
ACCESS TARIFF

5. ACCESS ORDERING

5.1 General

This section sets forth the regulations and order related charges for services set forth in other sections of this tariff. Order related charges are in addition to other applicable charges for the services provided.

An Access Order is an order to provide the Customer with Switched or Special Access or Access Related Service or to provide changes to existing services.

A customer may order any number of services of the same type and between the same premises on a single Access Order. All details for services for a particular order must be identical except for those for multipoint service.

The customer shall provide to the Telephone Company the order information required in 5.2 following, and in addition the customer must also provide:

- Customer name and premises address(es).
- Billing name and address (when different from customer name and address).
- Customer contact name(s) and telephone number(s) for the following provisioning activities: order negotiation, order confirmation, interactive design, installation and billing.

5.1.1 Service Installation

The Telephone Company will provide the Access Service in accordance with the customer's requested service date, subject to the constraints established by the Telephone Company schedule of applicable service dates.

The Telephone Company shall make available to all customers upon request, a schedule of applicable service intervals for Switched and Special Access. The schedule shall specify the applicable service interval for services and the quantities of services that can be provided by a requested service date. Any associated material will be provided upon request and within a reasonable period of time.

The Telephone Company will not accept orders for service dates which exceed the applicable service date by more than six months.

Access Services will be installed during Telephone Company business days. If a customer requests that installation be done outside of scheduled work hours, and the Telephone Company agrees to this request, the customer will be subject to applicable Additional Labor Charges as set forth in 13.4.2 following.

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ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.1 **General** (Continued)

5.1.2 **Expedited Orders**

When placing an Access Order, a Customer may request a service date that is prior to the applicable service date. Additionally, a Customer may also request an earlier service date on a pending Access Order. In this case, an Access Order modification as set forth in 5.4 would be required. If the Telephone Company determines that the service can be provided on the requested date and that additional labor cost or extraordinary costs are required to meet the requested service date, the Customer will be notified and will be provided with an estimate of the additional charges involved. Charges will be billed at actual cost, not to exceed 10 percent over estimated charges. Such additional charges will be determined and billed to the Customer as explained following.

To calculate the additional labor charges, the Telephone Company will, upon authorization from the customer to incur the additional labor charges, keep track of the additional labor hours used to meet the request of the customer and will bill the Customer at the applicable Additional Labor charges as set forth in 13.4.2.

When the request for expediting occurs subsequent to the issuance of the Access Order, a Service Date Change Charge as set forth in 5.6.1 (B) following also applies.

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5. **ACCESS ORDERING** (Continued)

5.1 **General** (Continued)

5.1.3 **Selection of Facilities for Access Orders**

The option to request a specific transmission path or channel is not provided except for High Capacity Facilities Special Access, or as provided for under Special Facilities Routing as set forth in Section 11.

When there are High Capacity facilities to a hub on order or in service for the Customer's use, the Customer may request a specific channel or transmission path be used to provide the Switched or Special Access Service requested in an Access Order. The Telephone Company will make a reasonable effort to accommodate the Customer request.

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5. **ACCESS ORDERING** (Continued)

5.2 Ordering Requirements

5.2.1 Switched Access Service

(A) Feature Group A

Orders for Feature Group A Switched Access Service shall be in lines.

When placing an order for Feature Group A Switched Access Service, the customer shall provide the following information in addition to that set forth in 5.1 preceding:

- The number of lines and the first point of switching (i.e., Dial Tone Office);
- Optional Features;
- Whether the Off-hook Supervisory Signaling is provided by the Customer's equipment before the called party answers, or is forwarded by the Customer's equipment when the called party answers;
- Lines to be provided as single lines;
- Lines to be arranged in multiline hunt group arrangements;
- Directionality (1-way, 2-way, etc.);
- A projected Percentage of Interstate Use (PIU) as set forth in 2.3.11 preceding; and
- The Interexchange Carrier to which the service is connected or, in the alternative, specify the means by which the FGS access communications are transported.

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5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.1 **Switched Access Service** (Continued)

(B) **Feature Group B**

Order for Feature Group B Switched Access Service shall be in trunks.

When placing an order for Feature Group B Service, the Customer shall provide, the following information in addition to that set forth in 5.1 preceding:

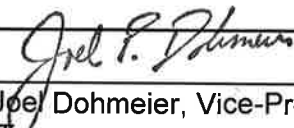
- The number of trunks;
- The end office, except when FGB is provided through a centralized equal access arrangement, when direct routing is desired;
- The access tandem office when tandem routing is desired;
- Optional Features;
- Trunks to be provided as single trunks;
- Trunks to be arranged in trunk group arrangements;
- Directionality (1-way, 2-way, etc.);
- A projected Percentage of Intrastate Use as set forth in 2.3.11 preceding;
- The Interexchange Carrier to which the service is connected or, in the alternative, specify the means by which the FGB access communications are transported;
- The access code dialing arrangement (i.e., a uniform access code of 950-XXXX); and
- For Feature Group B switched access service to a Wireless Switching Center directly interconnected to a Telephone Company access tandem office, the customer shall provide information to the Telephone Company indicating the NXX code(s) to be accessed.

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5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.1 **Switched Access Service** (Continued)

(C) **Feature Group C and Feature Group D**

When placing an order for Feature Group C and D Switched Access Service, the Customer shall provide:

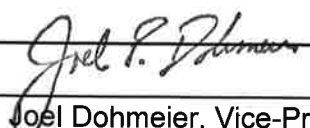
- The number of BHMC from the customer designated premises to the end office by Feature Group and by type of BHMC, or
- The number of trunks desired between customer designated premises and an entry switch.
- Optional Features;
- A projected percentage of intrastate use as set forth in 2.3.11 preceding; and
- For Feature Group D switched access service to a Wireless Switching Center (WSC) directly interconnected to a Telephone Company access tandem office, the customer shall provide information to the Telephone Company indicating the NXX code(s) to be accessed.

When BHMC information is provided it is used to determine the number of transmission paths as set forth in 6.4 following.

The BHMC may be determined by the Customer in the following manner. For each day (8am to 11pm, Monday through Friday, excluding national holidays), the Customer shall determine the highest number of minutes of use for a single hour (e.g., 55 minutes in the 10-11 am hour). The customer shall, for the same hour period (i.e., busy hour) for each of twenty consecutive business days, pick the twenty consecutive business days in a calendar year which add up to the largest number of minutes of use. Both originating and terminating minutes shall be included. The customer shall then determine the average busy hour minutes of capacity (i.e., BHMC) by dividing the largest number of minutes of use figure for the same hour period for the consecutive 20 business day period by 20. This computation shall be performed for each end office the Customer wishes to serve. These determinations thus establish the forecasted BHMC for each end office.

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5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.1 **Switched Access Service** (Continued)

(C) **Feature Group C and Feature Group D** (Continued)

Customers other than MTS/WATS providers may, at their option, order FGD by specifying the number of trunks desired between customer designated premises and an end office, access tandem or operator services location. When ordering by trunk quantities rather than BHMC quantities to an access tandem, the customer must also provide the Telephone Company an estimate of the amount of traffic it will generate to and/or from each end office subtending the access tandem to assist the Telephone Company in its own efforts to project further facility requirements.

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5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.2 **Special Access Service**

When placing an order for Special Access Service the Customer must specify:

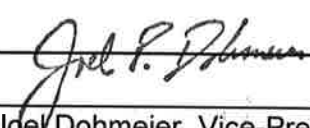
- the customer designated premises or hubs involved;
- type of service (e.g., Voice Grade, High Capacity, etc.);
- the channel interface(s);
- technical specifications package;
- options desired; and
- for multipoint services, the channel interface at each customer designated premises may, at the request of the customer, be different but all such interfaces shall be compatible.

Where the Special Access Service is exempt from the Special Access Surcharge, as set forth in 7.3, the customer shall furnish written certification to that effect as set forth in 7.3.3.

When ordering bridging and/or multiplexing, the Customer must specify that telephone company hub(s) from which they desire service. The Customer must specify only those hubs that provide the type of service offered and interconnect with the wire center(s) from which the Customer requires service. The Wire Center section of NECA Tariff FCC No. 4 identifies hub types (e.g., Digital Data, High Capacity Multiplexing, etc.) and hub levels (i.e., Hub, Terminus Hub, Intermediate Hub and Super-Intermediate Hub). Additionally, the Subtending section of NECA Tariff FCC No. 4 identifies wire centers and the Intermediate and/or Super-Intermediate Hubs with which they interconnect.

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5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.3 **WATS or WATS-Type Services**

Special Access Service may be ordered for connection with FGA, FGB, FGC or FGD Switched Access Service at Telephone Company designated WATS Serving Offices (WSOs) for the provision of WATS or WATS-type Services and may be ordered separately by a customer other than the customer which orders the FGA, FGB, FGC or FGD Switched Access Service. For the Special Access Service, the Customer shall specify:

- the customer designated premises at which the Special Access service terminates;
- the type of line (i.e., two-wire or four-wire);
- the type of calling (i.e., originating, terminating or two-way); and
- type of Supervisory Signaling.

When the optional screening, switching and/or recording functions are not provided at the customer serving wire center, Channel Mileage, as set forth in 7.2.1(B), must be ordered between that wire center and the nearest WSO where the screening, switching, and/or recording functions can be provided.

5.2.4 **Mixed Use Facilities – Switched and Special Access**

Mixed use is the provision of both Switched and Special Access Services over the same High Capacity facilities. Mixed use facilities to a hub will be ordered and provided as Special Access Service. Where mixed use is employed, individual services utilizing these facilities must be ordered either as Switched Access Service or Special Access Service as further elaborated and set forth in 7.2.7. When placing the order for the individual service(s), the Customer must specify a channel assignment for each service ordered.

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.2 **Ordering Requirements** (Continued)

5.2.5 **Miscellaneous Services**

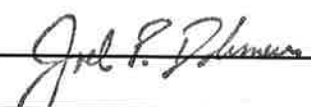
Testing Service, Additional Labor, Telecommunications Service Priority and Special Facilities Routing shall be ordered with an Access Order or may subsequently be added to a pending order at any time up to and including the service date for the access service. When miscellaneous services are added to a pending order a service date change may be required. When a service date change is required, the service date change charge as set forth in 5.6.1(B) following will apply. When miscellaneous services are added to a pending order, charges for a design change as set forth in 5.6.1(C) following will apply when an engineering review is required. If both the service date change and an engineering review are required, both the Service Date Change Charge and the Design Change Charge will apply as set forth in 5.6.1(B) and 5.6.1(C) following.

The rates and charges for these services, as set forth in this other sections of this tariff, will apply in addition to the ordering charges set forth in this section and the rates and charges for the Access Service with which they are associated.

Additional Engineering is not an ordering option, but will be applied to an Access Order when the Telephone Company determines that Additional Engineering is necessary to accommodate a customer request. Additional Engineering will only be required as set forth in 13.1 following. When it is required, the customer will be so notified and will be furnished with a written statement setting forth the justification for the Additional Engineering as well as an estimate of the charges. If the customer agrees to the Additional Engineering, a firm order will be established. If the customer does not want the service or facilities after being notified that Additional Engineering of Telephone Company facilities is required, the order will be withdrawn and no charges will apply. Once a firm order has been established, the total charge to the customer for the Additional Engineering may not exceed the estimated amount by more than 10%.

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5. **ACCESS ORDERING** (Continued)

5.3 **Access Orders For Services Provided By More Than One Telephone Company**

Access Services provided by more than one Telephone Company are services where one end of the Local Transport or Channel Mileage element is in the operating territory of one Telephone Company and the other end of the element is in the operating territory of a different Telephone Company or where the Interim NXX Translation service and the end office are not provided by the same Telephone Company.

The ordering procedure for this service is dependent upon the billing arrangement, as set forth in 2.4.7 preceding, to be used by the Telephone Companies involved in providing the Access Service. The Telephone Company will notify the customer which of the ordering procedures will apply.

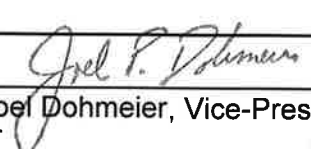
5.3.1 **Non Meet Point Billing Ordering – FGA**

The Telephone Company receiving the order from the customer will arrange to provide the service and bill the customer as set forth in 2.4.7(A)(1). The customer will place the order with the Telephone Company as follows:

For FGA Switched Access Service the Customer will place the order with the Telephone Company in whose territory the first point of switching is located. The first point of switching is the dial tone office.

When the first point of switching is not in the same Telephone Company's territory as the Interexchange Carrier premises, the customer must supply a copy of the order to the Telephone Company in whose territory the Interexchange Carrier premises is located and any other Telephone Company(s) involved in providing the service. When service is provided through a centralized equal access provider, the customer must supply a copy of the order to that provider.

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5. **ACCESS ORDERING** (Continued)

5.3 **Access Orders For Services Provided By More Than One Telephone Company**
(Continued)

5.3.2 **Meet Point Billing Ordering**

Each Telephone Company will provide its portion of the Access Service within its operating territory to an interconnection point(s) with the other Telephone Company(s). Billing Percentages will be determined by the Telephone Companies involved in providing the Access Service and listed in NECA Tariff FCC No. 4. Each Telephone Company will bill the Customer for its portion of the service as set forth in 2.4.7(A)(2). All other appropriate charges in each Telephone Company tariff are applicable.

For the service(s) ordered as set forth following, the Customer must also supply a copy of the order to the Telephone Company in whose operating territory a customer designated premises is located and any other Telephone Company(s) involved in providing the service. Additionally, when service is provided through a centralized equal access provider, the customer must supply a copy of that order to that provider.

- (A) For Feature Group A and B Switched Access Services, the Customer must place an order with the Telephone Company in whose territory the first point of switching is located (e.e., FGA-dial tone office, FGB-access tandem or end office). The Telephone Company will designate the first point(s) of switching for FGB Services where the Telephone Company elects to provide equal access through a centralized equal access arrangement. Those Telephone Company offices providing equal access through centralized arrangements are identified in NECA Tariff FCC No. 4.
- (B) For Feature Group C and D Switched Access Services, the Customer must place an order with the Telephone Company in whose territory the end office is located. Customers other than MTS/WATS providers may, at their option, order FGD to the access tandem. When ordered to the access tandem, and the access tandem and the end office are not in the same Telephone Company operating territory, the customer must also supply a copy of the order to each additional Telephone Company subtending the access tandem.

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5. **ACCESS ORDERING** (Continued)

5.3 Access Orders For Services Provided By More Than One Telephone Company
(Continued)

5.3.2 Meet Point Billing Ordering (Continued)

- (C) Customers ordering Special Access Service to be interconnected with Switched Access Services at Telephone Company designated WATS Serving Offices for the provision of WATS or WATS-type Services must place an order with each Telephone Company in whose territory the end office and the WATS Service are located, if they are not collocated.
- (D) Except for Special Access Service as set forth in (C) above or as set forth in (E) below, the customer may place the order for a Special Access Service with either Exchange Telephone Company.
- (E) For Special Access Service involving a hub(s) the customer must place the order with the Telephone Company(s) in whose territory the hub(s) is located.

5.4 Charges Associated with Access Ordering

5.4.1 Access Order Charge

The Access Order Charge is applied to all Customer requests for new Special and Switched Access Service. In addition, the Access Order Charge is applicable to Customer requests for additions, changes or rearrangements to existing Special and Switched Access Service with the following exceptions:

The Access Order Charge does not apply:

- When a Service Date Change Charge is applicable;
- When a Design Change Charge is applicable;
- To administrative changes as set forth in 6.7.1(C) and 7.2.2(B)(3);
- When a change to a pending order does not result in the cancellation of the pending order and the issuance of a new order;
- When a Miscellaneous Service Order Charge is applicable;
- When a PIC Change Charge is applicable;
- When a Telephone Company initiated network reconfiguration requires a Customer's existing access service to be reconfigured.

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.4 **Charges Associated with Access Ordering** (Continued)

5.4.1 **Access Order Charge** (Continued)

The Access Order Charge will be applied on a per order basis to each order received by the Telephone Company or copy of an order received by the Telephone Company pursuant to 5.3.1 preceding and 5.3.2 preceding and is in addition to other applicable charges as set forth in this and other sections of this tariff.

The Access Order Charge will be applied on a per order basis for any change, rearrangement or addition to the delivery of signaling to an existing STP Port.

5.4.2 **Miscellaneous Service Order Charge**

A Miscellaneous Service Order Charge, as set forth in 5.6.1(D), applies to any service, or combination of services, ordered simultaneously from Section 13 of this Tariff for which a service order is not already pending. The Miscellaneous Service Order Charge is an administrative charge designed to compensate for the expenses associated with service order issuance.

The charge always applies to the following services since a pending service order would not exist:

- Overtime Repair (13.2.2);
- Standby Repair (13.2.3);
- Testing and Maintenance with Other Telephone Companies (13.2.4);
- Other Labor (13.2.6);
- Maintenance of Service (13.3.2).

The Miscellaneous Service Order Charge will also apply to the following services if they are ordered subsequent to the initial installation of the associated access service, thereby necessitating the issuance of another service order:

- Telecommunications Service Priority (13.3.3)

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.4 **Charges Associated with Access Ordering** (Continued)

5.4.2 **Miscellaneous Service Order Charge** (Continued)

The charge does not apply to the following services since there would exist a pending service order:

- Additional Engineering (13.1);
- Overtime Installation (13.2.1);
- Standby Acceptance Testing (13.2.3);
- Testing and Maintenance with Other Telephone Companies when in conjunction with Acceptance Testing (13.2.4);
- Additional Cooperative Acceptance Testing (13.3.1(A)(1) and 13.3.1(B)(1)).

