Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment to The Bell Atlantic	)	**Transmittal Nos. 741, 786**
Telephone Companies	)	**Amended**
Tariff FCC No. 10	)	

BELL ATLANTIC DIRECT CASE

Attachment Pre(1)

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October 26, 1995

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May 5, 1995

Transmittal No. 741-Amended

William F. Caton
Acting Secretary
Federal Communications Commission
Washington, D.C. 20554

Attention: Common Carrier Bureau

On January 27, 1995, Bell Atlantic filed Transmittal No. 741 to introduce Video Dialtone Service in Dover Township, New Jersey. Bell Atlantic subsequently deferred the effective date of this service from April 27, 1995 to May 27, 1995 under Transmittal No. 773, filed on April 25, 1995. At the Commission's request, Bell Atlantic submits this amendment to Transmittal 741 to provide supplemental study information regarding the development of costs underlying its Dover Township Video Dialtone Service rate elements. The information attached has been redacted to protect information that is proprietary to either Bell Atlantic or its vendors. Data that would lead to the direct calculation of proprietary information has also been redacted. This information is provided in attachment A.

In addition, during a detailed internal review of the cost documentation originally filed , Bell Atlantic uncovered several miscalculations, none are which are rate affecting or have any material impact on cost. Revised workpapers are provided in attachment B.

Copies of this transmittal have been hand-delivered today to the Commercial Contractor and the Chief, Tariff Review Branch.

Acknowledgement and date of receipt of this filing are requested. A duplicate letter of transmittal is attached for this purpose.

All correspondence and inquiries in connection with this filing should be forwarded to Patricia Koch, Assistant Vice President, External Relations and New Business Issues at 1133 20th Street, N.W., 8th Floor, Washington, DC 20036.

Michael R. McCullough (Mg)

Attachments to the Original:
Duplicate Letter

Attachments to the Copies:
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Support Documentation

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(2 copies)

