

**COMCAST PHONE
OF PENNSYLVANIA, LLC**

D/B/A COMCAST DIGITAL PHONE

SWITCHED ACCESS SERVICES TARIFF

ISSUED: October 11, 2023
By:

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SWITCHED ACCESS SERVICES

This filing adds ethernet transport and business wavelength services.

The following pages are included in this filing:

1. Title Page
2. List of Changes, 16th Revised Sheet 1
3. Check Sheet, 15th Revised Sheet 1
4. Check Sheet, 3rd Revised Sheet 2
5. Table of Contents, 2nd Revised Sheet 5
6. Section 4, 2nd Revised Sheets 1-3
7. Section 4, 3rd Revised Sheet 4
8. Section 4, Original Pages 5-45

SWITCHED ACCESS SERVICES

CHECK SHEET

Original and revised sheets as named below comprise all changes from the original Tariff and are currently in effect as of the date on the bottom of the check sheet. An asterisk (*) indicates the most current revision.

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22	1st Revised	17	1st Revised
23	1st Revised	18	2nd Revised

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<u>Sheet No.</u>	<u>Revision No.</u>	<u>Sheet No.</u>	<u>Revision No.</u>
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*	*	*	(C)
			(C)

6. RESERVED FOR FUTURE USE

*	*	*	(C)
			(C)

SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.1. GENERAL

This Tariff applies to intrastate Access Service supplied by the Company to Customers.

(C)

The provision of such services by the Company as set forth in this Tariff does not constitute a joint undertaking with the Customer for the furnishing of any service.

(C)

1.2. TARIFF REVISION SYMBOLS

Revisions to this Tariff are coded through the use of symbols. These symbols appear in the right hand margin of the page. The following tariff revision symbols are used for the purposes indicated below.

(C) - To signify changed regulation

(D) - To signify decreased rate

(I) - To signify increased rate

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SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.3. DEFINITIONS

* * * (C)

Access Minutes: Denotes the usage of exchange facilities in intrastate service for the purpose of calculating chargeable usage.

Access Tandem: An Exchange Carrier's switching system that provides a concentration and distribution function for the originating or terminating traffic between switching centers and the Customer's premises. (C)

Advance Payment: Payment of all or part of a charge required before the start of service.

* * * (C)

Channel(s): An electrical, or in the case of fiber optic-based transmission systems, a photonic communications path between two or more points of termination.

* * * (C)

Commission: Pennsylvania Public Utility Commission

Company: Comcast Phone of Pennsylvania, LLC and its affiliate companies. (C)

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SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.3. DEFINITIONS (CONT'D)

Customer: The term "Customer" (when capitalized) denotes any person, firm, partnership, corporation or other entity that uses service under the terms and conditions of this Tariff and is responsible for the payment of charges.

(C)
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(C)

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(C)

End Office: With respect to each 101-XXXX code prefix assigned to the Company, the location of the Company's "end office" for purposes of this Tariff shall be the point of interconnection associated with that 101-XXXX code in the Local Exchange Routing Guide, issued by Telcordia. Services provided at a Trunk Gateway location (as defined elsewhere) are the functional equivalent of services provided at an End Office location.

(C)

End User: The term "End User" means any wholesale or retail customer of an interstate or foreign telecommunications service that is not a carrier. The term "End User" may also refer to origination or termination locations accessed via contractual or other arrangements with an affiliated or unaffiliated provider of interconnected or non-interconnected VoIP service.

(C)

Exchange Carrier: Any individual, partnership, association, joint-stock company, trust, governmental entity or corporation authorized by this Commission to engage in the provision of Local exchange telephone service.

Fiber Optic Cable: A thin filament of glass with a protective outer coating through which a light beam carrying communications signals may be transmitted by means of multiple internal reflections to a receiver, which translates the message.

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(C)

Individual Case Basis: A service arrangement in which the regulations, rates and charges are based on the specific circumstances of the Customer's situation.

*

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(C)

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SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.3. DEFINITIONS (CONT'D)

Interconnected VoIP Service: An interconnected VoIP service is a service that (i) enables real-time, two-way voice communications; (ii) requires a broadband connection from the user's location; (iii) requires internet protocol-compatible customer premises equipment (CPE); and (iv) permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.