5.4.3 **Access Order Change Charges**

Access Order changes involve service date changes and design changes. The Customer may request a change of its Access Order prior to the service date. The Telephone Company will make every effort to accommodate a requested change when it is able to do so with the normal work force assigned to complete such an order within normal business hours. If the change cannot be made with the normal work force during normal business hours, the Telephone Company will notify the Customer. If the Customer still desires the Access Order change, the Telephone Company will schedule a new service date as set forth in 5.1.1 preceding. All charges for Access Order changes as set forth in 5.61(B) and (C) will apply on a per occurrence basis.

Any increase in the number of Special Access Service channels or Switched Access Service lines, trunks, busy hour minutes or capacity will be treated as a new Access Order (for the increased amount only).

If order changes are necessary to satisfy the transmission performance for a Special Access Service ordered by a Customer, these changes will be made without order change charges being incurred by the Customer.

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ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.4 **Charges Associated with Access Ordering** (Continued)

5.4.3 **Access Order Change Charges** (Continued)

(A) **Service Date Change**

The customer may request a change of service date on a pending Access Order prior to the service date. A change of service date is a change of the scheduled service date by the Customer to either an earlier date or a later date which does not exceed 30 calendar days from the original service date.

If the Telephone Company determines that the Customer's request can be accommodated without delaying the service dates for orders of other customer, the service date will be changed and the Service Date Change Charge, as set forth in 5.6.1(B), will be applied to the order.

If the service date is changed to an earlier date, and the Telephone Company determines additional labor or extraordinary costs are necessary to meet the earlier service date requested by the Customer, the Customer will be notified by the Telephone Company that Expedited Order Charges as set forth in 5.1.2 preceding apply. Such charges will apply in addition to the Service Date Change Charge.

If the requested service date exceeds 30 calendar days following the original service date, and the Telephone Company determines that the Customer's request can be accommodated, the Telephone company will cancel the original order and apply the Cancellation Charges as set forth in 5.5.3. A new Access Order with a new service date will be issued. The Service Date Change Charge will not apply, however, the Access Order Charge will apply to the new order.

If the service date is changed due to a design change as set forth in (B) following, the Service Date Change Charge will apply.

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.4 **Charges Associated with Access Ordering** (Continued)

5.4.3 **Access Order Change Charges** (Continued)

(B) **Design Change**

The Customer may request a design change to the service ordered prior to the requested service date. A design change is any change to an Access Order which requires engineering review. An engineering review is a review by Telephone Company personnel, of the service ordered and the requested changes to determine what changes in the design, if any, are necessary to meet the changes requested by the Customer. Design changes include such things as the addition or deletion of optional features or functions or a change in the type of Transport Termination (Switched Access only), type of channel interface, type of Interface Group or technical specification package. Design changes do not include a change of customer designated premises, first point of switching, Feature Group type or Special Access Service channel type. Changes of this nature will require the issuance of a new order and the cancellation of the original order with appropriate cancellation charges applied.

The Telephone Company will review the requested change, notify the Customer whether the change is a design change, if the change can be accommodated and if a new service date is required. If the Customer authorized the Telephone Company to proceed with the design change, a Design Change Charge as set forth in 5.6.1(C), will apply in addition to the charge for Additional Engineering as set forth in 13.4.1. If a change of service date is required, the Service Date Change Charge as set forth in 5.6.1(B) will also apply. The Access Order Charge as specified in 5.6.1(A) does not apply.

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.5 **Minimum Periods and Cancellations**

5.5.1 **Minimum Periods**

Switched Access Service has no minimum period. The minimum period for which all other Access Service is provided and for which charges are applicable, is one month.

5.5.2 **Development of Minimum Period Charges**

When Access Service is disconnected after commencement of service but prior to the expiration of the minimum period, charges are applicable for the balance of the minimum period. A disconnect constitutes facilities being returned to available inventory.

The Minimum Period Charge for monthly billed services will be determined as follows:

- (A) For Switched Access Service, the charge for a month or fraction thereof is equal to the applicable recurring charges plus any non-recurring and/or special construction charge(s) that may be due.
- (B) For Special Access Service, the charge for a month or fraction thereof is the applicable monthly rates for the appropriate channel type plus any optional features, non-recurring and/or special construction charge(s) that may apply.

5.5.3 **Cancellation of an Access Order**

- (A) A customer may cancel an Access Order for the installation of service on any date prior to the service date. The cancellation date is the date the Telephone Company receives written or verbal notice from the Customer that the order is to be canceled. The verbal notice must be followed by written confirmation within 10 days. If a Customer or Customer's end user is unable to accept Access Service within 30 calendar days after the original service date, the Customer has the choice of the following options:

- The Access Order shall be canceled and charges set forth in (B) will apply or,
- Billing for the service will commence.

In such instances, the cancellation date or the billing date, depending on which option is selected by the Customer, shall be the 31st day beyond the original service date of the Access Order.

ACCESS TARIFF

5. **ACCESS ORDERING** (Continued)

5.5 **Minimum Periods and Cancellations** (Continued)

5.5.3 **Cancellation of an Access Order** (Continued)

- (B) When a customer cancels an Access Order for the installation of service, a Cancellation Charge will apply as follows:
- (1) Installation of Switched or Special Access Service facilities is considered to have started when the Telephone Company incurs any cost in connection therewith or in preparation thereof which would not otherwise have been incurred.
 - (2) Where the Customer cancels an Access Order prior to the start of installation of access facilities, no charges shall apply.
 - (3) Where installation of access facilities has been started prior to the cancellation, the charges specified in (a) or (b) following, whichever is lower, shall apply.
 - (a) A charge equal to the costs incurred in such installation, less estimated net salvage. Such costs include the nonrecoverable cost of equipment and material ordered, provided or used, plus the nonrecoverable cost of installation and removal including the costs of engineering, labor, supervision, transportation, rights-of-way and other associated costs;
 - (b) The minimum period charges for Switched or Special Access Service ordered by the Customer, as set forth in 5.5.2 preceding.
- (C) When a customer cancels an order for the discontinuance of service, no charges apply for the cancellation.
- (D) If the Telephone Company misses a service date by more than 30 days and such delay is not requested or caused by the Customer (excluding those circumstances where the date is missed due to acts of God, governmental requirements, work stoppages and civil commotions), the Customer may cancel the Access Order without incurring cancellation charges.

5.5.4 **Partial Cancellation Charge**

Any decrease in the number of ordered Special Access Service channels or Switched Access Service lines, trunks or busy hour minutes of capacity will be treated as a partial cancellation and charges will be determined as set forth in 5.5.3(B) preceding.

ACCESS TARIFF

5. Access Ordering (Continued)

5.6 Rates and Charges

5.6.1 Access Ordering

	<u>Charge</u>
(A) Access Order Charge, Per Order	\$86.00
(B) Service Date Change Charge A Service Date Change Charge will apply, on a per order occurrence basis, for each service date changed. The Access Order Charge as specified above does not apply. The applicable charge is: Service Date Change Charge, Per Order	\$60.00
(C) Design Change Charge The Design Change Charge will apply on a per order per occurrence basis, for each order requiring design change. The applicable charge is: Design Change Charge, Per Order	\$84.00
(D) Miscellaneous Service Order Charge Per Occurrence	\$123.00

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ACCESS TARIFF

7. SPECIAL ACCESS SERVICE

7.1 General

Special Access Service provides a transmission path to connect customer designated premises*, directly or through a Telephone Company hub or hubs where bridging or multiplexing functions are performed, or to connect a customer designated premises and a WATS Serving Office, or to connect a customer designated premises to a DSL Access Connection Point or to connect a customer designed premises to a Public Packet Data Network Service. Special Access Service includes all exchange access not utilizing Telephone company end office switches.

The connections provided by Special Access Service can be either analog, digital, or optical. Analog connections are differentiated by spectrum and bandwidth. Digital and optical connections are differentiated by bit rate.

7.1.1 Channel Types

There are eight types of channels used to provide Special Access Services. Each type has its own characteristics. All are subdivided by one or more of the following:

- Transmission specifications,
- Bandwidth,
- Speed (i.e., bit rate),
- Spectrum

Customers can order a basic channel and select from a list of those available transmission parameters and channel interfaces that they desire in order to meet specific communications requirements.

For purposes of ordering channels, each has been identified as a type of Special Access Service. However, such identification is not intended to limit a customer's use of the channel nor to imply that the channel is limited to a particular use. For example, if a customer's equipment is capable of transmitting voice over a channel that is identified as a Metallic Service in this tariff, there is no restriction against doing so.

* Telephone Company Centrex CO and CO-like switches and packet switches included in Public Packet Switching Network (PPSN) Service are considered to be a customer designated premises for purposes of this tariff.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.1 **Channel Types** (Continued)

A. **Channel Type Descriptions**

Following is a brief description of each type of channel:

Voice Grade – a channel for the transmission of analog signals within an approximate bandwidth of 300 to 3000 Hz.

Digital Data – a channel for the digital transmission of synchronous serial data at rate of 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0 Kbps.

High Capacity – a channel for the transmission of isochronous serial digital data at rates of 1.544, 3.152, 6.312, 44.736, or 274.176 Mbps.

Detailed descriptions of each of the channel types are provided in 7.4 through 7.6 following.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.1 **Channel Types** (Continued)

A. **Channel Type Descriptions** (Continued)

The customer also has the option of ordering Voice Grade and High Capacity facilities (i.e., 1.544 Mbps) to Telephone Company hubs for multiplexing to individual channels of a lower capacity or bandwidth. Descriptions of the types of multiplexing available at the hubs, as well as the number of individual channels which may be derived from each type of facility, are set forth in 7.4 and 7.6 following. Additionally, the customer may specify optional features for the individual channels derived from the facility to further tailor the channel to meet the specific communications requirements. Descriptions of the optional features and functions available are set forth in 7.2.1(C) following.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.2 **Service Descriptions**

For the purposes of ordering, there are three categories of Special Access Service. These are:

Service Designator Codes

Voice	VG
Digital Data	DA
High Capacity	DS

Each service consists of a basic channel to which a technical specifications package (customized or predefined), channel interface(s) and, when desired optional features and functions are added to construct the service desired by the customer. Technical specifications packages are described in Section 14 following, optional features and functions are described in this section. Channel interfaces are described in 14.2.

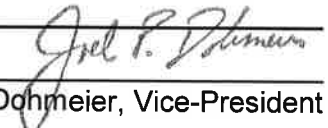
Customized technical specifications packages will be provided where technically feasible. If the Telephone Company determines that requested parameter specifications are not compatible, the customer will be advised and given the opportunity to change the order.

When a customized channel is ordered the customer will be notified whether Additional Engineering Charges apply. In such cases, the customer will be advised and given the opportunity to change the order.

The channel descriptions provided in 7.4 through 7.6, specify the characteristics of the basic channel and indicate whether the channel is provided between customer designated premises, between a customer designated premises and a Telephone Company hub where bridging or multiplexing functions are performed, between hubs, or between a customer designated premises and a WATS Service Office.

(A) Information pertaining to the technical specifications packages indicates the transmission parameters that are available with each package. This information is displayed in matrices set forth in 14.2.

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.2 **Service Descriptions** (Continued)

- (B) Channel interfaces at each Point of Termination on a two-point service may be symmetrical or asymmetrical. On a multipoint service they may also be symmetrical or asymmetrical, but communications can only be provided between compatible channel interfaces. Only certain channel interfaces are compatible. These are set forth in 14.2, in a combination format.
- (C) Only certain channel interface combinations are available with the predefined technical specifications packages. These are delineated in the Technical References set forth in (F). When a customized channel is requested, all channel interface combinations available with the specified type of service are available with the customized channel.
- (D) The optional features and functions available with each type of Special Access Service are described in this section. The optional features and functions information also indicates with which technical specifications packages they are available. Such information is displayed in matrices set forth in 14.2 with the optional feature or function listed down the left side and the technical specifications package listed across the top.
- (E) The Telephone Company will maintain services installed prior to April 1, 1985, at their existing transmission specifications provided such performance specifications do not exceed the standards listed in this provision. Those services exceeding the standards listed will be maintained at the performance levels specified in this tariff.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.2 **Service Descriptions** (Continued)

- (F) All services installed after April 1, 1985 will conform to the transmission specifications standards contained in this tariff or in the following Technical References for each category of service:

Voice Grade	TR-NWT-000335 PUB 41004 (MDP-326-584) Table 4
Digital Data	TR-NWT-000341 and associated Addendum
For 2.4, 4.8, 9.6 & 56.0 Kbps	Pub 62310 (MDP-326-726)
For 19.2 Kbps	INC Bulletin CB-INC-100
For 64.0 Kbps	Pub 62310 (MDP-326-726)
High Capacity	GR-324-CORE GR-54-CORE

7.1.3 **Service Configurations**

There are two types of service configurations over which Special Access Services are provided: two-point service and multipoint service.

(A) **Two-Point Service**

A two-point service connects two customer designated premises, either on a directly connected basis or through a hub where multiplexing functions are performed, or a customer designated premises and a WATS Serving Office (WSO).

Applicable rate elements are:

- Channel Terminations
- Channel Mileage (as applicable)
- Optional Features and Functions (when applicable)

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

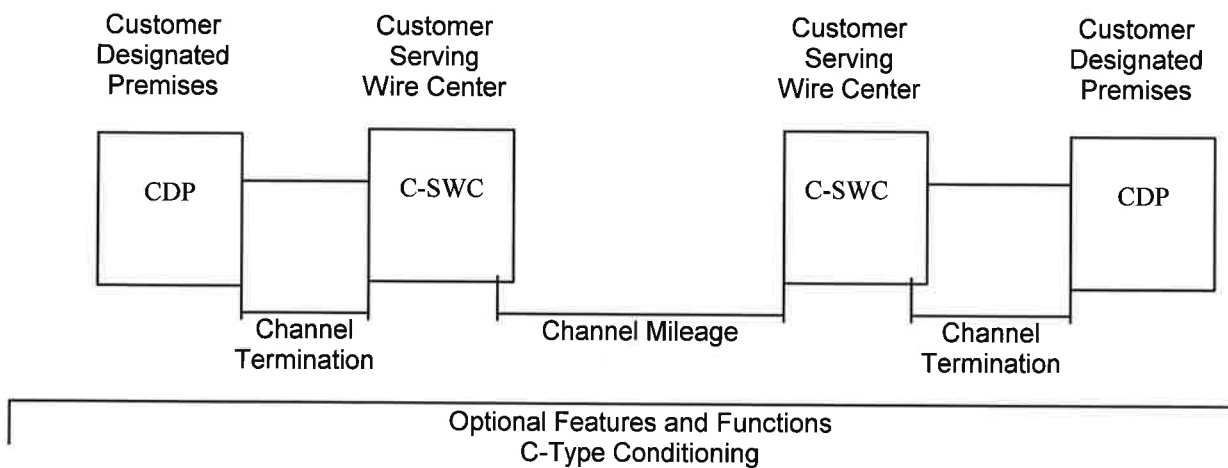
7.1 **General** (Continued)

7.1.3 **Service Configurations** (Continued)

(A) **Two-Point Service**

A Special Access Surcharge, as set forth in 7.3 following, may be applicable.

The following diagram depicts a two-point Voice Grade service connecting two Customer Designated Premises (CDP). The service is provided with C-Type conditioning.



Applicable rate elements are:

- Channel Terminations (applicable one (1) per CDP)
- Channel Mileage
2 Channel Mileage Terminations plus
1 section, Channel Mileage Facility per mile
- C-Type Conditioning Optional Feature

ACCESS TARIFF

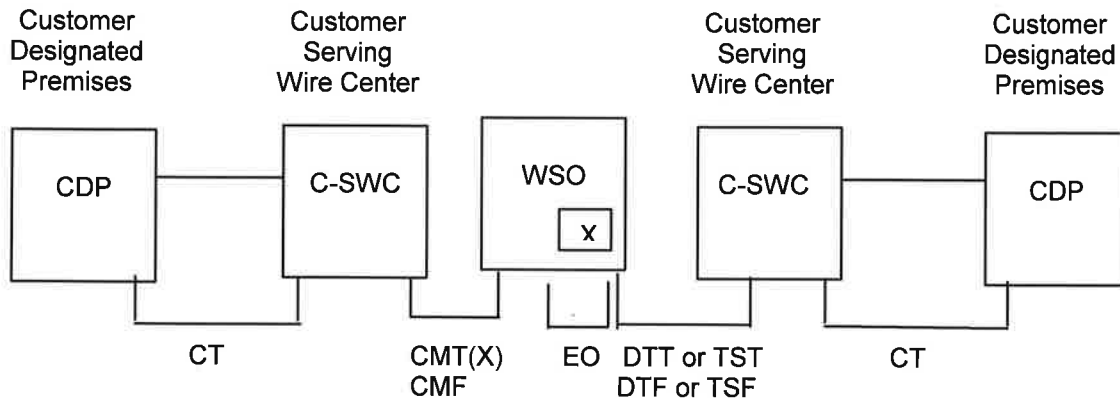
7. SPECIAL ACCESS SERVICE (Continued)

7.1 General (Continued)

7.1.3 Service Configurations (Continued)

(A) Two-Point Service

The following diagram depicts a two-point Voice Grade service connecting a customer designated premises to a WATS serving office.



Special Access
CT- Channel Termination
CMT- Channel Mileage Termination
CMF- Channel Mileage Facility

Switched Access
EO- End Office Elements
DTT- Direct Trunked Termination
TST- Tandem Switched Termination
DTF- Direct Trunked Facility
TSF- Tandem Switched Facility
CT- Channel Termination

Applicable rate elements for Special Access are:

- Channel Termination
- Channel Mileage
- 2 Channel Terminations plus
1 section, Channel Mileage Facility per mile
- Special Access Surcharge*

*May not apply if exemption certification is provided.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.3 **Service Configurations** (Continued)

(B) **Multipoint Service**

Multipoint service connects three or more customer designated premises through one or more Telephone Company hubs. Only certain types of Special Access Service are provided as multipoint service. These are so designated in the descriptions for the appropriate channel.