* BY HAND

VIDEO DIALTONE SERVICE
DOVER TOWNSHIP, NEW JERSEY
COST STUDY

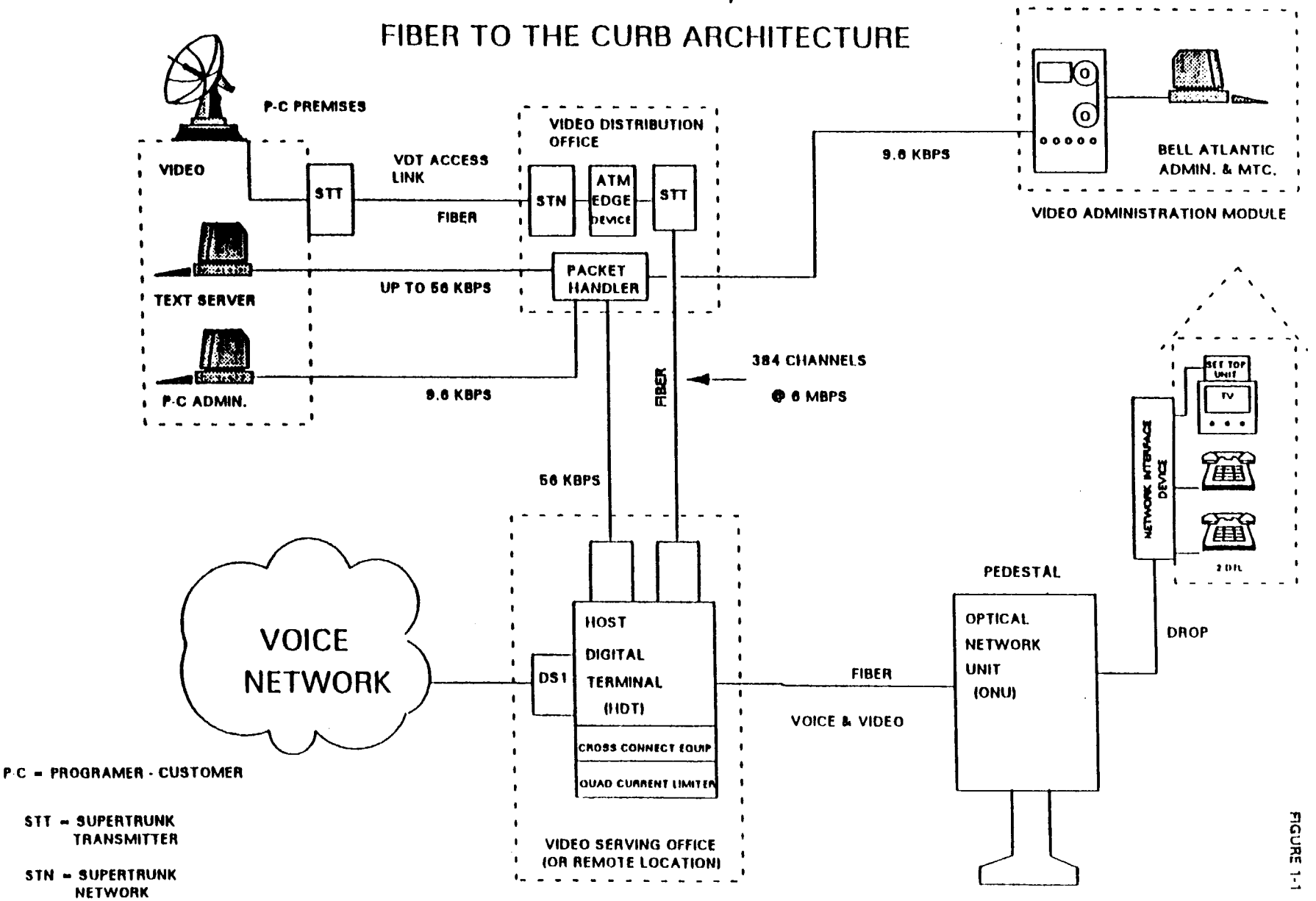
ANDREWS OFFICE PRODUCTS CAPITOL HEIGHTS, MD (K)

BELL ATLANTIC

VIDEO DIALTONE
COST STUDY

RATE ELEMENT	RECURRING	SECTION	NONREC	SECTION
VIDEO DIALTONE ACCESS LINK				
(UP TO 96 - 6 Mbps MPEG2 Channels)				
DIRECT ACCESS CONNECTION				
- TERMINATION	$735.55	TAB 2	$715.24	TAB 6
- FIXED	$450.37	TAB 2		
- PER MILE	$8.39	TAB 2		
SERVING WIRE CENTER CONNECTION				
- FIXED	$892.11	TAB 3	$401.14	TAB 6
- PER MILE	$8.39	TAB 3		
BROADCAST SERVICE				
PER SERVICE ARRANGEMENT			$122.90	TAB 6
INDIVIDUAL BROADCAST CHANNELS				
PER CHANNEL PER POT. SUB.	$0.0354	TAB 4		
NARROWCAST SERVICE				
PER SERVICE ARRANGEMENT			$267.16	TAB 6
INDIVIDUAL NARROWCAST CHANNELS				
PER CHANNEL PER POT. SUB.	$0.0369	TAB 4		
OPTIONAL FEATURE				
(Available with Broadcast and Narrowcast Channels)				
MESSAGING PORT	$252.54	TAB 5	$155.02	TAB 6

VIDEO DIAL TONE SYSTEM
DOVER TOWNSHIP, N.J.
FIBER TO THE CURB ARCHITECTURE



P-C = PROGRAMER - CUSTOMER

STT = SUPERTRUNK TRANSMITTER

STN = SUPERTRUNK NETWORK TERMINATION

FIGURE 1-1

SECTION 3

COSTS DEVELOPMENT

3.0 Introduction

Bell Atlantic based its costs development on the requirements of the Reconsideration Order.[14] As required in that Order, direct costs of Bell Atlantic video dialtone service include the primary plant investment, incremental costs associated with shared plant, a reasonable allocation of other shared plant, and an assessment of other costs, including maintenance and administration expenses. In addition, all video dialtone services are assigned a share of overhead costs, which serves to reduce the burden on existing services. The average overhead allocation for all services included in the tariff is approximately 20% more than the direct cost of these services.[15]