(C)
—
(C)

Interstate Communications: The term "Interstate Communications" applies to the regulatory jurisdictions of services used for communications between locations located in different states within the United States or between one or more locations in the United States and one or more international locations.

Intrastate Communications: The term "Intrastate Communications" denotes any communications within the state subject to oversight by a state regulatory commission as provided by the laws of the state involved.

Joint User: A person, firm or corporation designated by the Customer as a user of switched access or interconnection facilities furnished to the Customer by the Company, and to whom a portion of the charges for such facilities are billed under a joint use arrangement.

Local Access Transport Area (LATA): A local access and transport area established pursuant to the Modification of Final Judgment entered by the United States District Court for the District of Columbia in Civil Action No. 82-9192 for the provision and administration of communications services.

* * * (C)

Local Calling Area: A geographical area, as defined in the Company's exchange telecommunications service tariff in which an end user may complete a call without incurring toll usage charge.

* * * (C)

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SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.3. DEFINITIONS (CONT'D)

MRC: - Monthly Recurring Charge: A fixed charge that applies each month during which service is provided to the Customer.

* * * (C)

Non-interconnected VoIP Service: The term “non-interconnected VoIP service” means a service that (i) enables real-time voice communications that originate from or terminate to the user’s location using Internet protocol or any successor protocol; and (ii) requires Internet protocol compatible customer premises equipment; and (iii) does not include any service that is an interconnected VoIP service.

(C)
|
(C)

NRC - Nonrecurring Charge: The one-time initial charges for services or facilities, including but not limited to charges for construction, installation, or special fees, for which the Customer becomes liable at the time the Service Order is executed.

* * * (C)

Point of Termination: The point of termination within a customer-designated premises at which the Company's responsibility for the provision of access service ends. The point of termination is the point of interconnection between Company communications facilities and customer-provided facilities as defined in Part 68 of the FCC’s Rules and Regulations.

(C)
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(C)

* * * (C)

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SWITCHED ACCESS SERVICES

1. APPLICATION OF TARIFF

1.3. DEFINITIONS (CONT'D)

* * * (C)

Recurring Charges: The monthly charges for the Customer for services, facilities and equipment, which continue for the agreed upon duration of the service.

Service Commencement Date: The first day following the date on which the Company notifies the Customer that the requested service or facility is available for use, unless extended by the Customer's refusal to accept service which does not conform to standards set forth in the Service Order or this tariff, in which case the Service commencement Date is the date of the Customer's acceptance. The parties may mutually agree on a substitute Service Commencement Date.

Service Order (or "Sales Order"): The written request for services executed by the Customer and the Company in the format devised by the Company.

Services: The Company's telecommunications switched access and interconnection services offered by the Company.

Shared: A facility or equipment system or subsystem which can be used simultaneously by several Customers.

* * * (C)

Signaling System 7 (SS7): The common channel out of Band Signaling protocol developed by the Consultative Committee for International Telephone and Telegraph (CCITT) and the American National Standards Institute (ANSI).

* * * (C)

Tandem Transport: The term "Tandem Transport" denotes the transport between an access tandem and the Company's End Office, Trunk Gateway or other functionally equivalent location. (C)
(C)

Trunk: A communications path connection two switching systems in a network.

Trunk Gateway: The point of interface between the PSTN trunk facility and the Company defined by Common Language Location Identifier (CLLI) codes assigned to the Company, as reflected in the Local Exchange Routing Guide (LERG). Services provided at a Trunk Gateway location are the functional equivalent of services provided at an End Office location. (C)
(C)

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.1. UNDERTAKING OF THE COMPANY

2.1.1. SHORTAGE OF EQUIPMENT OR FACILITIES

The Company reserves the right to limit or to allocate the use of existing facilities, or of additional facilities offered by the Company, when necessary because of lack of facilities, or due to some other cause beyond the Company's control. The Company shall not be liable for errors in transmission or for failure to establish connections.

(C)
(C)

The furnishing of service under this tariff is subject to the availability on a continuing basis of all the necessary facilities and is limited to the capacity of the Company's facilities as well as facilities the Company may obtain from other carriers to furnish service from time to time as required at the sole discretion of the Company.

(C)

2.1.2. TERMS AND CONDITIONS

A. The minimum period for which service is provided and for which rates and charges are applicable is one month unless otherwise specified. When a service is discontinued prior to the expiration of the minimum period, charges are applicable, whether the service is used or not. In addition to the one (1) month minimum, termination liabilities may apply to early cancellation of a service purchased under a Term Agreement.

