 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(1) UNI Port with Access Line Connection (Continued)

| | One-Year Monthly Rate | Three-Year Monthly Rate | Five-Year Monthly Rate |
|--------------------------------|-----------------------------|-------------------------------|------------------------------|
| c. OC3c, each | | | |
| SONET | | | |
| Full, Protected | | | |
| Tier 1 (0 to 5 Miles) | \$ 6,330.00 | \$ 5,381.00 | \$ 5,064.00 |
| Tier 2 (Over 5 to 25 Miles) | 7,447.00 | 6,330.00 | 5,958.00 |
| Tier 3 (Over 25 to 50 Miles) | 8,936.00 | 7,596.00 | 7,149.00 |
| Full, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 7,730.00 | 6,571.00 | 6,184.00 |
| Tier 2 (Over 5 to 25 Miles) | 9,094.00 | 7,730.00 | 7,275.00 |
| Tier 3 (Over 25 to 50 Miles) | 10,913.00 | 9,276.00 | 8,730.00 |
| Incremental, Protected | | | |
| Tier 1 (0 to 5 Miles) | 4,410.00 | 3,749.00 | 3,528.00 |
| Tier 2 (Over 5 to 25 Miles) | 5,188.00 | 4,410.00 | 4,151.00 |
| Tier 3 (Over 25 to 50 Miles) | 6,226.00 | 5,292.00 | 4,981.00 |
| Incremental, Protected Diverse | | | |
| Tier 1 (0 to 5 Miles) | 5,810.00 | 4,939.00 | 4,648.00 |
| Tier 2 (Over 5 to 25 Miles) | 6,835.00 | 5,810.00 | 5,468.00 |
| Tier 3 (Over 25 to 50 Miles) | 8,202.00 | 6,972.00 | 6,562.00 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(1) UNI Port with Access Line Connection (Continued)

| | One-Year Monthly Rate | Three-Year Monthly Rate | Five-Year Monthly Rate |
|---------------------------------------|-----------------------------|-------------------------------|------------------------------|
| d. OC12c, each | | | |
| <u>SONET</u> | | | |
| <u>Full, Protected</u> | | | |
| Tier 1 (0 to 5 Miles) | \$ 19,560.00 | \$ 16,626.00 | \$ 15,648.00 |
| Tier 2 (Over 5 to 25 Miles) | 23,012.00 | 19,560.00 | 18,409.00 |
| Tier 3 (Over 25 to 50 Miles) | 27,614.00 | 23,472.00 | 22,091.00 |
| <u>Full, Protected Diverse</u> | | | |
| Tier 1 (0 to 5 Miles) | 21,160.00 | 17,986.00 | 16,928.00 |
| Tier 2 (Over 5 to 25 Miles) | 24,894.00 | 21,160.00 | 19,915.00 |
| Tier 3 (Over 25 to 50 Miles) | 29,873.00 | 25,392.00 | 23,898.00 |
| <u>Incremental, Protected</u> | | | |
| Tier 1 (0 to 5 Miles) | 13,000.00 | 11,050.00 | 10,400.00 |
| Tier 2 (Over 5 to 25 Miles) | 15,294.00 | 13,000.00 | 12,235.00 |
| Tier 3 (Over 25 to 50 Miles) | 18,353.00 | 15,600.00 | 14,682.00 |
| <u>Incremental, Protected Diverse</u> | | | |
| Tier 1 (0 to 5 Miles) | 14,600.00 | 12,410.00 | 11,680.00 |
| Tier 2 (Over 5 to 25 Miles) | 17,176.00 | 14,600.00 | 13,741.00 |
| Tier 3 (Over 25 to 50 Miles) | 20,612.00 | 17,520.00 | 16,489.00 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(N)