Going forward, there will be many new services, both video and non-video, that will be offered on the broadband network. Among the potential new services are high-speed Internet access service, home security and energy management services, distance education and telecommuting services, business-related procurement services and community health applications. As these new services are made available, they will provide additional

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[14] Video Dialtone Reconsideration Order at ¶¶ 217-20.

[15] See Section 5, Workpaper 5-19; calculated as Annual Net Revenue divided by Annual Net Cost.

sources of revenue to recover the costs of shared network investment and the common overhead.

Bell Atlantic's Video Dialtone service has the following elements: video dialtone access links, broadcast and narrowcast channels, and messaging ports. The development of each service element's recurring and nonrecurring costs is described in this section.

3.1 Video Dialtone Access Link

3.1.1 Direct Access Connection

The rate elements associated with the Direct Access Connection are Termination, Fixed, and Per Mile charges. Cost studies were performed to determine the primary plant investments required to provide each Video Dialtone Access Link component. Shared incremental investments of land, buildings, and power and common equipment were also included.

The investment associated with the Termination charge consists of network terminating equipment, such as supertrunk transmitter electronics and the timing signal generator equipment needed to extend network synchronization to system components located at the programmer-customer's point of presence. In addition, this investment includes transport facilities between the programmer-customer's point of presence and the local serving wire center, including aerial, buried, and underground copper and fiber with associated poles and conduit.

The investment associated with the Fixed charge includes

cross connect equipment at the local serving wire center and supertrunk transmitter network terminating equipment located at the VDO. The investment associated with the Per Mile charge includes interoffice transport facilities between the local serving wire center and the VDO, including aerial, buried, and underground fiber with associated poles and conduit.

The investments were multiplied by account-specific annual cost factors to calculate the direct cost components of depreciation, cost of money, income taxes, maintenance, administration, and other taxes. The recurring costs for the Direct Access Connection Video Dialtone Access Link are shown in Section 5, Workpaper 5-1.

3.1.2 Serving Wire Center Connection

The rate elements associated with the Serving Wire Center Connection are Fixed and Per Mile charges. Cost studies were performed to determine the primary plant investments required to provide each Serving Wire Center Connection service component. Shared incremental investments of land, buildings, and power and common equipment were also included.

The investment associated with the Fixed charge includes supertrunk transmitter network terminating equipment located at the local serving wire center and at the VDO. The investment associated with the Per Mile charge includes interoffice transport facilities between the local serving wire center and the VDO, including aerial, buried, and underground fiber with

associated poles and conduit.

The investments were multiplied by account-specific annual cost factors to calculate the direct cost components of depreciation, cost of money, income taxes, maintenance, administration, and other taxes. The recurring costs for the Serving Wire Center Connection are shown in Section 5, Workpaper 5-2.

3.2 Channel Costs

The remaining video dialtone network recurring cost components are recovered on a per channel per potential subscriber basis. Investments were calculated on a capacity cost basis as follows:

First, Bell Atlantic identified the primary plant investment and the incremental shared investments associated with the provision of video dialtone service (See Workpapers 5-3 and 5-8). The incremental shared investments were directly allocated to video dialtone service.