The channel between hubs (i.e., bridging locations) on a multipoint service is a mid-link. There is no limitation on the number of mid-links available with a multipoint service. However, when more than three mid-links in tandem are provided the quality of the overall service may be degraded.

Multipoint service utilizing a customized technical specifications package, as set forth in 7.1.2 preceding and 14.2 following, will be provided when technically possible. If the Telephone Company determines that the requested characteristics for a multipoint service are not compatible, the customer will be advised and given the opportunity to change the order.

When ordering, the customer will specify the desired bridging hub(s). NECA Tariff FCC No. 4 identifies service wire centers, hub locations and the type of bridging functions available.

Applicable Rate Elements are:

- Channel Terminations (one per customer designated premises)
- Channel Mileage (as applicable between the serving wire center for each customer designated premises and the hub and between hubs).
- Bridging
- Additional Optional Features and Functions (when applicable).

The Special Access Surcharge, as set forth in 7.3, may be applicable.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.1 **General** (Continued)

7.1.4 **Alternate Use**

Alternate Use occurs when a service is arranged by the Telephone Company so that the customer can select different types of transmission at different times. A customer may use a service in any privately beneficial manner. However, where technical or engineering changes are required to effectuate an alternate use, the Telephone Company will make such special arrangements available on an individual case basis.

The arrangement required to transfer to the service from one operation to the other (i.e., the transfer relay and control leads) will be rated and provided on an individual case basis and filed in Section 12, Specialized Service or Arrangements. The customer will pay the stated tariff rates for the Access Service rate elements for the service ordered (i.e., Channel Terminations, Channel Mileage (as applicable) and Optional Features and Functions (if any)).

7.1.5 **Special Facilities Routing**

A customer may request that the facilities used to provide Special Access Service be specially routed. The regulations, rates and charges for Special Facilities Routing (i.e., Avoidance, Diversity and Cable-Only) are set forth in Section 11.

7.1.6 **Design Layout Report**

At the request of the customer, the Telephone Company will provide to the customer the make-up of the facilities and services provided under this tariff as Special Access Service to aid the customer in designing its overall service. This information will be provided in the form of a Design Layout Report. The Design Layout Report will be provided to the customer at no charge, and will be reissued or updated whenever these facilities are materially changed.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

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7.1 **General** (Continued)

7.1.7 **Acceptance Testing**

At no additional charge, the Telephone Company will, at the customer's request, cooperatively test the following at the time of installation:

- (A) For Voice Grade analog services, the acceptance test will include tests for loss, 3-tone slope, DC continuity, operational signaling, C-notched noise and C-message noise when these parameters are applicable and specified in the order of service. Additionally, for Voice Grade services, a balance (improved loss) test will be made if the customer has ordered the improved loss optional feature.
- (B) For other analog services and for digital services (i.e., Digital Data and High Capacity), acceptance tests will include tests applicable to the service as specified by the customer in the order for service.

In addition to the above tests, Additional Cooperative Acceptance Testing for Voice Grade service to test other parameters, as described in 13.4.3(D), is available at the customer's request. All test results will be made available to the customer upon request.

7.1.8 **Ordering Options and Conditions**

Special Access Service is ordered under the Access Order provisions set forth in Section 5. Also included in that section are other charges which may be associated with ordering Special Access Service (e.g., Service Date Change Charges, Cancellation Charges, etc.).

7.1.9 **Service Provisioning**

Special Access Service is provisioned over existing Telephone Company facilities. Special Access Service will be provided subject to the availability and limitations of the Telephone Company wire centers and cable and wire facilities. Where new construction, including installation of cable and wire facilities is required to provide a Special Access Service requested by the customer, the Company may, at its option, undertake such new construction and make a Special Construction Tariff filing for regulations, rates, charges and liabilities applicable to the new construction that apply in addition to all regulations, rates and charges set forth in this tariff.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations**

This section contains the specific regulations governing the rates and charges that apply for Special Access.

7.2.1 **Rate Categories**

There are three basic rate categories which apply to Special Access Service:

- Channel Terminations (7.2.1(A))
- Channel Mileage (7.2.1(B))
- Optional Features and Functions (7.2.1(C)).

(A) **Channel Termination**

The Channel Termination rate category recovers the costs associated with the communications path between a customer designated premises and the serving wire center of that premises. Included as part of the Channel Termination is a standard channel interface arrangement which defines the technical characteristics associated with the type of facilities to which the access service is to be connected at the Point of Termination (POT) and the type of signaling capability, if any. The signaling capability is provided as an optional feature as set forth in (C). One Channel Termination charge applies per customer designated premises at which the channel is terminated. This charge will apply even if the customer designated premises and the serving wire center are collocated in a Telephone Company building.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.1 **Rate Categories** (Continued)

(B) **Channel Mileage**

The Channel Mileage rate category recovers the costs associated with the end office equipment and the transmission facilities between the serving wire centers associated with two customer designated premises, between a serving wire center associated with a customer designated premises and a Telephone Company hub or between two Telephone Company hubs. Channel Mileage rates are made up of the Channel Mileage Facility rate and the Channel Mileage Termination rate.

(1) **Channel Mileage Facility**

The Channel Mileage Facility rate recovers the per mile cost for the transmission path which extends between the Telephone Company serving wire centers and/or hub(s).

(2) **Channel Mileage Termination**

The Channel Mileage Termination rate recovers the cost for end office equipment associated with terminating the facility (i.e., basic circuit equipment and terminations at serving wire centers and hubs). The Channel Mileage Termination rate will apply at the serving wire center(s) for each customer designated premises and Telephone Company hub where the channel is terminated. If the Channel Mileage is between Telephone Company bridging hubs, the Channel Mileage Termination rate will apply per Telephone Company designated hub. If the Channel Mileage is between the serving wire center for a customer designated premises and a WATS Serving Office, the Channel Mileage Termination rate will apply at both the serving wire center associated with the customer designated premises and the WATS Serving Office. When the Channel Mileage Facility is zero (i.e., collocated serving wire centers), neither the Channel Mileage Facility rate nor the Channel Mileage Termination rate will apply.

ACCESS TARIFF

7. SPECIAL ACCESS SERVICE (Continued)

7.2 Rate Regulations (Continued)

7.2.1 Rate Categories (Continued)

(C) Optional Features and Functions

The Optional Features and Functions rate category recovers the costs associated with optional features and functions which may be added to a Special access Service to improve its quality or utility to meet specific communications requirements. These are not necessarily identifiable with specific equipment, but rather represent the end results in terms of performance characteristics which may be obtained. These characteristics may be obtained by using various combinations of equipment. Although the equipment necessary to perform a specified function may be installed at various locations along the path of the service, they will be charged for as a single rate element.

Examples of Optional Features and Functions that are available include, but are not limited to, the following:

- Signaling Capability
- Hubbing Functions
- Conditioning
- Transfer Arrangements

Descriptions for each of the available Optional Features and Functions are set forth in 7.4 through 7.6.

A hub is a Telephone Company designated serving wire center at which bridging or multiplexing functions are performed. The bridging functions performed are to connect three or more customer designated premises in a multipoint arrangement. The multiplexing functions are to channelize analog or digital facilities to individual services requiring a lower capacity or bandwidth.

NECA Tariff FCC No. 4 identifies serving wire centers, hub locations, hub level (i.e., Hub, Terminus Hub, Intermediate Hub, or Super-Intermediate Hub) and the type of bridging or multiplexing functions available. Additionally, subtending wire centers are identified for Intermediate or Super-Intermediate Hubs.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.2 **Types of Rates and Charges**

There are two types of rates and charges. These are monthly rates and nonrecurring charges. The rates and charges are described as follows:

(A) **Monthly Rates**

Monthly rates are recurring rates that apply each month or fraction thereof that a Special Access Service is provided. For billing purposes, each month is considered to have 30 days.

(B) **Non-recurring Charges**

Non-recurring charges are one-time charges that apply for specific work activity (i.e., installation or change to an existing service). The types of non-recurring charges that apply for Special Access Service are: installation of service, installation of optional features and functions, and service rearrangements. These charges are in addition to the Access Order Charge as specified in 5.6.1(A).

(1) **Installation of Service**

Non-recurring charges apply to each service installed. The non-recurring charges for the installation of service are set for each channel type as a non-recurring charge for the Channel Termination.

(2) **Installation of Optional Features and Functions**

When optional features and functions are installed coincident with the initial installation of service, no separate non-recurring charge is applicable. When optional features and functions are installed or changed subsequent to the installation of service, an Access Order Charge as specified in 5.6.1(A) will apply per order.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.2 **Types of Rates and Charges** (Continued)

(B) **Non-recurring Charges** (Continued)

(3) **Service Rearrangements**

Service rearrangements are changes to existing (installed) services which may be administrative only in nature, as set forth following, or that involve actual physical change to the service. Changes to pending orders are set forth in 5.4 preceding.

Changes in the physical location of the point of termination or customer designated premises are moves as set forth in 7.2.3 following.

Changes in the type of Service or Channel Termination which result in a change of the minimum period requirement will be treated as a discontinuance of the service and an installation of a new service.

Changes in ownership or transfer of responsibility from one customer to another will be treated as a discontinuance of the service and an installation of a new service. In the event the change in ownership or transfer of responsibility is as set forth in 2.1.2(A) preceding where there is no change in facilities or arrangements, the change will be treated as an administrative change.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.2 **Types of Rates and Charges** (Continued)

(B) **Non-recurring Charges** (Continued)

(3) **Service Rearrangements** (Continued)

Administrative changes will be made without charge(s) to the customer. Administrative changes are as follows:

- Change of customer name,
- Change of customer or customer's end user premises address when the change of address is not a result of physical relocation of equipment,
- Change in billing data (name, address, or contact name or telephone number),
- Change of agency authorization,
- Change of customer circuit identification,
- Change of billing account number,
- Change of customer test line number,
- Change of customer or customer's end user contact name or telephone number, and
- Change of jurisdiction.

All other service rearrangements will be charged as follows:

- If the change involves the addition of other customer designated premises to an existing service, the non-recurring charge for the channel termination rate element will apply. The charge(s) will apply only for the location(s) that is being added. The charge(s) will be in addition to an Access Order Charge as set forth in 5.6.1(A) following.
- If the change involves the addition of an optional feature or function, or if the change involves changing the type of signaling on a Voice Grade service, and for all other changes the Access Order Charge as set forth in 5.6.1(A) will apply.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.3 **Moves**

A move involves a change in the physical location of one of the following:

- The Point of Termination at the customer's premises; or
- The customer's premises

The charges for the move are dependent on whether the move is to a new location within the same building or to a different building.

(A) **Moves Within the Same Building**

When the move is to a new location within the same building, the charge for the move will be an amount equal to one half of the non-recurring (i.e., installation) charge for the service termination affected. There will be no change in the minimum period requirements. This charge is in addition to the Access Order Charge as specified in 5.6.1(A) following.

(B) **Moves to a Different Building**

Moves to a different building will be treated as a discontinuance and start of service and all associated non-recurring charges will apply. New minimum period requirements will be established for the new services. The customer will also remain responsible for satisfying all outstanding minimum period charges for the discontinued service.

7.2.4 **Minimum Periods**

The minimum service period for all services is one month and the full monthly rate will apply to the first month. Adjustments for the quantities of service established or discontinued in any billing period beyond the minimum period are as set forth in 2.4.2.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.5 **Mileage Measurement**

The mileage to be used to determine the monthly rate for the Channel Mileage Facility is calculated on the airline distance between the locations involved, i.e.,

- the service wire centers associated with two customer designated premises,
- a service wire center associated with a customer designated premises and a Telephone Company hub,
- two Telephone Company hubs,
- or between the serving wire center associated with a customer designated premises and a WATS Serving Office.

The serving wire center associated with a customer designated premises is the serving wire center from which this customer designated premise would normally obtain dial tone.

Mileage charges are shown with each channel type. To determine the rate to be billed, first compute the mileage using the V&H coordinates method, as set forth in the NECA Tariff FCC No. 4, then multiply the resulting number of miles times the Channel Mileage Facility per mile rate, and add the Channel Mileage Termination rate for each termination. When the calculation results in a fraction of a mile, always round up to the next whole mile before determining the mileage and applying the rates. When more than one Telephone Company is involved in the provision of service, billing will be accomplished as set forth in 2.4.7 preceding.

When hubs are involved, mileage is computed and rate applied separately for each section of the Channel Mileage, i.e.,

- customer designated premises serving wire center to hub,
- hub to hub and/or
- hub to customer designated premises serving wire center.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.5 **Mileage Measurement** (Continued)

However, when any service is routed through a hub for purposes other than customer specified bridging or multiplexing (e.g., the Telephone Company chooses to so route for test access purposes), rates will be applies only to the distance calculated between the serving wire centers associated with the customer designated premises.

7.2.6 **Facility Hubs**

A customer has the option of ordering Voice Grade service or High Capacity services to a facility hub for channelizing to individual services requiring lower capacity facilities.

Different locations may be designated as hubs for different facility capacities, e.g., multiplexing from digital to digital may occur at one location while multiplexing from digital to analog may occur at a different location. When placing an Access Order the customer will specify the desired hub.

NECA Tariff FCC No. 4 identifies serving wire centers, hub locations, hub level (i.e., Hub, Terminus Hub, Intermediate Hub, or Super-Intermediate Hub) and the type of multiplexing functions available. Additionally, subtending wire centers are identified for Intermediate and Super-Intermediate Hubs.

Some of the types of multiplexing available include:

- from higher to lower bit rate
- from higher to lower bandwidth
- from high capacity to voice frequency channels.

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BY: Joel Dohmeyer, Vice-President

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.6 **Facility Hubs** (Continued)

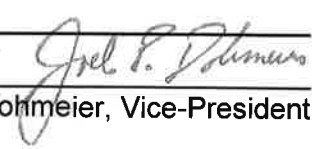
Point to point services may be provided on channels of these services to a hub. The transmission performance for the point to point service provided between customer designated premises will be that of the lower capacity or bit rate. For example, when a 1.544 Mbps channel is multiplexed to voice frequency channels, the transmission performance of the channelized services will be Voice Grade, not High Capacity.

The Telephone Company will commence billing the monthly rate for the service to the hub on the date specified by the customer on the Access Order. Individual channels utilizing these services may be installed coincident with the installation of the service to the hub or may be ordered and/or installed at a later date, at the option of the customer. The customer will be billed for a Voice Grade or a High Capacity Channel Termination, Channel Mileage (when applicable), and the multiplexer at the time the service is installed. Individual service rates (by service type) will apply for a Channel Termination and additional Channel Mileage (as required) for each channelized service. These will be billed to the customer as each individual service is installed.

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

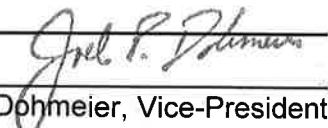
7.2.7 **Mixed Use**

Mixed use refers to a rate application applicable only when the customer orders High Capacity facilities between a customer designated premises and a Telephone Company hub where the Telephone Company performs multiplexing/de-multiplexing functions and the same customer then orders the derived channels as Special and Switched Access Services. If the customer has Switched Access Service between a customer designated premises and an end office that is multiplexed at a Telephone Company hub and subsequently orders the derived channels as Special and Switched Access Service, rates and charges will apply as if the service were ordered as mixed use.

The High Capacity facility will be ordered, provided and rated as Special Access Service (i.e., Channel Termination, Channel Mileage, as appropriate, and Multiplexing Arrangement). The non-recurring charge that applies when the mixed use facility is installed will be the non-recurring charge associated with the appropriate Special Access High Capacity Channel Termination. Rating as Special Access will continue until such time as the customer chooses to use a portion of the available capacity for Switched Access Service. Individual service (i.e., Switched or Special Access) non-recurring charges will not apply to the individual channels of the mixed use facility.

When Special Access Service is provided utilizing a channel of the mixed use facility to the hub, High Capacity rates and charges will apply for the facility to the hub, as set forth preceding, and individual service rates and charges will apply from the hub to the customer designated premises. The rates and charge that will apply to the portion from the hub to the customer designated premises will be dependent on the specific type of Special Access Service that is provided. The applicable rates and charges will include a Channel Termination and Channel Mileage, if applicable. Rates and Charges for optional features and functions associated with the service, if any, will apply for the appropriate channel type.

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.2 **Rate Regulations** (Continued)

7.2.7 **Mixed Use** (Continued)

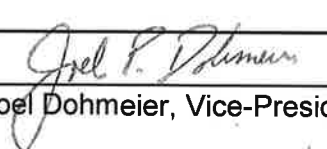
As each individual channel is activated for Switched Access Service, the High Capacity Special Access Channel Termination and Channel Mileage rates will be reduced accordingly (e.g., 1/24th for a DS1 Service, etc.). Switched Access Service rates and charges, as set forth in 6.8, will apply for each channel of the standard use facility that is used to provide a Switched Access Service.

The customer must place an order for each individual Switched or Special Access Service utilizing the Mixed Use Facilities and specify the channel assignment for each such service.

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.3 **Surcharge for Special Access Service**

7.3.1 **General**

Special access services provided under this tariff may be subject to the monthly Special Access Surcharge.