(C)
|
(C)

B. Customers may be required to enter into written Service Order(s) which shall contain or reference a specific description of the service ordered, the rates to be charged, the duration of the services, and the terms and conditions in this Tariff. Customers will also be required to execute any other documents as may be reasonably requested by the Company.

(C)

Orders for Switched Access are deemed made by the Customer, and initiation of the respective obligations of the parties as set forth in this Tariff takes place, upon the routing of calls by the Customer to and from the Company.

(C)
|
(C)

* * *

(C)

C. In any action between the parties to enforce any provision of this Tariff, the prevailing party shall be entitled to recover its legal fees and court costs from the non-prevailing party in addition to other relief a court may award.

(C)

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.1. UNDERTAKING OF THE COMPANY (CONT'D)

2.1.2. TERMS AND CONDITIONS (CONT'D)

- D. Service may be terminated upon written notice to the Customer if: (C)
1. The Customer is using the service in violation of this Tariff; or (C)
 2. The Customer is using the service in violation of the law.
- E. This Tariff shall be interpreted and governed by the laws of the Commonwealth of Pennsylvania without regard for its choice of laws provision. (C)

2.1.3. PROVISION OF EQUIPMENT AND FACILITIES

- A. The Company shall use reasonable efforts to make available services to a Customer on or before a particular date, subject to the provisions of and compliance by the Customer with the regulations contained in this Tariff. The Company does not guarantee availability by any such date and shall not be liable for any delays in commencing service to any Customer.
- B. The Company shall use reasonable efforts to maintain facilities and equipment that it furnishes to the Customer. The Customer may not, nor may the Customer permit others to, rearrange, disconnect, remove, attempt to repair, or otherwise interfere with any of the facilities or equipment installed by the Company, except upon the written consent of the Company.
- C. The Company may substitute, change or rearrange any equipment or facility at any time and from time to time, but shall not thereby alter the technical parameters of the service provided the Customer, without the prior consent of the Customer, which shall not be unreasonably withheld.
- D. Equipment the Company provides or installs at the Customer's premises for use in connection with the services the Company offers shall not be used for any purpose other than that for which the Company provided it. (C)
- E. The Customer shall be responsible for the payment of service charges as set forth herein for visits by the Company's agents or employees to the premises of the Customer when the service difficulty or trouble report results from the use of equipment or facilities provided by any party other than the Company, including but not limited to the Customer. (C)

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.1. UNDERTAKING OF THE COMPANY (CONT'D)

2.1.3. PROVISION OF EQUIPMENT AND FACILITIES (CONT'D)

- F. The Company shall not be responsible for the installation, operation, or maintenance of any customer-provided communications equipment. Where such equipment is connected to the facilities furnished pursuant to this Tariff, the responsibility of the Company shall be limited to the furnishing of facilities offered under this tariff and to the maintenance and operation of such facilities. Subject to this responsibility, the Company shall not be responsible for: (C)
(C)
1. The transmission of signals by customer-provided equipment or for the quality of, or defects in, such transmission; or (C)
 2. The reception of signals by customer-provided equipment. (C)
- G. Service is offered subject to the availability of facilities and provision of this Tariff. The Company's obligation to furnish facilities and service is dependent upon its ability to secure and retain, without unreasonable expense, suitable facilities from the underlying carrier, if an underlying carrier is involved.
- H. The Company shall not be required to furnish, or continue to furnish, facilities or service where the circumstances are such that the proposed use of the facilities or service would tend to adversely affect the Company's property, service or economic conditions.
- I. Service furnished by the Company may be physically or logically connected with services or facilities of affiliated or unaffiliated third parties and with private systems, subject to technical limitations established by the Company. Service furnished by the Company may make use of the services, facilities or equipment owned, or controlled either directly or via contractual or other arrangements, by the Company. (C)
(C)

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.2. LIABILITY OF THE COMPANY