Next, Bell Atlantic identified the total investment required to provision integrated video dialtone/voice service per potential subscriber in the service area. This investment was examined on a component basis to identify the shared incremental investment associated with the provision of video dialtone, the shared incremental investment associated with voice, and the shared investment that is not incremental to either video dialtone or voice. The shared incremental investment associated

with video dialtone (See Workpapers 5-4 and 5-9, Column A) and voice (See Workpapers 5-4 and 5-9, Column B) were used to calculate a ratio of directly assignable investment for the shared investment. This ratio was used to apportion the shared investment (See Workpapers 5-4 and 5-9, Column C) to the video or non-video categories, i.e., the total video dialtone related investment equals the directly assignable video investment plus a proportionate share of the shared investment (See Workpapers 5-4 and 5-9, Column D). By including an allocation of a fair portion of shared investment, Bell Atlantic insures that prices are set above the video-only incremental costs of the system.

Each of the video dialtone investments were converted to investment per channel per potential end-user subscriber (See Workpaper 5-3, Column D, and Workpaper 5-4, Column E and Workpaper 5-8, Column D, and Workpaper 5-9, Column E). Total investment per video dialtone channel was then calculated as the sum of the identified investments (see Workpapers 5-5 and 5-10). For narrowcast service channels, cost development also took into consideration the following opportunity cost assumptions: (1) narrowcast service areas are projected to cover approximately 25% of the broadcast service area; and (2) approximately half of the service area left uncovered by each narrowcast channel is expected to remain unused by other narrowcast channels (See Workpaper 5-11). Investment components are described below.

3.2.1 Investment Components

The following component investments are associated with video dialtone primary plant or with incremental shared investment associated with video dialtone service:

- Video Distribution Office (VDO) Equipment - This investment component includes the asynchronous transfer mode multiplexer equipment required to groom channels for transport over the video dialtone system as well as the supertrunk transmitters and channelizing cards used for the transport. In addition, the investments associated with broadcast and narrowcast service arrangements are included and consist of equipment used to support the video channels, such as the equipment bay, shelves for video cards, power supply, and alarm cards for monitoring and detecting system failures. Broadcast and narrowcast arrangements differ based on shelf capacity requirements.
- VDO to Video Serving Office (VSO) facilities - This investment component includes interoffice fiber and associated conduit and poles from the VDO to the central offices where host digital terminals are located (or VSOs).
- VSO Cross-Connect equipment - This investment component includes multiplexers, optical line termination equipment, transmission electronics (plug-ins), and powering.
- VSO to Host Digital Terminal (HDT) facilities - This investment component includes aerial and underground fiber

with associated poles and conduit from VSOs to remote HDTs.

- Video Administration Module (VAM) - The VAM is centrally located in New Brunswick, New Jersey and supports the video dialtone system's host digital terminals as well as each programmer-customer via packet data transmissions through a packet handler. The module serves as an interface between the video dialtone system and the video provider's billing and event provisioning system. For example, the VAM serves as a control tool for setting-up programmer-customers' channels to end-user subscribers and automating the provisioning and billing for pay-per-view events. The VAM also functions as a maintenance tool to facilitate network determination of troubles.
- Outside Plant - VAM - The VAM is connected, via dedicated 9.6 kbps links, to the video dialtone system's host digital terminals and to programmer-customer administrative systems. Outside plant associated with the VAM includes fiber and associated conduit and poles.
- Land, Buildings, Power and Common Equipment Associated with Video Dialtone Only Network Components- The Land, Building, and Power and Common Equipment investments are calculated based on factors[16] which estimate the investment required to

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[16] Factors are developed annually, using the latest view of Bell Atlantic's construction budget, as the ratios of expenditures for land, buildings, or power and common equipment to expenditures for central office equipment.

house circuit and switching equipment for new installations. For directly assignable land, buildings, power and common equipment, the factors were applied to investments located in company buildings which are associated with video dialtone only, i.e., the VDO Equipment, VSO Cross-Connect Equipment and the Video Administration Module components of the service offering, as described above. Since no new land, buildings, or power and common equipment are required to provide video dialtone service, these investment are shared across all services provisioned out of the affected buildings. However, since the land, buildings, and power and common equipment investments are calculated as described above, using factors applied to equipment investments, and these investments are considered additional plant incremental to video dialtone,[17] the investments in this category are allocated to video dialtone service only.