7.3.2 **Application**

- (A) The Special Access Surcharge will apply to each intrastate Special Access Service that terminates on an end user's PBX or other device, where through a function of the device, the Special Access Service interconnects to the local exchange network. Interconnection functions include, but are not limited to, wiring and software functions, bridging, switching or patching of calls or stations. The Surcharge will apply irrespective of whether the interconnection function is performed in equipment located at the customer's premises or in a Centrex CO-type switch.
- (B) Special Access Service will be exempted from the Surcharge by the Telephone Company upon receipt of the customer's written certification for the following Special Access Service terminations:
 - (1) an open-end termination in a Telephone Company switch of an FX line, including CCSA and CCSA-equivalent ONALs; or
 - (2) an analog channel termination that is used for radio or television program transmission; or
 - (3) a termination used for TELEX service; or
 - (4) a termination that by the nature of its operating characteristics could not make use of Telephone Company common lines such as, terminations which are restricted through hardware or software; or

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.3 **Surcharge for Special Access Service**

7.3.2 **Application** (Continued)

(B) (Continued)

- (5) a termination that interconnects either directly or indirectly to the local exchange network where the usage is subject to Carrier Common Line charges such as, where the Special Access Service accesses only FGA and no local exchange lines, or Special Access Service between customer points of termination, or Special Access Service connecting CCSA or CCSA-type equipment (inter-machine trunks); or
- (6) a termination that the customer certifies to the Telephone Company is not connected to a PBX or other device which interconnects the Special Access Service to a local exchange subscriber line.

7.3.3 **Exemption of Special Access Service**

- (A) Special Access Services which are terminated as set forth in 7.3.2(B) preceding will be exempted from the Special Access Surcharge if the customer provides the Telephone Company with written exemption certification. The certification may be provided to the Telephone Company as follows:
 - at the time the Special Access Service is ordered or installed;
 - at such time as the service is reterminated to a device which does not interconnect the service to local exchange facilities.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.3 **Surcharge for Special Access Service** (Continued)

7.3.3 **Exemption of Special Access Service**

- (B) The exemption certification is to be provided by the customer ordering the service. The certification must be signed by the customer or authorized representative and include the category of exemption, as set forth in 7.3.2(B) preceding, for each termination, and the date which the exemption is effective.
- (C) The customer shall also notify the Telephone Company when an exempted Special Access Service is changed or reterminated such that the exemption is no longer applicable.
- (D) The Telephone Company will work cooperatively with the customer to resolve any questions regarding the exemption certification. In addition, the Telephone Company may withhold exemption of the service until the questions are resolved.

7.3.4 **Rate Regulations**

- (A) The surcharge will apply as set forth in 7.3.2(A) preceding, except that a surcharge will be assessed on a per voice grade equivalent basis for Special Access Services derived for High Capacity Special Access Services as illustrated in the following example:

<u>Special Access Service</u>	<u>Voice Grade Equivalent</u>	<u>Surcharge</u>	<u>Monthly Charge</u>
DS1	24 X	\$25 =	\$600.00

The preceding example illustrates the maximum number of surcharges applicable to a DS1. If the customer claims exemptions as set forth in 7.3.3 or, is not utilizing all available voice grade equivalents and has spare capacity, the number of surcharges would be reduced accordingly.

In the case of multipoint Special Access Services, one Special Access Surcharge will apply for each termination of a Special Access Channel at an end user's premises.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.3 **Surcharge for Special Access Service** (Continued)

7.3.4 **Rate Regulations**

- (B) The Telephone Company will bill the appropriate Special Access Surcharge to the ordering customer for each intrastate Special Access Service installed unless exemption certification is provided as set forth in 7.3.3 preceding.
- (C) If a written certification is not received at the time the Special Access Service is obtained, the Surcharge will be applied. Exempt status will become effective on the certification date indicated by the customer, subject to the regulations set forth in (D) following.
- (D) Crediting the Surcharge

The Telephone Company will cease billing the Special Access Surcharge when certification, as set forth in 7.3.3 preceding, is received. If the status of the Special Access Service was change prior to receipt of the exemption certification, the Telephone Company will credit the customer's account, not to exceed ninety (90) days, based on the effective date of the change as specified by the customer in the letter of certification.

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7. **SPECIAL ACCESS SERVICE** (Continued)

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7.4 Voice Grade Service

7.4.1 Basic Channel Description

A Voice Grade channel is a channel which provides voice frequency transmission capability in the nominal frequency range of 300 to 3000 Hz and may be terminated two-wire or four-wire. Voice Grade channels are provided between customer designated premises, between a customer designated premises and a Telephone Company hub or hubs, or between a customer designated premises and a WATS Service Office (WSO).

Voice Grade Special Access services are typically used for voice and voiceband data applications. Typical examples of voice grade circuits are Foreign Exchange lines (station end only), multipoint private line, voice trunk type, two-point voice grade data (one-way or simultaneous two-way), multipoint voice grade data, and voice grade telephoto or facsimile. These examples of applications are not intended to limit a customer's use of the channel nor to imply that the channel is limited to a particular use.

Rates and Charges for Special Access Voice Grade Service are as set forth in 7.7.2.

7.4.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 14.2.1(A), (B), and (C). Compatible network channel interfaces are set forth in 14.2.2(C)(1), (2), and (3).

7.4.3 Optional Features and Functions

(A) Central Office Bridging Capability

- (1) Voice Bridging (two-wire and four-wire)
- (2) Data Bridging (two-wire and four-wire)

(B) Central Office Multiplexing

Voice to Telegraph Grade. An arrangement that converts a Voice Grade channel to Telegraph Grade channels using frequency division multiplexing.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.4 **Voice Grade Service**

7.4.3 **Optional Features and Functions** (Continued)

(C) **Conditioning**

Conditioning provides more specific transmission characteristics for Voice Grade services. The rates for those options are set forth in 7.7.2(C)(2).

For two-point services, the parameters apply to each service as measured end-to-end. For multipoint services, the parameters apply as measured on each mid-link or as measured on each end link. C-Type conditioning and Data Capability may be combined on the same service.

(1) **C-Type Conditioning**

C-Type Conditioning is provided for the additional control of attenuation distortion on data services. The attenuation distortion and envelope delay distortion specifications for C-Type Conditioning are delineated in Technical Reference TR-TSY-000335.

(2) **Data Capability (D Conditioning)**

Data Capability provides transmission characteristics suitable for data communications. Specifically, Data Capability provides for the control of Signal to C-Notched Noise Ratio and intermodulation distortion. It is available for two-point services or three-point multipoint services.

The Signal to C-Notched Noise Ratio and intermodulation distortion parameter for Data Capability are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 7.7.2(C)(2).

When a service equipped with Data Capability is used for voice communications, the quality of the voice transmission may not be satisfactory.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.4 **Voice Grade Service** (Continued)

7.4.3 **Optional Features and Functions** (Continued)

(D) **Customer Specified Premises Receive Level**

This option allows the customer to specify the receive level at the Point of Termination. The level must be within a specific range on effective four-wire transmission. The ranges are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in

(E) **Improved Return Loss**

(1) On Effective Four-Wire Transmission at Four-Wire Point of Termination (applicable to each two-wire port); Provides for a fixed 600 ohm impedance, variable level range and simplex reversal. Telephone Company equipment is required at the customer's premises where this option is ordered. The Improved Return Loss parameters are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 7.7.2(C)(3).

(2) On Effective Two-Wire Transmission at Two-Wire Point of Termination: Provides for more stringent Echo Control specifications. In order for this option to be applicable, the transmission path must be four-wire at one POT and two-wire at the other POT. Placement of Telephone Company equipment may be required at the customer's premises with the two-wire POT. The Improved Return Loss parameters are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 7.7.2(C)(3).

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.4 **Voice Grade Service** (Continued)

7.4.3 **Optional Features and Functions** (Continued)

(F) **Signaling Capability**

Signaling Capability provides for the ability to transmit signals from one customer premises to another customer premises on the same service. The rate for this option is set forth in 7.7.2(C)(5) following.

The following network channel interfaces for Voice Grade service do not require signaling capability: AH, DA, DB, DD, DE, DS, NO, PR and TF.

The following network channel interfaces for Voice Grade service require signaling capability: AB, AC, CT, DX, DY, EA, EB, EC, EX, GO, GS, LA, LB, LC, LO, LR, LS, RV and SF. The signaling capability charge will not apply when used in provision of WATS access service.

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.4 **Voice Grade Service** (Continued)

7.4.3 **Optional Features and Functions** (Continued)

(G) **Improved Two-Wire Voice Transmission**

(1) **Loss Deviation**

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is -4.0 dB to +4.0 dB.

(2) **Attenuation Distortion**

The maximum Attenuation Distortion in the 404 to 280 Hz frequency band relative to loss at 1004 Hz is -2.0 dB to +6.0 dB.

(3) **C-Message Noise**

The maximum C-Message Noise for the transmission path at the route miles listed in less than:

<u>Route Miles</u>	<u>C-Message Noise</u>
Less than 50	35 dBrnc
51 to 100	37 dBrnc
101 to 200	40 dBrnc
201 to 400	43 dBrnc
401 to 1000	45 dBrnc

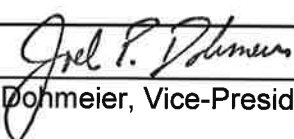
(4) **Return Loss**

The Return Loss, expressed as Echo Return Loss (ERL) and Singing Return Loss (SRL), is equal to or greater than:

ERL	13.0 dB
SRL	6.0 dB

The rate for the provision of Improved Two-Wire Voice Transmission is included as part of the basic Channel Termination rate.

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7. **SPECIAL ACCESS SERVICE** (Continued)

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7.5 **Digital Data Service**

7.5.1 **Basic Channel Description**

A Digital Data channel is a channel for duplex four-wire transmission of synchronous serial data at the rate of 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0* Kbps. The actual bit rate is a function of the channel interface selected by the customer. The channel provides a synchronous service with timing provided by the Telephone Company through the Telephone Company's facilities to the customer in the received bit stream. Digital Data channels are provided as either hubbed or non-hubbed services between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs. The hubs providing hubbed digital service and the wire centers providing non-hubbed digital service are identified in NECA Tariff FCC No. 4.

The customer may provide the Channel Service Unit-type equipment or other Network Channel Terminating Equipment associated with the Digital Data channels at the customer premises.

The Telephone Company will provide a channel capable of meeting a monthly average performance equal to or greater than 99.875% error-free seconds (if provided through a Digital Data hub) while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB62310.

Rates and charges for Special Access Digital Data Service are as set forth in 7.7.3.

7.5.2 **Technical Specifications Packages and Network Channel Interfaces**

Technical Specifications Packages are set forth in 14.2.1 (A), (B), and (C). Compatible channel interfaces are set forth in 14.2.2(C)(1), (2), and (3).

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ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.5 **Digital Data Service** (Continued)

7.5.2 **Technical Specifications Packages and Network Channel Interfaces**
(Continued)

The following network channel interfaces (NCIs) define the bit rates that are available for a Digital Data Channel:

<u>NCI</u>	<u>Bit Rate</u>
DU-24	2.4 Kbps
DU-48	4.8 Kbps
DU-96	9.6 Kbps
DU-19	19.2 Kbps
DU-56	56.0 Kbps
DU-64	64.0 Kbps

7.5.3 **Optional Features and Functions**

The Optional Features and Functions described in (A), (B), and (C) following are only available where Digital Data Service is provided via a hub.

(A) **Central Office Bridging Capability**

Bridging is not available on a 64.0 Kbps channel.

(B) **Transfer Arrangement**

An arrangement that affords the customer an additional measure of protection and/or flexibility in the use of their access channel(s) on a 1xN basis. The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working channel that terminates in either the same or a different customer designated premises. This arrangement is only available at a Telephone Company designated hub. A key activated or dial-up control service is required to operate the transfer arrangements. A spare channel, if required, is not included as part of the option.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.5 **Digital Data Service** (Continued)

7.5.3 **Optional Features and Functions** (Continued)

(C) **Public Packet Switching Network (PPSN) Interface Arrangement**

An arrangement that provides the interface requirements that permit a Digital Data Service to interface with a Public Package Switching Network packet switch located in a Telephone Company premises. The interface is compatible with X.25 and X.75 packet switching protocols as defined by the CCITT.

The table set forth in 14.2.1(B) shows the technical specifications packages with which the optional features and functions are available.

(D) **Public Packet Data Service Interface Arrangement**

An arrangement that provides for the interface requirements that permit a Digital Data Service to interface with a Public Packet Data switch located in a Telephone Company premises. The interface is compatible with Frame Relay packet switching protocols. The interface is only available for 56.0 kbps and 64.0 kbps rates.

The table set forth in 14.2.1 (B) following shows the technical specifications packages with which the optional features and functions are available.

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.6 High Capacity Service

7.6.1 Basic Channel Description

A High Capacity channel is a channel for the transmission of 1.544 Mbps isochronous serial data. The actual bit rate is a function of the channel interface selected by the customer. High Capacity channels are provided between customer designated premises or between a customer designated premises and a Telephone company hub or hubs.

The customer may provide the Network Channel Terminating Equipment associated with the High Capacity channel at the customer's premises. A channel with technical specifications package DS1 will be capable of an error-free second performance of 98.75% over a continuous 24 hour period as measured at the 1.544 Mbps rate through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference GR-342-CORE.

A term discount is available for High Capacity Service.

Rates and charges for Special Access High Capacity Service are as set forth in 7.7.4 following.

7.6.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 14.2.1(C) following. Compatible channel interfaces are set forth in 14.2.2(C)(3) following.

The following network channel interfaces (NCIs) define the bit rates that are available for a High Capacity Channel:

<u>NCI</u>	<u>Bit Rate</u>
DS-15	1.544 Mbps (DS1)

ACCESS TARIFF

7. **SPECIAL ACCESS SERVICE** (Continued)

7.6 **High Capacity Service** (Continued)

7.6.3 **Optional Features and Functions**

(A) **Central Office Multiplexing**

(1) **DS1 to Voice**

An arrangement that converts a 1.544 Mbps channel to 24 channels for use with Voice Grade Services. A channel(s) of this DS1 to the Hub can also be use for a Digital Data Service.

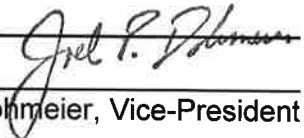
(2) **DS1 to DS0**

An arrangement that converts a 1.544 Mbps chanel to 23 64.0 Kbps channels utilizing digital time division multiplexing.

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.7 Rates and Charges

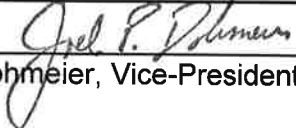
7.7.1 Surcharge for Special Access Service

	<u>Monthly Rate</u>
- Per Voice Grade Equivalent	\$25.00

7.7.2 Voice Grade Service

	<u>Monthly Rate</u>	<u>Non-Recurring Charge</u>
(A) Channel Termination, Per termination		
Two-Wire	\$95.36	\$450.00
Four-Wire	\$152.58	\$450.00
(B) Channel Mileage		
(1) Channel Mileage Facility, Per Mile	\$6.80	
(2) Channel Mileage Termination, Per Termination	\$68.27	
(C) Optional Features and Functions		
(1) Bridging		
(a) Voice Bridging, Per Port		
-Two-Wire	\$11.82	
-Four-Wire	\$11.82	
(b) Data Bridging, Per Port		
-Two-Wire	\$11.82	
-Four-Wire	\$11.82	

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7. **SPECIAL ACCESS SERVICE** (Continued)

7.7 **Rates and Charges**

7.7.2 **Voice Grade Service** (Continued)

	<u>Monthly Rate</u>	<u>Non-Recurring Charge</u>
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(C) Optional Features and Functions (Continued)

(2) Conditioning, Per Termination

-C-Type	\$17.37	
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-Data Capability	\$15.43	
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(3) Improved Return Loss for
Effective Two-Wire or
Four-Wire Transmission,
Per Termination

-Two-Wire	\$24.82	
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-Four-Wire	\$24.82	
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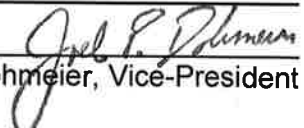
(4) Customer Specified Receive Level, per Two-Wire Termination	\$18.75	
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(5) Signaling Capability, Per Termination	\$39.75	
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7. **SPECIAL ACCESS SERVICE** (Continued)

7.7 **Rates and Charges**

7.7.3 **Digital Data Service**

	<u>Monthly Rate</u>	<u>Non-Recurring Charge</u>
(A) Channel Termination, Per Termination		
- 2.4 kbps	\$176.00	\$390.00
- 4.8 kbps	\$176.00	\$390.00
- 9.6 kbps	\$176.00	\$390.00
- 19.2 kbps	\$176.00	\$390.00
- 56.0 kbps	\$176.00	\$390.00
- 64.0 kbps	\$176.00	\$390.00

(B) Channel Mileage

(1) Channel Mileage Facility,
Per Mile

-2.4 kbps	\$6.48
-4.8 kbps	\$6.48
-9.6 kbps	\$6.48
-19.2 kbps	\$6.48
-56.0 kbps	\$9.15
-64.0 kbps	\$9.15

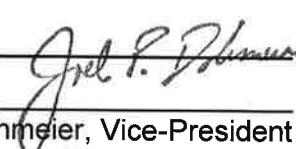
(2) Channel Mileage Termination,
Per Termination

-2.4 kbps	\$64.85
-4.8 kbps	\$64.85
-9.6 kbps	\$64.85
-19.2 kbps	\$64.85
-56.0 kbps	\$91.89
-64.0 kbps	\$91.89

(C) Optional Features & Functions

(1) Bridging, Per Port	\$15.91
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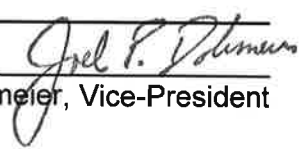
7. **SPECIAL ACCESS SERVICE** (Continued)

7.7 Rates and Charges

7.7.4 High Capacity Service

	<u>Monthly Rate</u>	<u>Non-Recurring Charge</u>
(A) Channel Termination, Per termination		
DS1 (1.544 Mbps)	\$438.64	\$330.00
(B) Channel Mileage		
(1) Channel Mileage Facility, Per Mile		
-1.544 Mbps	\$27.13	
(2) Channel Mileage Termination, Per Termination		
-1.544 Mbps	\$140.81	
(C) Term Discounts		
	<u>Percentage</u>	
(1) 36 Months	10%	
(2) 60 Months	20%	
(D) Optional Features and Functions		
(1) Multiplexing, Per Arrangement		
(a) DS1 to Voice	\$355.61	
(b) DS1 to DS0	\$355.61	

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ACCESS SERVICE

12. SPECIALIZED SERVICE OR ARRANGEMENTS

12.1 General

Specialized Service or Arrangements may be provided by the Telephone Company, at the request of a customer, on an individual basis if such service or arrangements meet the following criteria:

- The requested service or arrangements are not offered under other sections of this tariff.
- The facilities utilized to provide the requested service or arrangements are of a type normally used by the Telephone Company in furnishing its other services.
- The requested service or arrangements are provided within a LATA.
- The requested service or arrangements are compatible with other Telephone Company services, facilities, and its engineering and maintenance practices.
- This offering is subject to the availability of the necessary Telephone Company personnel and capital resources.