(2) UNI Inverse Multiplexing ATM (IMA)

| | One-Year Monthly Rate | Two-Year Monthly Rate | Three-Year Monthly Rate | Five-Year Monthly Rate |
|--|-----------------------------|-----------------------------|-------------------------------|------------------------------|
| a. First DS1, each (1.5 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | \$ 684.95 | \$ 650.70 | \$ 581.95 | \$ 547.96 |
| Tier 2 (Over 5 to 25 Miles) | 684.95 | 650.70 | 581.95 | 547.96 |
| Tier 3 (Over 25 to 50 Miles) | 684.95 | 650.70 | 581.95 | 547.96 |
| b. Second DS1, each (3 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| Tier 2 (Over 5 to 25 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| Tier 3 (Over 25 to 50 Miles) | 650.00 | 617.50 | 565.00 | 532.00 |
| c. Third DS1, each (4.5 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| d. Fourth DS1, each (6 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| e. Fifth DS1, each (7.5 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| f. Sixth DS1, each (9 Mbps total bandwidth) | | | | |
| <u>Full</u> | | | | |
| Tier 1 (0 to 5 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 2 (Over 5 to 25 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |
| Tier 3 (Over 25 to 50 Miles) | 625.10 | 593.85 | 531.10 | 500.08 |

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

| <u>(N) Rates and Charges</u> | | | | | <u>(N)</u> |
|-------------------------------------|-------------|-----------------|-------------------|------------------|------------|
| <u>(3) UNI Port only Connection</u> | | | | | |
| | | <u>One-Year</u> | <u>Three-Year</u> | <u>Five-Year</u> | |
| | | <u>Monthly</u> | <u>Monthly</u> | <u>Monthly</u> | |
| | | <u>Rate</u> | <u>Rate</u> | <u>Rate</u> | |
| <u>a. DS1, each</u> | | | | | |
| | Full | \$ 347.00 | \$ 295.00 | \$ 278.00 | |
| <u>b. DS3, each</u> | | | | | |
| | Full | 1,224.00 | 1,040.00 | 979.00 | |
| | Incremental | 588.00 | 500.00 | 471.00 | |
| <u>c. OC3c, each</u> | | | | | |
| | Full | 3,200.00 | 2,720.00 | 2,560.00 | |
| | Incremental | 941.00 | 800.00 | 753.00 | |
| <u>d. OC12c, each</u> | | | | | |
| | Full | 11,247.00 | 9,560.00 | 8,998.00 | |
| | Incremental | 3,529.00 | 3,000.00 | 2,824.00 | <u>(N)</u> |

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N)

| | |
|---|----------------------------------|
| (N) Rates and Charges | |
| (4) Permanent Virtual Circuits (PVCs)-per order | |
| | Nonrecurring Charge ¹ |
| a. Virtual Channel Connections (VCCs) | |
| Constant Bit Rate (CBR) | \$ 75.00 |
| Variable Bit Rate real time (VBRrt) | 75.00 |
| Variable Bit Rate non-real time (VBRnrt) | 75.00 |
| Unspecified Bit Rate (UBR) | 75.00 |
| b. Virtual Path Connections (VPCs) | |
| Constant Bit Rate (CBR) | 75.00 |
| Variable Bit Rate real time (VBRrt) | 75.00 |
| Variable Bit Rate non-real time (VBRnrt) | 75.00 |
| Unspecified Bit Rate (UBR) | 75.00 |

¹—Applies per order and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. If multiple UNIs are involved, a nonrecurring charge will apply to each UNI Port on which the virtual connections will reside. The nonrecurring charge does not apply when PVCs are installed at the same time as the respective UNIs.

(N)

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)

(N) Rates and Charges

(5) Effective Bandwidth for Incremental UNIs

| | Monthly Rate | Nonrecurring Charge |
|--|--------------|---------------------|
| a. CBR or VBR PVC Bandwidth | | |
| DS3, OC3c – 5 Mbps | \$ 80.00 | N/A |
| OC12c – 15 Mbps | 200.00 | N/A |
| b. CBR or VBR SVC Bandwidth | | |
| DS3, OC3c – 5 Mbps | 80.00 | N/A |
| OC12c – 15 Mbps | 200.00 | N/A |
| c. UBR PVC and SVC Bandwidth, Bandwidth up to the UNI line rate | | |
| DS3 | 400.00 | N/A |
| OC3c | 1,200.00 | N/A |
| OC12c | 4,000.00 | N/A |
| 6. Closed User Groups (CUG)¹, per order, per UNI | | |
| a. Each CUG | N/A | \$75.00 |
| b. Each subsequent CUG member added to a CUG | N/A | 75.00 |
| 7. Administrative Charge², per order | | |
| | N/A | 75.00 |

¹—Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

²—Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply for those items ordered on the same service order with the installation of a UNI.

(N)

(N)