The following investment components are shared investments associated with the integrated, joint-use network:

- Host digital terminal (HDT) - The host digital terminal connects with the voice switch at the central office and performs as a digital loop carrier remote terminal. The HDT has modules incorporating electro-optical sources and detectors that connect to the fiber optic distribution system. The HDT distributes video signals to subscribers

[17] Video Dialtone Reconsideration Order at ¶ 219.

and contains the cross-connect function used to provision dial tone line service.

- Quad Current Limiter - The Quad Current Limiter is the Optical Network Unit (ONU) powering equipment, and is located at the HDT.
- HDT to ONU facilities - This investment component includes aerial, buried and underground fiber with associated poles, conduit, and copper cabling for power from the HDT to the ONU.
- Optical Network Unit (ONU) - The ONU is located at the curb or attached to a telephone pole and serves an average of 6.7 homes by delivering the video and voice signals to each end user subscriber's premises. The ONU investment includes fiber and power terminating equipment.
- Drop - The drop is coaxial and twisted pair cabling provided between the ONU and the network interface device, necessary to transport video and voice signals from the ONU to the end-user subscriber's premises.
- Network Interface Device - The network interface device represents the network demarcation point at the end-user subscriber's premises. Investment consists of an adjunct modular plug which is added to the existing telephony interface device allowing the integrated device to handle both video dialtone and telephony services.
- Land, Buildings, Power and Common Equipment Investments

Associated with Integrated Network Components- The land, buildings, power and common equipment investments associated with integrated network components are calculated in the same manner as described above for video dialtone-only system components. Factors were applied to investments located in company buildings which simultaneously handle both video dialtone and voice service, i.e., the HDTs and Quad Current Limiters components of the system that are located in central offices, as described above. Since approximately 90% of the HDTs and Quad Current Limiter equipment are located in remote terminals or controlled environmental vaults, the land and buildings factors were applied to 10% of the associated HDT and Quad Current Limiter investments. Since no new land, buildings, or power and common equipment are required to provide video dialtone service, these investments are shared across all services provisioned out of the affected buildings. In this instance, since factors were applied to equipment investments, and these investments are associated with the integrated provision of video dialtone and voice services, the investments in this category are shared by both video dialtone and voice services.

The unit investments per channel per potential subscriber identified above were multiplied by account-specific annual cost factors to calculate the direct capital and operating expense

cost components. The recurring costs for individual broadcast channels are shown in Workpaper 5-6, for a group of 24 broadcast channels in Workpaper 5-7, and for individual narrowcast channels in Workpaper 5-11.

3.3 Messaging Port

The investment associated with each messaging port consists of circuit and channel terminating equipment as well as transport facilities from the central office to the system's HDTs. A packet handler collects text messages from the programmer-customer at a data rate of up to 56 kbps and directs the messages to the targeted broadcast or narrowcast channels over 56 kbps links from the packet handler to the video dialtone system's HDTs. At the HDT, a separate card accepts the message and passes it to the end-user subscriber via a separate packet data path established over the system. This investment includes the packet handler, the HDT card, 56 kbps channel terminating equipment and aerial and underground fiber with associated poles and conduit for transport. Shared incremental investments of land, buildings, power, and common equipment were assigned to video dialtone service.

The unit investments were multiplied by account-specific annual cost factors to calculate the direct capital and operating cost components. Messaging port costs are shown in Workpaper 5-12.

3.4 Nonrecurring Costs

Nonrecurring costs are one-time expenses that apply for specific video dialtone work activities; they are not shared with any other service. Task Oriented Costing (TOC) and cost study analyses were used to identify the nonrecurring costs associated with provision and installation of the Video Dialtone Access Link, the Broadcast and Narrowcast Service Arrangements and the Messaging Port. Bell Atlantic followed the costing principles outlined in the 1987 Nonrecurring Charge Order in establishing its nonrecurring charges.[18]

Video Dialtone Access Links The costs for establishing a Video Dialtone Access Link consist of labor performed by Bell Atlantic technicians to provision the link. The nonrecurring costs for Direct Access Connections are shown in Workpaper 5-13, and for Serving Wire Center Connections in Workpaper 5-14.