Rates and charges and additional regulations if applicable, for Specialized Service or Arrangements are provided on an individual case basis and are set forth as follows.

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13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES**

In this section, normally scheduled working hours are an employee's scheduled work period on any given business day, which totals eight (8) hours.

13.1 Additional Engineering

Additional Engineering, including engineering review, will be undertaken only after the Company has notified the customer that additional engineering charges apply and the customer agrees to such charges.

Additional Engineering will be provided by the Company at the request of the customer only when:

- (A) A customer requests additional technical information after the Company has already provided the technical information normally included on the Design Layout Report.
- (B) Additional Engineering time is incurred by the Company to engineer a customer's request for a customized service.

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ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES**
(Continued)

13.2 Additional Labor

Additional Labor is that labor requested by the customer on a given service and agreed to by the Company. The Company will notify the customer that Additional Labor charges will apply before any additional labor is undertaken. A call-out of a Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

13.2.1 Overtime Installation

Overtime installation is that Company installation effort outside of normally scheduled working hours.

13.2.2 Overtime Repair

Overtime repair is that Company maintenance effort performed outside of normally scheduled working hours.

13.2.3 Standby

Standby includes all time in excess of one-half (1/2) hour during which Company personnel standby to make installation acceptance tests or cooperative tests with a customer to verify facility repair on a given service.

13.2.4 Testing and Maintenance with Other Telephone Companies

Additional testing, maintenance, or repair of facilities which connect other telephone companies is that which is in addition to the normal effort required to test, maintain or repair facilities provided solely by the Company.

13.2.5 Testing Services

Testing Services other than those described in other parts of this tariff will be provided at the hourly rates described if requested by the customer. Testing will be provided subject to the availability of equipment and qualified personnel.

13.2.6 Other Labor

Other labor is that additional labor not included in 13.2.1 through 13.2.5, preceding, and labor incurred to accommodate a specific customer request that involves only labor which is not covered by any other section of this tariff.

ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES**
(Continued)

13.3 Miscellaneous Services

13.3.1 Testing Services

Testing Services offered under this section of the tariff are optional and subject to rates and charges as set forth in 13.3.1 following. A call-out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours. Other testing services, as described in 6.1.4 and 7.1.7 preceding, are provided by the Telephone Company in association with Access Services and are furnished at no additional charge.

Testing services are normally provided by Telephone Company personnel at Telephone Company locations; however, provisions are made in (B)(2) following for a customer to request Telephone Company personnel to perform Testing Services at the customer designated premises.

The offering of Testing Services under this section of the tariff is made subject to the availability of the necessary qualified personnel and test equipment at the various test locations mentioned in (A) and (B) following.

(A) Switched Access Service

Testing Services for Switched Access are comprised of (a) tests which are performed during the installation of a Switched Access Service (i.e., Acceptance Tests), (b) tests which are performed after customer acceptance of such access services and which are without charge (i.e., routine testing) and (c) additional tests which are performed during or after customer acceptance of such access services and for which additional charges apply, (i.e., Additional Cooperative Acceptance Tests and in-service tests).

Routine tests are those tests performed by the Telephone Company on a regular basis, as set forth in 6.1.4 preceding which are required to maintain Switched Access Service. Additional in-service tests may be done on an automatic basis (no Telephone Company or customer technicians involved), on a manual basis (Telephone Company technicians(s) involved at Telephone Company office(s) and Telephone Company or customer technician(s) involved at the customer designated premises).

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ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

13.3 **Miscellaneous Services** (Continued)

13.3.1 **Testing Services** (Continued)

(A) **Switched Access Service** (Continued)

Testing services are ordered to the Dial Tone Office for FGA, to the access tandem or end office for FGB (wherever the FGB service is ordered) and to the end office for FGs C and D. Testing Services for Directory Assistance Service not routed through an access tandem is ordered to a Directory Assistance Location for each NPA.

(1) **Additional Cooperative Acceptance Testing**

Additional Cooperative Testing of Switched Access Service involves the Telephone Company provision of a technician at its office(s) and the customer provision of a technician at its premises, with suitable test equipment to perform the required tests.

Additional Cooperative Tests may, for example, consist of the following tests:

- Impulse Noise
- Phase Jitter
- Signal to C-Notched Noise Ratio
- Intermodulation (Nonlinear) Distortion
- Frequency Shift (Offset)
- Envelope Delay Distortion
- Dial Pulse Percent Break

ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

13.3 **Miscellaneous Services** (Continued)

13.3.1 **Testing Services** (Continued)

(A) **Switched Access Service** (Continued)

(2) **Additional Automatic Testing**

Additional Automatic Testing (AAT) of Switched Access Services (Feature Groups B, C, & D), is a service where the customer provides remote office test lines and 105 test lines with associated responders or their functional equivalent. The customer may order, at additional charges, gain-slope and C-notched noise testing and may order the routine tests (1004 Hz loss, C-Message Noise and Balance) on an as-needed or more than routine schedule.

The Telephone Company will provide an AAT report that lists the test results for each trunk tested. Trunk test failures requiring customer participation for trouble resolution will be provided to the customer on an as-occurs basis.

The Additional Tests (i.e., gain slope, C-notched noise, 1004 Hz loss, C-message noise and balance) may be ordered by the customer at additional charges, 60 days prior to the start of the customer prescribed schedule. The rates for Additional Automatic Tests are as set forth in 13.4.3 (B) following.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.3 Miscellaneous Services (Continued)

13.3.1 Testing Services (Continued)

(A) Switched Access Service (Continued)

(3) Additional Manual Testing

Additional Manual Testing (AMT) of Switched Access Services (Feature Groups A, B, C, and D and Directory Access Service not routed through an access tandem), is a service where the Telephone Company provides a technician at its office(s) and the Telephone Company or customer customers a technician at the customer designated premises, with suitable test equipment to perform the required tests. Such additional tests will normally consist of gain-slope and C-notched noise testing. However, the Telephone Company will conduct any additional tests which the IC may request.

The Telephone Company will provide an AMT report listing the test results for each trunk tested. Trunk test failures requiring customer participation for trouble resolution will be provided to the customer on a per occurrence basis.

The Additional Manual Tests may be ordered by the customer at additional charges, 60 days prior to the start of the testing schedule as manually agreed to by the customer and the Telephone Company.

The rates for Additional Manual Testing are as set forth in 13.4.3(C) following.

ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

(T)

13.3 Miscellaneous Services (Continued)

13.3.1 Testing Services (Continued)

(A) Switched Access Service (Continued)

(4) Obligations of the Customer

- (a) The customer shall provide the Remote Office Test Line priming data to the Telephone Company, as appropriate, to support routine testing as set forth in 6.1.4 preceding or AAT as set forth in 13.4.3(B) preceding.
- (b) The customer shall make the facilities to be tested available to the Telephone Company at times mutually agreed upon.

(B) Special Access Service

The Telephone Company will provide assistance in performing specific tests requested by the customer.

(1) Additional Cooperative Acceptance Testing

When a customer provides a technician at its premises or at an end user's premises, with suitable test equipment to perform the requested tests, the Telephone Company will provide a technician at its office for the purpose of conducting Additional Cooperative Acceptance Testing on Voice Grade Services. At the customer's request, the Telephone Company will provide a technician at the customer's premises or at the end user premises. These tests may, for example, consist of the following:

- Attenuation Distortion (i.e., frequency response)
- Intermodulation Distortion (i.e., harmonic distortion)
- Phase Jitter
- Impulse Noise
- Envelope Delay Distortion
- Echo Control
- Frequency Shift

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13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

13.3 Miscellaneous Services (Continued)

13.3.1 Testing Services (Continued)

(B) Special Access Service (Continued)

(2) Additional Manual Testing

The Telephone Company will provide a technician at its premises, and the Telephone Company or customer will provide a technician at the customer's designated premises with suitable test equipment to perform the requested tests.

(3) Obligation of the Customer

When the customer subscribes to the Testing Service as set forth in this section, the customer shall make the facilities to be tested available to the Telephone Company at times mutually agreed upon.

13.3.2 Maintenance of Service

(A) When a customer reports a trouble to the Telephone Company for clearance and no trouble is found in the Telephone Company's facilities, the customer shall be responsible for payment of a Maintenance of Service charge as set forth in 13.4.3(F) following for the period of time from when Telephone Company personnel are dispatched, at the request of the customer, to the customer designated premises to when the work is completed. Failure of Telephone Company personnel to find trouble in Telephone Company facilities will result in no charge if the trouble is actually in those facilities, but not discovered at the time.

(B) The customer shall be responsible for payment of a Maintenance of Service charge when the Telephone Company dispatches personnel to the customer designated premises, and the trouble is in equipment or communications systems provided by other than the Telephone Company or in detariffed CPE provided by the Telephone Company.

In either (A) or (B) preceding, no credit allowance will be applicable for the interruption involved if the Maintenance of Service Charge applies.

ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.3 Miscellaneous Services (Continued)

13.3.3 Telecommunications Service Priority – TSP

- (A) Priority installation and/or restoration of National Security Emergency Preparedness (NSEP) telecommunications services shall be provided in accordance with Part 64.401, Appendix A, of the Federal Communications Commission's (FCC's) Rules and Regulations.

In addition, TSP System service shall be provided in accordance with the guidelines set forth in "Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP) Service Vendor Handbook" (NCSH 3-1-2) dated July 9, 1990, and "Telecommunications Service Priority System for National Security Emergency Preparedness Service User Manual" (NCSM 3-1-1).

The TSP System is a service, developed to meet the requirements of the Federal Government, as specified in the Service Vendor's Handbook and Service User's Manual which provides the regulatory, administrative and operational framework for the priority installation and/or restoration of NSEP telecommunications services. These include both Switched and Special Access Services. The TSP System applies only to NSEP telecommunications services, and requires and authorizes priority action by the Telephone Company providing such services.

For Switched Access Service, the TSP System's applicability is limited to those services which the Telephone Company can discreetly identify for priority provisioning and/or restoration.

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ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

13.3 **Miscellaneous Services** (Continued)

13.3.3 **Telecommunications Service Priority – TSP** (Continued)

- (B) A Telecommunications Service Priority charge applies as set forth in 13.4.3(G) when a request to provide or change a Telecommunications Service Priority is received subsequent to the issuance of an Access Order to install the service.

Additionally, a Miscellaneous Service Order Charge as set forth in 13.4.1 will apply to Telecommunications Service Priority requests that are ordered subsequent to the initial installation of the associated access service.

A Telecommunications Service Priority charge does not apply when a Telecommunications Service Priority is discontinued or when ordered coincident with an Access Order to install or change service.

In addition, Additional Labor rates as set forth in 13.4.2 may be applicable when provisioning or restoring Switched or Special Access Services with Telecommunications Service Priority.

When the customer requests an audit or a reconciliation of the Telephone Company's Telecommunications Service Priority records, a Miscellaneous Service Order Charge as set forth in 5.6.1(D) and Additional Labor rates as set forth in 13.4.2 are applicable.

ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.3 Miscellaneous Services (Continued)

13.3.4 Miscellaneous Equipment

(A) Controller Arrangement

This arrangement enables the customer to control up to 48 transfer functions at a Telephone Company central office via a remote keyboard terminal capable of either 300 or 1200 bps operation. Included as part of the Controller Arrangement is a dial-up data station located at the Telephone Company Central Office to provide access to the Controller Arrangement. This dial-up data station consists of a 212A DATAPHONE data set and an appropriate Telephone Company provided channel.

The Controller Arrangement must be located in the same Telephone Company central office as the transfer functions which it controls.

Charges for the Controller Arrangement are set forth in 13.4.3(H) following.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.3 Miscellaneous Services (Continued)

13.3.5 IntraLATA Presubscription

(A) General

IntraLATA Presubscription is a procedure whereby a customer designates to the Telephone Company the carrier which the customer wishes to be the carrier of choice for intraLATA toll calls. Such calls are automatically directed to the designated carrier, without the need to use carrier access codes or additional dialing to direct the call to the designated carrier. IntraLATA presubscription does not prevent a customer, who has presubscribed to an intraLATA toll carrier, from using carrier access codes or additional dialing to direct calls to an alternative intraLATA toll carrier on a per call basis.

All intraLATA toll message calls are subject to IntraLATA Presubscription. An intraLATA toll message call is a completed call on the public switched network between the originating location and a terminating location within a given LATA, but outside the local service area of the originating location.

All 0- calls, calls to 1-HNPA-555-1212 or 555-1212, 411, 611, 911, Public Announcement Service calls (976-XXXX), and all local calls, including Extended Area Service (EAS) and Expanded Local Calling calls, are specifically excluded from IntraLATA Presubscription. Calls using the 500, 700, 800 series, or 900 service access codes shall be routed in accordance with the North American Numbering Plan.

(B) Rules and Regulations

Customers of record on the effective date of this tariff will retain their current dialing arrangements until they request that their dialing arrangements be changed. All customers of record will be initially presubscribed to the Telephone Company's intraLATA carrier.

Customers may change their Option and/or their presubscribed intraLATA toll carrier at any time subject to charges specified in Paragraph D below.

ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.3 Miscellaneous Services (Continued)

13.3.5 IntraLATA Presubscription (Continued)

(C) IntraLATA Presubscription Customer Notices

The Telephone Company will notify customers that IntraLATA Presubscription is available no longer than thirty (30) days following the effective date of this tariff. The notice will contain a description of intraLATA toll presubscription, how to make an intraLATA toll presubscription carrier selection, a description of when and what charges apply related to the selection of an intraLATA toll carrier.

(D) IntraLATA Presubscription Charges

There will be no charge for a customer's initial intraLATA toll presubscription selection for a period beginning on the effective date of this tariff and ending no sooner than ninety (90) days following the mailing date of customer notification of intraLATA presubscription availability.

New local service customers will be asked to select a carrier(s) for their intraLATA toll and interLATA calls subject to presubscription at the time they place an order with the Telephone Company for local exchange service. If the new customer is unable to make a selection, at that time, the new customer will be read a random listing of all available intraLATA toll carriers to aid their selection. If the new customer is still unable to make a selection, at that time, the Telephone Company will inform the new customer that their intraLATA calling arrangements will be defaulted to their interLATA carrier.

After a customer's initial selection for a presubscribed intraLATA toll carrier, for any change thereafter, an IntraLATA Presubscription Change Charge (PIC), as set forth in Section 13.4.3(I) will apply.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.4 Rates and Charges

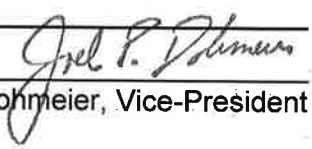
13.4.1 Additional Engineering

	<u>Charge</u>
Additional Engineering Periods	
(A) Basic Time, per engineer Normally Scheduled working hours	\$31.03
(B) Overtime, per engineer Outside of normally scheduled working hours	\$46.55
(C) Premium Time, per engineer Outside of scheduled work day	\$62.06

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13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

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13.4 Rates and Charges

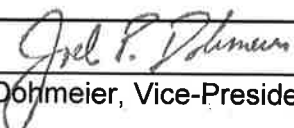
13.4.2 Additional Labor

	<u>Charge</u>
Additional Labor Periods	
(A) Installation or Repair	
- Overtime, per technician outside of normal scheduled working hours on a scheduled work day	\$47.57*
- Premium Time, per technician outside of scheduled work day	\$63.42*
(B) Standby	
- Basic time, per technician normally scheduled working hours	\$21.18
- Overtime, per technician outside of normally scheduled working hours on a scheduled work day	\$31.77
- Premium Time, per technician outside of scheduled work day	\$42.36

* A call out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.4 Rates and Charges (Continued)

13.4.2 Additional Labor (Continued)

Each ½ Hour or Fraction Thereof
Installation and Repair Technician Central Office Maintenance Technician

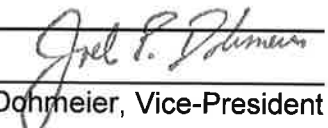
Additional Labor Periods

(C) Testing and Maintenance with other Telephone Companies, or Other Labor

- Basic Time per technician, Normally scheduled working hours	\$31.71	\$34.66
- Overtime, per technician, Outside of normally scheduled working hours on a scheduled work day	\$47.57	\$51.99
- Premium Time, Per technician, outside of scheduled work day	\$63.42	\$69.32

* A call out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.4 Rates and Charges (Continued)

13.4.3 Miscellaneous Services

(A) Additional Cooperative Acceptance Testing – Switched Access

Each Half
Hour or
Fraction
Thereof

Testing Periods

Basic Time, Overtime*
and Premium Time*

See the rates
for Additional
Labor as set
forth in 13.4.2(C)
preceding.

(B) Additional Automatic Testing – Switched Access – Group D, All

To First Point
of Switching

Additional Tests

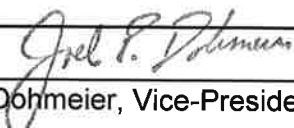
Per Test Per
Transmission Path

Gain-Slope Tests	\$2.89
C-Notched Noise Tests	\$2.89
1004 Hz Loss**	\$2.89
C-Message Noise**	\$2.89
Balance (return loss)**	\$2.89

* A call out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

** 1004 Hz Loss, C-Message Noise and Balance are non-chargeable routine tests; however, they may be requested on an as needed or more than routine scheduled basis, in which case the charges herein apply.

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ACCESS TARIFF

13. **ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES** (Continued)

13.4 Rates and Charges (Continued)

13.4.3 Miscellaneous Services (Continued)

(C) Additional Manual Testing – Switched Access-Group D, All

To First Point
Of Switching

Additional Tests

Each Half
Hour or
Fraction
Thereof

Gain Slope,
C-Notched Noise and
Any other agreed to
Tests, per technician

See the rates
for Additional
Labor as set
forth in 13.4.2(C)
preceding.

(D) Additional Cooperative Testing – Special Access – Group D, All

Testing Periods

Basic Time, Overtime*
And Premium Time*

Each Half
Hour or
Fraction
Thereof

See the rates
for Additional
Labor as set
forth in 13.4.2(C)
preceding.

* A call out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.4 Rates and Charges (Continued)

13.4.3 Miscellaneous Services (Continued)

(E) Additional Manual Testing – Special Access

Each Half
Hour or
Fraction
Thereof

Testing Periods

Basic Time, Overtime*
and Premium Time*

See the rates
for Additional
Labor as set
forth in 13.4.2(C)
preceding.

(F) Maintenance of Service

Each Half
Hour or
Fraction
Thereof

Maintenance of Service
Periods

Basic Time, Overtime*
And Premium Time*

See the rates
for Additional
Labor as set
forth in 13.4.2(C)
preceding.

(G) Telecommunications Service Priority

Non-Recurring
Charge

Per Service Arranged

\$54.63

(H) Controller Arrangement-Group D, All

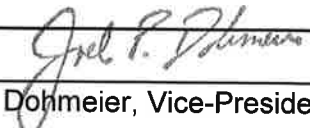
Monthly
Rate

Per Arrangement

\$100.00

* A call out of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of four hours.

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ACCESS TARIFF

13. ADDITIONAL ENGINEERING, ADDITIONAL LABOR AND MISCELLANEOUS SERVICES (Continued)

13.4 Rates and Charges (Continued)

13.4.3 Miscellaneous Services (Continued)

(I) IntraLATA Presubscription

	Non-Recurring Charge
(1) IntraLATA Presubscription Change Charge	
Per business or residence line, trunk or port -Initial line, trunk, or port	\$1.25
(2) Simultaneous IntraLATA and InterLATA Change Charge	
Per business or residence line, trunk or port -Initial line, trunk, or port	\$0.62

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ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS

14.1 contains Switched Access Service Options (which are comprised of Interface Groups, Supervisory Signaling, Entry Switch Receive Level and Local Transport Termination) and Transmission Specifications. 14.2 describes Special Access Service Network Channel (NC) codes and Network Interface (NCI) codes.

14.1 Switched Access Service

Ten Interface Groups are provided for terminating the Local Transport at the customer's designated premises. Each Interface Group provides a specified premises interface. Where transmission facilities permit, the individual transmission path between the customer's designated premises and the first point of switching may, at the option of the customer, be provided with optional features per in 14.1.1(E).

As a result of the customer's access order and the type of Company transport facilities serving the customer's premises, the need for signaling conversions or two-wire to four-wire conversions, or the need to terminate digital or high frequency facilities in channel bank equipment may require that Company equipment be placed at the customer's premises. For example, if a voice frequency interface is ordered by the customer and the Company facilities serving the customer's premises are digital, then Company channel bank equipment must be placed at the customer's premises in order to provide the voice frequency interface ordered by the customer.

14.1.1 Local Transport Interface Groups

Interface Groups are combinations of technical parameters which describe the Telephone Company handoff at the point of termination at the customer designated premises. The technical specifications concerning the available interface groups are set forth in (A) through (D) following.

Interface Group 1 is provided with Type C Transmission Specifications, and Interface Groups 2 through 10 are provided with Type A or B Transmission Specifications, depending on the Feature Group and whether the Access Service is routed directly or through an access tandem. All Interface Groups are provided with Data Transmission Parameters.

Only certain premises interfaces are available at the customer's premises. The premises interfaces associated with the Interface Groups may vary among Feature Groups.

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(A) Interface Group 1

Interface Group 1, except as set forth in the following, provides two-wire voice frequency transmission at the point of termination at the customer's premises. The interface is capable of transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

Interface Group 1 is not provided in association with FGC and FGD when the first point of switching is an access tandem. In addition, Interface Group 1 is not provided in association with FGB, FGC, or FGD when the first point of switching provides only four-wire terminations.

The transmission path between the point of termination at the customer's premises and the first point of switching may be comprised of any form or configuration of plant capable of and typically used in the telecommunications industry for the transmission of voice and associated telephone signals within the frequency bandwidth of 300 to 3000 Hz.

The interface is provided with loop supervisory signaling. When the interface is associated with FGA, such signaling will be loop start or ground start signaling. When the interface is associated with FGB, FGC, or FGD, such signaling, except for two-way calling, which is E&M signaling, will be reverse battery signaling.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(B) Interface Group 2

Interface Group 2 provides four-wire voice frequency transmission at the point of termination at the customer's premises. The interface is capable of transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

The transmission path between the point of termination at the customer's premises and the first point of switching may be comprised of any form or configuration of plant capable of and typically used in the telecommunications industry for the transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

The interface is provided with loop supervisory signaling. When the interface is associated with FGA, such signaling will be loop start or ground start signaling. When the interface is associated with FGB, FGC, or FGD, such signaling, except for two-way calling, which is E&M signaling, will be reverse battery signaling.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(C) Interface Groups 3 through 5

Interface Groups 3 through 5 provide analog transmission at the point of termination at the customer designated premises. The various interfaces are capable of transmitting electrical signals at the frequencies illustrated following, with the capability to channelize voice frequency transmission paths. Certain frequencies within the bandwidth of the Interface Groups are reserved for Telephone Company use, e.g., pilot and carrier group alarm tones. Before the first point of switching, the Telephone Company will provide multiplex equipment to derive the transmission paths of frequency bandwidth of approximately 300 to 3000 Hz.

The interfaces are provided with individual transmission path SF supervisory signaling.

<u>Interface Group Identification No.</u>	<u>Transmission Frequency Bandwidth</u>	<u>Analog Hierarchy Level</u>	<u>Maximum No. of Channelized Voice Freq. Trans. Paths</u>
3	60-108 kHz	Group	12
4	312-552 kHz	Supergroup	60
5	564-3084 kHz	Mastergroup	600

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(D) Interface Groups 6 through 10

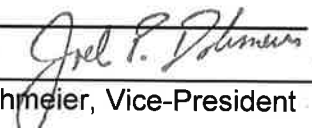
Interface Groups 6 through 10 provide digital transmission at the point of termination at the customer designated premises. The various interfaces are capable of transmitting electrical signals at the nominal bit rates illustrated following, with the capability to channelize voice frequency transmission paths. Before the first point of switching, when analog switching utilizing analog terminations is provided, the Telephone Company will provide multiplex and channel bank equipment to derive transmission paths of a frequency bandwidth of approximately 300 to 3000 Hz. When digital switching or analog switching with digital carrier terminations is provided, the Telephone Company will provide a DS1 signal(s) in D3/D4 format.

The interfaces are provided with individual transmission path bit stream supervisory signaling.

<u>Interface Group Identification No.</u>	<u>Nominal Bit Rate (Mbps)</u>	<u>Digital Hierarchy Level</u>	<u>Maximum No. of Channelized Voice Freq. Trans. Paths</u>
6	1.544	DS1	24
7	3.152	DS1C	48
8	6.312	DS2	96
9	44.736	DS3	672
10	274.176	DS4	4032

(T)

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Joel Dohmeier, Vice-President

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(E) Local Transport Optional Features

Where transmission facilities permit, the Telephone Company will, at the option of the customer, provide the following features in association with Local Transport. An Access Order charge as specified in 5.6.1(A) following is applicable on a per order basis when nonchargeable optional features are added subsequent to the installation of service.

- Customer Specified Entry Switch Receive Level

Customer Specified Entry Switch Receive Level allows the customer to specify the receive transmission level at the first point of switching. The range of transmission levels which may be specified is described in Technical Reference TR-NPL-000334. This feature is available with Interface Groups 2 through 10 for Feature Groups A and B.

- Customer Specification of Local Transport Termination

Customer Specification of Local Transport Termination allows the customer to specify, for Feature Group B routed directly to an end office or access tandem, a four-wire termination of the Local Transport at the first point of switching in lieu of a Telephone Company selected two-wire termination. This option is available only when the Feature Group B arrangement is provided with Type B Transmission Specifications.

- Supervisory Signaling

Supervisory Signaling allows the customer to order an optional supervisory signaling arrangement for each transmission path provided where the transmission parameters permit, and where signaling conversion is required by the customer to meet its signaling capability.

(T)

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(E) Local Transport Optional Features (Continued)

The Interface Groups, as described in (A) through (D) preceding, represent industry standard arrangements. Where transmission parameters permit, the customer may select the following optional signaling arrangements in place of the signaling arrangements standardly associated with the Interface Groups.

- For Interface Groups 1 and 2 associated with FGB, FGC or FGD

DX Supervisory Signaling,
E&M Type I Supervisory Signaling,
E&M Type II Supervisory Signaling, or
E&M Type III Supervisory Signaling
- For Interface Group 2 associated with FGB, FGC or FGD and in addition to the preceding

SF Supervisory Signaling, or
Tandem Supervisory Signaling
- For Interface Groups 3 through 5

Optional Supervisory Signaling Not Available
- For Interface Groups 6 through 10

These Interface Groups may, at the option of the customer, be provided with individual transmission path SF supervisory signaling where such signaling is available in Telephone Company central offices. Generally such signaling is available only where the first point of switching provides an analog (i.e. non-digital) interface to the transport termination.

Additionally, in (F) following, there is a matrix of available Premises Interface Codes as a function of Interface Group, Telephone Company Switch Supervisory Signaling and Feature Group.

(T)

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(F) Available Premises Interface Codes

Following is a matrix showing premises interface codes which are available for each Interface Group. Their availability is a function of the Telephone Company switch supervisory signaling and Feature Group. For explanations of these codes, see the Parameter Codes and Options as set forth in 14.2.2(A) following.

<u>Interface Group</u>	<u>Telephone Company Switch Supervisory Signaling</u>	<u>Premises Interface Code</u>	<u>Feature Group</u>			
			<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
1	LO	2LS2	X			
	LO	2LS3	X			
	GO	2GS2	X			
	GO	2GS3	X			
	LO, GO	2DX3	X			
	LO, GO	4EA3-E	X			
	LO, GO	4EA3-M	X			
	LO, GO	6EB3-E	X			
	LO, GO	6EB3-M	X			
	RV, EA, EB, EC	2DX3		X	X	X
	RV, EA, EB, EC	4EA3-E		X	X	X
	RV, EA, EB, EC	4EA3-M		X	X	X
	RV, EA, EB, EC	6EB3-E		X	X	X
	RV, EA, EB, EC	6EB3-M		X	X	X
	EA, EB, EC	6EC3			X	X
	RV	2RV3-0		X	X	X
	RV	2RV3-T		X	X	X
	SS7	2NO2			X	X

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 **Switched Access Service** (Continued)

14.1.1 **Local Transport Interface Groups** (Continued)

(F) **Available Premises Interface Codes** (Continued)

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group			
			A	B	C	D
2	LO, GO	4SF2	X			
	LO, GO	4SF3	X			
	LO	4LS2	X			
	LO	4LS3	X			
	LO	6LS2	X			
	GO	4GS2	X			
	GO	4GS3	X			
	GO	6GS2	X			
	LO, GO	4DX2	X			
	LO, GO	4DX3	X			
	LO, GO	6EA2-E	X			
	LO, GO	6EA2-M	X			
	LO, GO	8EB2-E	X			
	LO, GO	8EB2-M	X			
	LO, GO	6EX2-B	X			
	RV, EA, EB, EC	4SF2		X	X	X
	RV, EA, EB, EC	4SF3		X		
	RV, EA, EB, EC	4DX2		X	X	X
	RV, EA, EB, EC	4DX3		X		
	RV, EA, EB, EC	6DX2			X	
	RV, EA, EB, EC	6EA2-E		X	X	X
	RV, EA, EB, EC	6EA2-M		X	X	X
	RV, EA, EB, EC	8EB2-E		X	X	X
	RV, EA, EB, EC	8EB2-M		X	X	X
	EA, EB, EC	8EC2-M			X	X
	RV	4RV2-0		X	X	X
	RV	4RV2-T		X	X	X
	RV	4RV3-0		X	X	
	RV	4RV3-T		X	X	
	SS7	4NO2			X	X

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(F) Available Premises Interface Codes (Continued)

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group			
			A	B	C	D
3	LO, GO	4AH5-B	X			
	RV, EA, EB, EC	4AH5-B		X	X	X
	SS7	4AH5-B			X	X
4	LO, GO	4AH6-C	X			
	RV, EA, EB, EC	4AH6-C		X	X	X
	SS7	4AH6-C			X	X
5	LO, GO	4AH6-D	X			
	RV, EA, EB, EC	4AH6-D		X	X	X
	SS7	4AH6-D			X	X
6	LO, GO	4DS9-15	X			
	LO, GO	4DS9-15L	X			
	RV, EA, EB, EC	4DS9-15		X	X	X
	RV, EA, EB, EC	4DS9-15L		X	X	X
	SS7	RDS9-15			X	X
7	LO, GO	4DS9-31	X			
	LO, GO	4DS9-31L	X			
	RV, EA, EB, EC	4DS9-32		X	X	X
	RV, EA, EB, EC	4DS9-31L		X	X	X
	SS7	4DS9-31			X	X
8	LO, GO	4DS0-63	X			
	LO, GO	4DS0-63L	X			
	RV, EA, EB, EC	4DS0-63		X	X	X
	RV, EA, EB, EC	4DS0-63L		X	X	X
	SS7	4DS0-63			X	X

(T)

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.1 Local Transport Interface Groups (Continued)

(F) Available Premises Interface Codes (Continued)

<u>Interface Group</u>	<u>Telephone Company Switch Supervisory Signaling</u>	<u>Premises Interface Code</u>	<u>Feature Group</u>			
			<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
9	LO, GO	4DS6-44	X			
	LO, GO	4DS6-44L	X			
	RV, EA, EB, EC	4DS6-44		X	X	X
	RV, EA, EB, EC	4DS6-44L		X	X	X
	SS7	4DS6-44			X	X
10	LO, GO	4DS6-27	X			
	LO, GO	4DS6-27L	X			
	RV, EA, EB, EC	4DS6-27		X	X	X
	RV, EA, EB, EC	4DS6-27L		X	X	X
	SS7	4DS6-27			X	X

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications

Descriptions of the transmission specifications available with each Feature Group as a function of the Interface Group selected by the customer, are set forth in (A) through (D) following. Descriptions of each of these Standard Transmission Specifications and the two Data Transmission Parameters mentioned are set forth respectively in (E) through (G) and 14.1.3 (A) and (B) following:

(A) Feature Group A

FGA is provided with either Type B or Type C Transmission Specifications. The specifications for the associated parameters are guaranteed to the first point of switching. Type C Transmission Specifications are provided with Interface Group 1 and Type B is provided with Interface Groups 2 through 10. Type DB Data Transmission Parameters are provided with FGA to the first point of switching.

(B) Feature Group B

FGB is provided with either Type B or Type C Transmission Specifications. The specifications for the associated parameters are guaranteed to the end office when routed directly or to the first point of switching when routed via an access tandem. Type C Transmission Specifications are provided with Interface Group 1 and Type B is provided with Interface Groups 2 through 10. Type DB Data Transmission Parameters are provided with FGB to the first point of switching.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(C) Feature Group C

FGC is provided with either Type B or Type C Transmission Specifications as follows:

- When routed directly to the end office either Type B or Type C is provided.
- When routed to an access tandem only Type B is provided.
- Type B or Type C is provided on the transmission path from the access tandem to the end office.

Type C Transmission Specifications are provided with Interface Group 1 when routed directly to an end office. Type B is provided with Interface Groups 2 through 10, whether routed directly to an end office or to an access tandem.

Type DB Data Transmission Parameters are provided with FGC for the transmission path between the customer designated premises and the end office when directly routed to the end office, and between the customer designated premises and the access tandem and between the access tandem and the end office when routed via an access tandem.

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(D) Feature Group D

FGD is provided with either Tupe A, Type B or Type C Transmission Specifications as follows:

- When routed to the end office either Type B or Type C is provided.
- When routed to an access tandem only Type A is provided.
- Type A is provided on the transmission path from the access tandem to the end office.

Type C Transmission Specifications are provided with Interface Group 1. Type A and Type B Transmission Specifications are provided with Interface Groups 2 through 10.

Type DB Data Transmission Parameters are provided with FGD for the transmission path between the customer designated premises and the end office when directly routed to the end office. Type DA Data Transmission Parameters are provided for the transmission path between the customer designated premises and the access tandem and between the access tandem and the end office when routed via an access tandem.

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(E) Type A Transmission Specifications

Type A Transmission Specifications are provided with the following parameters:

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is 2.0 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 2804 Hz frequency band relative to the loss at 1004 Hz is -1.0 dB to +3.0 dB.

(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

<u>Route Miles</u>	<u>C-Message Noise</u>
less than 50	32 dBrnCO
51 to 100	34 dBrnCO
101 to 200	37 dBrnCO
201 to 400	40 dBrnCO
401 to 1000	42 dBrnCO

(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBmO holding tone, is less than or equal to 45 dBrnCO.