Broadcast and Narrowcast Service Arrangements The nonrecurring costs per Broadcast or Narrowcast arrangement consist of activities such as handling the programmer-customer's request for service, preparing and processing the programmer-customer's order, reserving channel capacity and activating the video channels. In addition, the costs include setting up the video administration module interface, and activating and administering the video administration module passwords.

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[18] See Investigation of Interstate Access Tariff Nonrecurring Charges, 2 FCC Rcd 3498 ¶ 33 (1987) ("Nonrecurring Charge Order").

The nonrecurring costs for a narrowcast arrangement are higher than broadcast because each narrowcast channel must be activated at each HDT. The nonrecurring costs are shown on Workpaper 5-15 for Broadcast Service Arrangements and on Workpaper 5-16 for Narrowcast Service Arrangements.

Messaging Ports The nonrecurring costs for establishing a Messaging Port consist of labor performed by Bell Atlantic technicians to process the programmer-customer's order, establish appropriate packet switch port connections, and activate the interactive capability on appropriate channels. The nonrecurring costs are shown in Workpaper 5-17.

3.5 Overhead Loading

The overhead loading factor is based on the relationship of total Bell Atlantic Switched Transport costs to direct costs. This is consistent with the Commission's determination that video dialtone service is a Switched Access service.[19] The total Switched Transport costs to direct costs relationship is calculated from 1993 ARMIS 43-04 data, adjusted to reflect the reallocation of General Support Facilities investment. The overhead factor is applied to direct costs and provides a reasonable method of calculating the rate ceiling associated with video dialtone service components. The overhead loading factor calculation is shown on Workpaper 5-18.

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[19] Video Dialtone Reconsideration Order at ¶¶ 195-198.

BELL ATLANTIC

WORKPAPER 5-1
REVISED

VIDEO DIALTONE
ACCESS LINK COSTS
DIRECT ACCESS CONNECTION

LINE	CATEGORY	SOURCE	TERMINATION	FIXED	PER MILE
1	UNIT INVESTMENT	COST STUDY	$30,814.23	$18,729.34	$435.17
2	DEPRECIATION	COST STUDY	$3,372.71	$2,036.71	$20.66
3	COST OF MONEY	COST STUDY	$2,527.36	$1,544.56	$42.29
4	INCOME TAX	COST STUDY	$1,002.39	$612.43	$16.75
5	MAINTENANCE	COST STUDY	$759.39	$503.54	$4.21
6	ADMINISTRATION	COST STUDY	$930.78	$564.68	$13.49
7	OTHER TAX	COST STUDY	$234.01	$142.51	$3.23
8	ANNUAL DIRECT COSTS	L2 + ... L7	$8,826.63	$5,404.43	$100.64
9	MONTHLY DIRECT COSTS	L8/12 MONTHS	$735.55	$450.37	$8.39
10	OVERHEAD LOADING FACTOR	WP 5-18,L30	1.6405	1.6405	1.6405
11	FULLY LOADED COST	L9*L10	$1,206.67	$738.83	$13.76
12	PROPOSED RATE MONTH-TO-MONTH TERM		$1,100.00	$600.00	$13.00
13	PROPOSED RATE 5-YEAR TERM		$900.00	$500.00	$12.00
	COST RATIOS				
14	DIRECT COST TO INVESTMENT	L8/L1	0.2864	0.2886	0.2313
	DIRECT COST TO RATE				
15	MONTH-TO-MONTH TERM	L9/L12	0.6687	0.7506	0.6451
16	5-YEAR TERM	L9/L13	0.8173	0.9007	0.6989