(T)

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(E) Type A Transmission Specifications

(5) Echo Control

Echo Control, identified as Equal Level Echo Path Loss, and expressed as Echo Return Loss and Singing Return Loss, is dependent on the routing, i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. It is equal to or greater than the following:

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem	21 dB	14 dB
POT to End Office		
- Direct	N/A	N/A
- Via Access Tandem	16 dB	11 dB

(6) Standard Return Loss

Standard Return Loss expressed as Echo Return Loss and Singing Return Loss on two-wire ports of a four-wire point of termination shall be equal to or greater than:

<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
5 dB	2.5 dB

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(F) Type B Transmission Specifications

Type B Transmission Specification is provided with the following parameters.

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is ± 2.5 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion is the 404 to 2804 Hz frequency band relative to loss at 1004 Hz is -2.0 dB to +4.0 dB.

(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

<u>Route Miles</u>	<u>C-Message Noise*</u>	
	<u>Type B1</u>	<u>Type B2</u>
less than 50	32 dBrnCO	35 dBrnCO
51 to 100	33 dBrnCO	37 dBrnCO
101 to 200	35 dBrnCO	40 dBrnCO
201 to 400	37 dBrnCO	43 dBrnCO
401 to 1000	39 dBrnCO	45 dBrnCO

* For Feature Groups C and D only Type B2 will be provided. For Feature Groups A and B, Type B1 or B2 will be provided as set forth in Technical Reference TR-NPL-000334.

(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBmO holding tone is less than or equal to 47 dBrnCO.

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(F) Type B Transmission Specifications (Continued)

Type B Transmission Specification is provided with the following parameters. (Continued)

(5) Echo Control

Echo Control, identified as Impedance Balance for FGA and FGB and Equal Level Echo Path Loss for FGC and FGD, and expressed as Echo Return Loss (ERL) and Singing Return Loss (SRL), is dependent on the routing; i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. The ERL and SRL also differ by Feature Group, type of termination, and type of transmission path. They are greater than or equal to the following:

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem		
- Terminated in 4-Wire trunk	21 dB	14 dB
POT to End Office		
- Terminated in 2-Wire trunk	16 dB	11 dB
POT to End Office		
- Direct	16 dB	11 dB
- Via Access Tandem		
• For FGB access	8 dB	4 dB
• For FGC access (Effective 4-Wire transmission path at end office)	16 dB	11 dB
• For FGC access (Effective 2-Wire transmission path at end office)	13 dB	6 dB

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(F) Type B Transmission Specifications (Continued)

Type B Transmission Specification is provided with the following parameters. (Continued)

(6) Standard Return Loss

Standard Return Loss, expressed as Echo Return Loss and Singing Return Loss, on two-wire ports of a four-wire point of termination shall be equal to or greater than:

Echo Return Loss

5 dB

Singing Return Loss

2.5 dB

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(G) Type C Transmission Specifications

Type C Transmission Specifications are provided with the following parameters:

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss is ± 3.0 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 2804 Hz frequency band relative to loss at 1004 Hz is -2.0 dB to +5.5 dB.

(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

<u>Route Miles</u>	<u>C-Message Noise*</u>	
	<u>Type C1</u>	<u>Type C2</u>
less than 50	32 dBrnCO	38 dBrnCO
51 to 100	33 dBrnCO	39 dBrnCO
101 to 200	35 dBrnCO	41 dBrnCO
201 to 400	37 dBrnCO	43 dBrnCO
401 to 1000	39 dBrnCO	45 dBrnCO

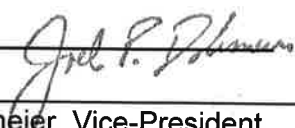
* For Feature Group C and D only Type C2 will be provided. For Feature Groups A and B, Type C1 or C2 will be provided as set forth in Technical Reference TR-NPL-000334.

(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBm0 holding tone is less than or equal to 47 dBrnCO.

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EFFECTIVE: November 26, 2018

ISSUED BY:


Joel Dohmeier, Vice-President

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.2 Standard Transmission Specifications (Continued)

(G) Type C Transmission Specifications

Type C Transmission Specifications are provided with the following parameters: (Continued)

(5) Echo Control

Echo Control, identified as Return Loss and expressed as Echo Return Loss and Singing Return Loss, is dependent on the routing, i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. It is equal to or greater than the following:

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem	13 dB	6 dB
POT to End Office		
- Direct	13 dB	6 dB
- Via Access Tandem (for FGB only)	8 dB	4 dB

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.3 Data Transmission Parameters

Two types of Data Transmission Parameters, i.e., Type DA and Type DB, are provided for the Feature Group arrangements. Type DB is provided with Feature Groups A, B and C and also with Feature Group D when Feature Group D is directly routed to the end office. Type DA is only provided with Feature Group D and only when routed via an access tandem. Following are descriptions of each.

(A) Data Transmission Parameters Type DA

(1) Signal to C-Notched Noise Ratio

The Signal to C-Notched Noise Ratio is equal to or greater than 33 dB.

(2) Envelope Delay Distortion

The maximum Envelope Delay Distortion for the frequency bands and route miles specified is:

604 to 2804 Hz

less than 50 route miles	500 microseconds
equal to or greater than 50 route miles	900 microseconds

1004 to 2404 Hz

less than 50 route miles	200 microseconds
equal to or greater than 50 route miles	400 microseconds

(3) Impulse Noise Counts

The Impulse Noise Counts exceeding a 65 dBrnC0 threshold in 15 minutes is no more than 15 counts.

(4) Intermodulation Distortion

The Second Order (R2) and Third Order (R3) Intermodulation Distortion products are equal to or greater than:

Second Order (R2)	33 dB
Third Order (R3)	37 dB

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.1 Switched Access Service (Continued)

14.1.3 Data Transmission Parameters (Continued)

(A) Data Transmission Parameters Type DA

(5) Phase Jitter

The Phase Jitter over the 4-300 Hz frequency band is less than or equal to 5 peak-to-peak.

(6) Frequency Shift

The maximum Frequency Shift does not exceed -2 to +2 Hz.

(B) Data Transmission Parameters Type DB

(1) Signal to C-Notched Noise Ratio

The signal to C-Notched Noise Ratio is equal to or greater than 30 dB.

(2) Envelope Delay Distortion

The maximum Envelope Delay Distortion for the frequency bands and route miles specified is:

604 to 2804 Hz

less than 50 route miles	800 microseconds
equal to or greater than 50 route miles	1000 microseconds

1004 to 2404 Hz

less than 50 route miles	320 microseconds
equal to or greater than 50 route miles	500 microseconds

(3) Impulse Noise Counts

The Impulse Noise Counts exceeding a 67 dBnCO threshold in 15 minutes is no more than 15 counts.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.1 Switched Access Service (Continued)

14.1.3 Data Transmission Parameters (Continued)

(B) Data Transmission Parameters Type DB (Continued)

(4) Intermodulation Distortion

The Second Order (R2) and Third Order (R3) Intermodulation Distortion products are equal to or greater than:

Second Order (R2)	31 dB
Third Order (R3)	34 dB

(5) Phase Jitter

The Phase Jitter over the 4-300 Hz frequency band is less than or equal to 7° peak-to-peak.

(6) Frequency Shift

The maximum Frequency Shift does not exceed -2 to +2 Hz.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.2 Special Access Service

This section explains and lists the codes that the customer must specify when ordering Special Access Service. Switched Access, Entrance Facilities, and Voice Grade and High Capacity Direct Trunked Transport. These codes provide a standardized means to relate the services being ordered to Special Access Service offerings contained in Section 7 preceding.

When ordering, the type of Special Access Service or Switched Access Entrance Facility or Direct Trunked Transport is described by two code sets, the Network Channel (NC) code and the Network Channel Interface (NCI) codes.

The Network Channel (NC) code consists of two elements. Element one is a Channel Service Code (character positions 1 and 2) that describes the channel service type in an abbreviated form. Element two is an Optional Feature Code character positions 3 and 4) that identifies optional codes available for each channel service code, such as C-Conditioning or Improved Return Loss.

The Network Channel Interface (NCI) is used to identify interface specifications associated with a particular channel. This code describes the total wires, protocol, impedance, protocol options and transmission level point(s) reflecting physical and electrical characteristics between the Telephone Company and the customer.

On the following pages are examples which explain the specific characters of the codes and which reference matrices and charts used in developing the codes. Included in the matrices are Service Designator (SD) codes which are used to identify variations of service within service types (e.g., TF1= Telegraph). The SD and NC codes are displayed as components of the matrices designated as Technical Specifications packages in (A) through (G) following. Through the use of these matrices, DS codes may be converted to NC codes for service ordering purposes.

A chart is also provided in 14.2.2(A) following which contains information necessary to develop NCI codes.

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.2 Special Access Service (Continued)

Comprehensive lists of allowed Network Channel (NC) and Network Channel Interface (NCI) codes are contained in Special Report (x) SR-ST5-000307. However, not all services contained in this Special (x) Report may be offered by the Telephone Company at this time.

Lastly, 14.2.2(C) following provides a list of compatible Network Channel Interfaces inasmuch as the Network Channel Interfaces associated with a given service need not always be the same, but all must be compatible.

Example 1: If the customer wishes to order a 4-wire voice grade circuit with 600 Ohms impedance, capable of data transmission, and with improved return loss, the customer might specify the following:

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
LG-R	04DB2	04DA2-S

NC Code:

LG= Voice Grade Channel Service, VG6
-R= Improved Return Loss

NCI Code:

04= Number of physical wires at CDP
DB= Data stream in VF frequency band at the customer designated main terminal location
2= 600 Ohms impedance

SECNCI (Secondary NCI Code):

04= Number of physical wires at CDP
DA= Data stream in VG frequency at the customer designated secondary terminal location
2= 600 Ohms impedance
S= Sealing current option for 4-wire transmission

In the above example the NCI (Network Channel Interface) code is the interface requested at the customer's POT (Point of Termination) and the SECNCI (Secondary Network Channel Interface) code represents the interface at the end office serving the End User.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

(T)

14.2 Special Access Service (Continued)

Example No. 2: If the customer wishes to order a FX circuit to a station, with 600 Ohms impedance, loop start signaling, which is 4-wire at the CDP and 2-wire at the end-user, the customer might specify:

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
LC--	04LO2	02LS2

NC Code:

LC= Voice Grade Channel Service, VG2
--= No Optional Features

NCI Code:

04= Number of physical wires at CDP
LO= Loop start, loop signaling – open end
2= 600 Ohms impedance

SECNCI (Secondary NCI Code):

02= Number of physical wires at CDP
LS= Loop start signaling – closed end
2= 600 Ohms impedance

Example No. 3: If the customer wishes to order a 1.544 Mbps Hi-cap facility with no channel options such as CO multiplexing, the customer might specify the following:

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
HC--	04DS9-15	04DS9-15

NC Code:

HC= High Capacity Channel Service, HC1
--= No Optional Features

NCI, SECNCI Code:

04= Number of physical wires at CDP
DS= Digital hierarchy interface
9= 100 Ohms impedance
15= 1.544 Mbps (DS1) format

The preceding three examples use information contained in Special Report SF-ST-000307.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.2 Special Access Service (Continued)

14.2.1 Network Channel (NC) Codes

In order to determine the NC code appropriate for the service to be ordered, the type of Special Access Service the customer wishes must be identified. This identification is accomplished by a Service Designator (SD) code. The broad categories of Service Designator codes (e.g., VG, MT, TG, etc.) are set forth in Section 7 preceding. Variations within service type (e.g., VG1, MTC, TG2, etc.) are described in the various Technical Publications cited in (A) through (G) following.

Having determined the specific service type to be ordered and its SD code, and having used the appropriate Technical Publication, the customer should match the DS code to the NC code using the following matrices. Once the NC code has been determined, the Network Channel Interface (NCI) code may be developed using the information set forth 14.2.2 following and the guidelines concerning specific parameters available for each service type as set forth in the specified Technical Publication.

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ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.1 Network Channel (NC) Codes (Continued)

(A) Technical Specifications Packages Voice Grade Service

SD Code NC Code	C* LQ	Package VG-												W SE
		1 LB	2 LC	3 LD	4 LE	5 LF	6 LG	7 LH	8 LJ	9 LK	10 LN	11 LP	12 LR	
Parameter														
Attenuation														
Distortion	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C-Message														
Noise	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Echo Control	X	X	X	X		X		X	X			X	X	X
Envelope Delay														
Distortion	X						X	X	X	X	X	X	X	X
Frequency														
Shift	X						X	X	X	X	X	X	X	X
Impulse Noise	X					X	X	X	X	X	X	X	X	X
Intermodulation														
Distortion	X							X	X	X	X	X		X
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Phase Hits, Gain														
Hits and														
Dropouts	X													
Phase Jitter	X							X	X	X	X	X		X
Signal-to-C														
Message Noise						X								
Signal-to-C														
Notch Noise	X				X		X	X	X	X	X	X	X	X

The technical specifications for these parameters (except for dropouts, phase hits, and gain hits) are described in Technical References TR-NPL-000334 and TR-TSY-000335. The technical specifications for dropouts, phase hits, and gain hits are described in Technical Reference PUB 41004, Table 4.

*The desired parameters are selected by the customer from the list of available parameters.

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ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.2 **Special Access Service** (Continued)

14.2.1 **Network Channel (NC) Codes** (Continued)

(A) **Technical Specifications Packages Voice Grade Service** (Continued)

SD Code NC Code	C* LQ	1 LB	2 LC	3 LD	Package VG-						10 LN	11 LP	12 LR	W SE
					4 LE	5 LF	6 LG	7 LH	8 LJ	9 LK				
<u>Optional Features and Functions</u>														
Central Office Bridging Capability	X		X			X	X				X	X	X	
Central Office Multiplexing	X						X							
Conditioning: -C-type	X					X	X	X	X	X	X			
-Improved Attenuation Distortion	X					X	X	X	X	X	X			
-Improved Envelope Delay Distortion		X				X	X	X	X	X	X			
-Sealing Current	X						X							
-Data Capability	X					X	X	X						
-Telephoto Capability	X												X	
Customer Specified Premises Receive Level	X		X	X			X	X	X					
Improved Return Loss For Effective Four-Wire Transmission	X	X	X	X	X	X	X	X	X	X	X	X	X	
For Effective Two-Wire Transmission	X		X	X				X						
Improved Two-Wire Voice Transmission														X
PPSN Interface Arrangement	X									X				
Selective Signaling Arrangement	X		X			X	X				X	X	X	
Signaling Capability Transfer		X	X	X	X			X	X	X				
Arrangement	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.1 Network Channel (NC) Codes (Continued)

(B) Technical Specifications Packages Digital Data Service

	<u>Package</u>					
SD Code	<u>D1</u>	<u>D2</u>	<u>D3</u>	<u>D4</u>	<u>D5</u>	<u>D6</u>
NC Code	<u>XA</u>	<u>XB</u>	<u>XG</u>	<u>XH</u>	<u>XE</u>	<u>YN</u>
<u>Parameter/Hubbed</u>						
Error-Free Seconds	X	X	X	X	X	X
<u>Optional Features and Functions/Hubbed</u>						
Central Office						
Bridging Capability	X	X	X	X	X	X
PPSN Interface						
Transfer						
Arrangement	X	X	X	X	X	X
Transfer Arrangement	X	X	X	X	X	X

The Telephone Company will provide a channel capable of meeting a monthly average performance equal to or greater than 99.875% error-free seconds (if provided through a Digital Data Hub) while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62310.

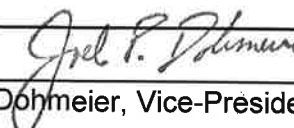
Optional Features and Functions/Non-Hubbed

Public Packet Data						
Arrangement				X	X	

Voltages which are compatible with Digital Data Service are delineated in Technical Reference TR-NWT-000341.

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ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.1 Network Channel (NC) Codes (Continued)

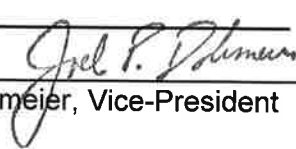
(C) Technical Specifications Packages High Capacity Service

	<u>Package</u>					
SD Code	<u>HC0</u>	HC1	HC1C	HC2	HC3	HC4
NC Code	<u>HS</u>	<u>HC</u>	<u>HD</u>	<u>HE</u>	<u>HF</u>	<u>HG</u>
<u>Parameters</u>						
Error-Free Seconds		X				
<u>Optional Features and Functions/Hubbed</u>						
Automatic Loop Transfer			X			
Central Office Multiplexing:						
DS4 to DS1						X
DS3 to DS1					X	
DS2 to DS1				X		
DS1C to DS1			X			
DS1 to Voice		X				
DS1 to DS0		X				
DS0 to Subrate*	X					
Transfer Arrangement		X				
Clear Channel Capability		X				

A channel with technical specifications package HC1 will be capable of an error-free second performance of 98.75% over a continuous 24 hour period as measured at the 1.544 Mbps rate through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62411.

*Available only on a channel of 1.544 Mbps facility to a Telephone Company Hub.

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ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

The electrical interface with the Telephone Company for Special Access Services, is defined by an interface code. There are interface codes for both the customer designated premises and the point of termination. Three examples of NCI codes are found in 15.2 preceding.

(A) Parameter Codes and Options

<u>Code</u>	<u>Option</u>	<u>Definition</u>
AB	-	accepts 20 Hz ringing signal at customer's point of termination
AC	-	accepts 20 Hz ringing signal at customer's end user's point of termination
AH		analog high capacity interface
	B	60 kHz to 108 kHz (12 channels)
	C	312 kHz to 552 kHz (60 channels)
	D	564 KHz to 3084 kHz (600 channels)
CT	-	Centrex Tie Trunk Termination
CS		digital hierarchy interface at Digital Cross Connect System (DCS)
	15	1.544 Mbps (DS1) ANSI Extended Superframe (ESF) Format And B8ZS Clear Channel Capability
	15A	1.544 Mbps (DS1) Superframe (SF) format
	15B	1.544 Mbps (DS1) Superframe (SF) format and B8ZS Clear Channel Capability
	15K	1.544 Mbps (DS1) Extended Superframe (ESF)
DA	-	data stream in VF frequency band at customer's end user's point of termination
DB	-	data stream in VF frequency band at customer's point of termination
	- 10	VF for TG1 and TG2
	- 43	VF for 43 Telegraph Carrier type signals, TG1 and TG2
DC	-	direct current or voltage
	- 1	monitoring interface with services RC combination (McCulloh format)
	- 2	Telephone Company energized alarm channel
	- 3	Metallic facilities (DC continuity) for direct current/low frequency control signals or slow speed data (30 baud)
DD	-	DATAPHONE Select-A-Station (and TABS) interface at customer's point of termination
DE		DATAPHONE Select-A-Station (and TABS) interface at the customer's end user's point of termination

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(A) Parameter Codes and Options (Continued)

<u>Code</u>	<u>Option</u>	<u>Definition</u>
DE	-	DATAPHONE Select-A-Station (and TABS) interface at the customer's end user's point of termination
DS	-	digital hierarchy interface
	15	1.544 Mbps (DS1) format per PUB 62411 plus D4
	15E	8-bit PCM encoded in one 64 kbps of the DS1 signal
	15F	8-bit PCM encoded in two 64 kbps of the DS1 signal
	15G	8-bit PCM encoded in three 64 kbps of the DS1 signal
	15H	14/11-bit PCM encoded in six 64 kbps of the DS1 signal
	15J	1.544 Mbps format for PUB 62411
	15K	1.544 Mbps format for PUB 62411 plus extended framing format
	15L	1.544 Mbps (DS1) with SF signaling
	27	274.176 Mbps (DS4)
	27L	274.176 Mbps (DS4) with SF signaling
	31	3.152 Mbps (DS1C)
	31L	3.152 Mbps (DS1C) with SF signaling
	44	44.736 Mbps (DS3)
	44L	44.736 Mbps (DS3) with SF signaling
	63	6.312 Mbps (DS2)
	63L	6.312 Mbps (DS2) with SF signaling
DU	-	Digital access interface
	24	2.4 kbps
	48	4.8 kbps
	56	56.0 kbps
	96	9.6 kbps
	64	64.0 kbps
	A	1.544 Mbps format for PUB 62411
	B	1.544 Mbps format per PUB 62411 plus D4
	C	1.544 Mbps format per PUB 62411 plus extended framing format
	1KN	1.544 Mbps ANSI Extended Superframe (ESF) Format without line power
	1SN	1.544 Mbps ANSI Extended Superframe (ESF) Format with B8ZS Clear Channel Capability and without line power
	AN	1.544 Mbps free-framing format without line power (only avail. To U.S. Govt. agencies)
	BN	1.544 Mbps Superframe (SF) Format without line power
	DN	1.544 Mbps Superframe (SF) Format with B8ZS Clear Channel Capability without line power
DX	-	duplex signaling interface at customer's point of termination
DY	-	duplex signaling interface at customer's end user's point of termination

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

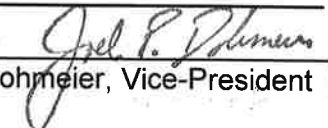
(A) Parameter Codes and Options (Continued)

<u>Code</u>	<u>Option</u>	<u>Definition</u>
EA	- E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E lead.
EA	- M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	- E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	- M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EC	-	Type III E&M Signaling at customer POT.
EX	- A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions.
EX	- B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions.
GO	-	ground start loop signaling - open end function by customer or customer's end user.
GS	-	Ground start loop signaling - closed end function by customer or customer's end user.
IA	-	E.I.A. (25 pin RS-232).
LA	-	end user loop start loop signaling - Type A OPS registered port open end.
LB	-	end user loop start loop signaling - Type B OPS registered port open end.
LC	-	end user loop start loop signaling - Type C OPS registered port open end.
LO	-	loop start loop signaling - open end function by customer or customer's end user.
LR	-	20 Hz automatic ringdown interface at customer with Telephone Company provided PLAR.
LS	-	loop start loop signaling - closed end function by customer or customer's end user.
NO	-	no signaling interface, transmission only.

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14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

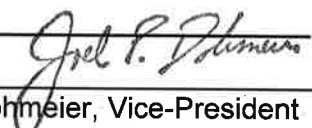
(A) Parameter Codes and Options (Continued)

<u>Code</u>	<u>Option</u>	<u>Definition</u>
PG	-	program transmission - no dc signaling.
	- 1	nominal frequency from 50 to 15000 Hz.
	- 3	nominal frequency from 200 to 3500 Hz.
	- 5	nominal frequency from 100 to 5000 Hz.
	- 8	nominal frequency from 50 to 8000 Hz.
PR	-	protective relaying*.
RV	- 0	reverse battery signaling, one way operation, originated by customer.
	- T	reverse battery signaling, one way operation, terminate function by customer or customer's end user.
	- SF	single frequency signaling with VF band at either customer POT or customer's end user POT.
	- TF	telephotograph interface.
	- TT	telegraph/teletypewriter interface at either customer POT or customer's end user POT.
	- 2	20.0 milliamperes.
	- 3	3.0 milliamperes.
	- 6	62.5 milliamperes.
TV	-	television interface.
	- 1	combined (diplexed) video and one audio signal.
	- 2	combined (diplexed) video and two audio signals.
	- 5	video plus one (or two) audio 5 kHz signal(s) or one (or two) two-wire.
	- 15	video plays one (or two) audio 15 kHz signal(s).

* Available only for the transmission of audio tone protective relaying signals used in the protection of electric power systems during fault conditions.

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14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(B) Impedance

The nominal reference impedance with which the channel will be terminated for the purpose of evaluating transmission performances.

<u>Value (ohms)</u>	<u>Code(s)</u>
110	0
150	1
600	2
900	3+
135	5
75	6
124	7
Variable	8
100	9

- + For those interface codes with a 4-wire transmission path at the customer designated POT, rather than a standard 900 ohm impedance the code (3) denotes a customer-provided transmission equipment termination. Such terminations were provided to customers in accordance with the F.C.C. Docket No. 20099 Settlement Agreement.

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces

The following tables show the channel interface codes (CIs) which are compatible:

(1) Voice Grade

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
2AB2	2AC2	2DB2	2DA2	2LR2	2LR2
2AB3	2AC2	2DB3	2DA2	2LR3	2LR2
2CT3	2DY2	2DX3	2LA2	2LS	2GS
	4DS8		2LB2		2LS
	4DX2		2LC2		4GS
	4DX3		2LO3		4LS
	4DY2		2LS2		
	4EA2-E		2LS3	2LS2	2LA2
	4EA2-M				2LB2
	4SF2	2GO2	2GS2		2LC2
	4SF3		2GS3		
	6DX2			2LS3	2LA2
	6DY2	2GO3	2GS2		2LB2
	6DY3		2GS3		2LC2
	6EA2-E				
	6EA2-M	2GS	2GS	2NO2	2DA2
	6EB2-E		2LS		2NO2
	6EB2-M		4GS		
	6EB3-E		4LS	2NO3	2NO2
	8EB2-E				2PR2
	8EB2-M	2L02	2LS2		
	8EC2		2LS3	2TF3	2TF2
	9DY2				
	9DY3	2L03	2LS2		
	9EA2		2LS3		
	9EA3				

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4AB2	2AC2 4AB2 4AC2 4SF2				
4AB3	2AC2 4AC2 4SF2				
4AC2	2AC2 4AC2				
		4DS8-	2AC2 2DA2 2DY2 2GO2 2GO3 2GS2 2GS3 2LA2 2LB2 2LC2 2LO2 2LO3 2LR2 2LS2 2LS3	4DS8-	4DG2 4LR2 4LS2 4NO2 4PR2 4RV2-T 4SF2 4SF3 4TF2 6DA2 6DY2 6DY3 6EA2-E 6EA2-M 6EB2-E
4DA2	4DA2				
4DB2	2DA2 2NO2 2PR2 4DA2 4DB2 4NO2 4PR2 6DA2				

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DD3	2DE2 4DE2		2NO2 2PR2 2RV2-T 2TF2 4AC2 4DA2 4DE2 4DX2 4DX3 4DY2 4EA2-E 4EA2-M		6EB2-M 6GS2 6LS2 8EB2-E 8EB2-M 9DY2 9DY3 9EA2 9EA3
4DX2	2DY2 2LA2 2LB2 2LC2 2LO3 2LS2 2LS3 2RV2-T 4DX2 4DY2 4EA2-E 4EA2-M 4LS2 4RV2-T 4SF2 4SF3 6DY2 6DY3 6EA2-E 6EA2-M 6EB2-E 6EB2-M 6LS2	4DX2	8EB2-E 8EB2-M 9DY2 9DY3 9EA2 9EA3	4DX3	6DY2 6DY3 6EA2-E 6EA2-M 6EB2-E 6EB2-M 6LS2 8EB2-E 8EB2-M 9DY2 9DY3 9EA2 9EA3
		4DX3	2DY2 2LA2 2LB2 2LC2 2LO3 2LS2 2LS3 2RV2-T 4DX2 4DX3 4DY2 4EA2-E 4EA2-M 4LS2 4RV2-T 4SF2 4SF3	4DY2	2DY2 4DY2

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4EA2-E	2DY2	4EA3-E	2DY2	4GO2	2GO2
	4DY2		4DY2		2GO3
	4EA2-E		4EA2-E		2GS2
	4EA2-M		4EA2-M		2GS3
	4SF2		4SF2		4GS2
	6DY2		6DY2		4SF2
	6DY3		6DY3		6GS2
	6EB2-E		6EA2-E		
	6EB2-M		6EA2-M	4GO3	2GO2
	8EB2-E		6EB2-E		2GS2
	8EB2-M		6EB2-M		2GS3
	9DY2		8EB2-E		4GS2
	9DY3		9EB2-M		4SF2
			9DY2		6GS2
4EA2-M	2DY2	9EA3	9DY3	4GS	
	4DY2		9EA2		
	4EA2-M				2GS
	4SF2				2LS
	6DY2				4GS
	6DY3				4LS
	6EB2-E				
	6EB2-M				
	8EB2-E				
	8EB2-M				
	9DY2				
	9DY3				

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4LO2	2LS2	4LS3	2LA2	4SF2	2LO3
	2LS3		2LB2		2LR2
	4LS2		2LC2		2LS2
	4SF2		2LO2		2LS3
	6LS2		2LO3		2RV2-T
			4SF2		4AC2
4LO3	2LS2				4DY2
	2LS3	4NO2	2DA2		4LS2
	4LS2		2DE2		4RV2-T
	4SF2		2NO2		4SF2
	6LS2		4DA2		6DY2
			4DE2		6DY3
4LR2	2LR2		4NO2		6GS2
	4LR2		6DA2		9DY2
	4SF2				9DY3
		4RV2-0	2RV2-T		
4LR3	2LR2		4RV2-T	4SF3	2DY2
	4LR2		4SF2		2GO3
	4SF2				2GS2
					2GS3
4LS	2GS	4SF2	2AC2		2LA2
	2LS		2DY2		2LB2
	4GS		2GS2		2LC2
	4LS		2GS3		2LO3
			2LA2		2LR2
4LS2	2LA2		2LB2		
	2LB2		2LC2		
	2LC2				
	2LO2				
	2LO3				

(T)

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4SF3	2LS2	6DA	4DA2	6DY3	2DY2
	2LS3		6DA2		4DY2
	2RV2-T				6DY2
	4DY2	6DX2	2DY2		6DY3
	4EA2-E		4DY2		
	4EA2-M		4EA2-E	6EA2-E	2AC2
	4GS2				
	4LR2		4EA2-M		2DY2
	4LS2		4SF2		2LA2
	4RV2-T		6DY2		2LB2
	4SF2		6DY3		2LC2
	4SF3		6EA2-E		2LO3
	6DY2		6EA2-M		2LS2
	6DY3		6EB2-E		2LS3
	6EB2-E		6EB2-M		2RV2-T
	6EB2-M		8EB2-E		4AC2
	6GS2		8EB2-M		4DY2
	6LS2		9DY2		4EA2-E
	9DY2		9DY3		4EA2-M
	9DY3		9EA2		4LS2
	9EA2		9EA3		4RV2-T
	9EA3				4SF2
		6DY2	2DY2		4SF3
4TF2	2TF2		4DY2		6DY2
	4TF2		6DY2		6DY3
					6EA2-E
					6EA2-M

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
6EA2-E	6EB2-E	6EA2-M	6DY2	6EB3-E	2DY2
	6EB2-M		6DY3		4DY2
	6LS2		6EA2-M		4EA2-E
	8EB2-E		6EB2-E		4EA2-M
	8EB2-M		6EB2-M		4SF2
	9DY2		6LS2		6DY2
	9DY3		8EB2-E		6DY3
			8EB2-M		6EA2-E
6EA2-M	2AC2		9DY2		6EA2-M
	2DY2		9DY3		8EB2-E
	2LA2				8EB2-M
	2LB2	6EB2-E	2DY2		9DY2
	2LC2		4DY2		9DY3
	2LO3		4SF2		9EA2
	2LS2		6DY2		9EA3
	2LS3		6DY3		
	2RV2-T		6EB2-E	6EX2-A	2GS2
	4AC2		6EB2-M		2GS3
	4DY2		9DY2		2LS2
	4EA2-E		9DY3		2LS3
	4EA2-M				4GS2
	4LS2	6EB2-M	2DY2		4LS2
	4RV2-T		4DY2		4SF2
	4SF2		4SF2		6GS2
	4SF3		6DY2		6SL2
			6DY3		
			6EB2-M		
			9DY2		
			9DY3		

ACCESS SERVICES

14. **ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS** (Continued)

14.2 **Special Access Service** (Continued)

14.2.2 **Network Channel Interface (NCI) Codes** (Continued)

(C) **Compatible Channel Interfaces** (Continued)

(1) **Voice Grade** (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
6EX2-B	2GO3	8EB2-E	2AC2	8EB2-M	2AC2
	2LA2		2DY2		2DY2
	2LB2		2LA2		2LA2
	2LC2		2LB2		2LB2
	2LO2		2LC2		2LC2
	2LO3		2LO3		2LO3
	2LR2		2LS2		2LS2
	4LR2		2LS3		2LS3
	4SF2		2RV2-T		2RV2-T
			4AC2		4AC2
6GO2	2GO2		4DY2		4DY2
	2GS2		4LS2		4LS2
	2GS3		4RV2-T		4RV2-T
	4GS2		4SF2		4SF2
	4SF2		4SF3		4SF3
	6GS2		6DY2		6DY2
6LO2	2LS2		6DY3		6DY3
	2LS3		6EB2-E		6EB2-E
	4LS2		6EB2-M		6EB2-M
	4SF2		6LS2		6LS2
	6LS2		8EB2-E		8EB2-M
6LS2			8EB2-M		9DY2
			9DY2		9DY3
			9DY3		
	2LA2				
	2LB2				
	2LC2				
	2LO2				
	2LO3				
	4SF2				

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

(T)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(1) Voice Grade (Continued)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
8EC2	2DY2	9DY2	2DY2	9EA3	2DY2
	4DY2		4DY2		4DY2
	4EA2-E		6DY2		4EA2-E
	4EA2-M		6DY3		4EA2-M
	4SF2		9DY2		6DY2
	6DY2				6DY3
	6DY3	9DY3	2DY2		6EA2-E
	6EA2-E		4DY2		6EA2-M
	6EA2-M		6DY2		6EB2-E
	6EB2-E		6DY3		6EB2-M
	6EB2-M		9DY2		8EB2-E
	8EB2-E		9DY3		8EB2-M
	8EB2-M				9DY2
	9DY2	9EA2	2DY2		9DY3
	9DY3		4DY2		9EA3
	9EA2		4EA2-E		
	9EA3		4EA2-M		
			6DY2		
			6DY3		
			6EA2-E		
			6EA2-M		
			6EB2-E		
			6EB2-M		
			8EB2-E		
			8EB2-M		
			9DY2		
			9DY3		
			9EA2		
			9EA3		

(T)

ACCESS SERVICES

14. ACCESS SERVICE INTERFACES AND TRANSMISSION SPECIFICATIONS (Continued)

14.2 Special Access Service (Continued)

14.2.2 Network Channel Interface (NCI) Codes (Continued)

(C) Compatible Channel Interfaces (Continued)

(2) Digital Data

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DS8-15	4DS8-15*	4DU5-24	4DU5-24	6DU5-24	6DU5-24
	4DU5-24				
	4DU5-48	4DU5-48	4DU5-48	6DU5-48	6DU5-48
	4DU5-56				
	4DU5-96	4DU5-96	4DU5-96	6DU5-56	6DU5-56
	6DU5-24				
	6DU5-48	4DU8-56	4DU5-56	6DU5-96	6DU5-96
	6DU5-96				

* Available only as a cross connect of two digital channels at appropriate digital speeds at a Telephone Company hub.

(3) High Capacity

<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DS0-63	4DS0-63 4DU8-A, B, or C 6DU8-A, B, or C	4DS8-15J	4DU8-A 6DU8-A
4DS6-27	4DS6-27 4DU8-A, B, or C 6DU8-A, B, or C	4DS8-15K	4DU8-B 4DU8-C 6DU8-B 6DU8-C
4DS6-44	4DS6-44 4DU8-A, B, or C 6DU8-A, B, or C	4DS8-31	4DS8-31 4DU8-A, B, or C 6DU8-A, B, or C
4DS8-15	4DS8-15* 4DU8-B 6DU8-8	4DU8-A, B, or C	4DU8-A, B, or C

* Available only as a cross connect of two individual channels of 1.544 Mbps facilities at a Telephone Company hub.