2.2.1. SERVICE LIABILITY

- A. The liability of the Company for damages arising out of the furnishing of its Services, including but not limited to mistakes, omissions, interruptions, delays, or errors, or other defects, representations, or use of these services or arising out of the failure to furnish the service, whether caused by acts or omission, shall be limited to the extension of allowances for interruption as set forth in Section 2.13. The extension of such allowances for interruption shall be the sole remedy of the Customer and the sole liability of the Company. The Company will not be liable for any direct, indirect, incidental, special, consequential, exemplary or punitive damages to the Customer as a result of any Company service, equipment or facilities, or the acts or omissions or negligence of the Company's employees or agents. (C)
- B. The Company shall not be liable for any delay or failure of performance or equipment due to causes beyond its control, including but not limited to: acts of God, fire, flood, explosion or other catastrophes; any law, order, regulation, direction, action, or request of the United States Government, or of any other local governments having or claiming jurisdiction over the Company, or of any department, agency, commission, bureau, corporation, or other instrumentality of any one or more of these federal, state, or local governments, or of any civil or military authority; national emergencies; insurrections; riots; wars; unavailability of rights-of-way or materials; or strikes, lockouts, work stoppages, or other labor difficulties.
- C. When the services or facilities of third-parties are used separately or in conjunction with the Company's facilities or equipment in establishing a physical or logical connection to points not reached by the Company's facilities or equipment, the Company shall not be liable for any act or omission of such third-parties or their agents or employees. (C)
(C)
- D. The Company shall not be liable for any damages or losses due to the fault or negligence of the Customer or due to the failure or malfunction of customer-provided equipment or facilities. (C)

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2. GENERAL REGULATIONS

2.2. LIABILITY OF THE COMPANY (CONT'D)

2.2.1. SERVICE LIABILITY (CONT'D)

- E. The Company does not guarantee nor make any warranty with respect to installations it provides for use in an explosive atmosphere. The Customer indemnifies and holds the Company harmless from any and all loss, claims, demands, suits, or other action, or any liability whatsoever, whether suffered, made, instituted, or asserted by any other party or person(s), and for any loss, damage, or destruction of any property, whether owned by the Customer or others, caused or claimed to have been caused directly or indirectly by the installation, operation, failure to operate, maintenance, removal presence, condition, location, or use of any installation so provided. The Company reserves the right to require each Customer to sign an agreement acknowledging acceptance of the provisions of this Section 2.2.1.E as a condition precedent to such installations.
- F. The Company is not liable for any defacement of or damage to customer premises resulting from the furnishing of services or equipment on such premises or the installation or removal thereof, unless such defacement or damage is caused by negligence or willful misconduct of the Company's agents or employees. (C)
(C)
- G. The Company shall be indemnified, defended, held harmless by the Customer against any claim, loss or damage arising from the Customer's use of services, involving claims for libel, slander, invasion of privacy, or infringement of copyright arising from the Customer's own communications. (C)
- H. The entire liability for any claim, loss, damage or expense from any cause whatsoever shall in no event exceed sums actually paid to the Company by the Customer for the specific services giving rise to the claim. No action or proceeding against the Company shall be commenced more than one year after the service is rendered. (C)
- I. The Company makes no warranties or representations, express or implied either in fact or by operation of law, statutory or otherwise, including warranties of merchantability or fitness for a particular use, except those expressly set forth herein.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.3. NOTIFICATION OF SERVICE-AFFECTING ACTIVITIES

The Company will provide the Customer reasonable notification of service-affecting activities that may occur in normal operation of its business. Such activities may include, but are not limited to, equipment or facilities additions, removals or rearrangements and routine preventative maintenance. Generally, such activities are not specific to an individual Customer but affect many Customers' services. No specific advance notification period is applicable to all service activities. The Company will work cooperatively with the Customer to determine the reasonable notification requirements. With some emergency or unplanned service-affecting conditions, such as an outage resulting from cable damage, notification to the Customer may not be possible.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.4. NON-ROUTINE INSTALLATION

At the Customer's request, installation and/or maintenance may be performed outside the Company's regular business hours or in hazardous locations. In such cases, charges based on cost of the actual labor, material, or other costs incurred by or charged to the Company will apply. If installation is started during regular business hours but, at the Customer's request, extends beyond regular business hours into time periods including, but not limited to, weekends, holidays, and/or night hours, additional charges may apply.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.5. OWNERSHIP OF FACILITIES

Title to all facilities provided in accordance with this tariff remains in the Company, its agents or contractors.

2.6. USE OF SERVICE

The services the Company offers shall not be used for any unlawful purpose or for any use as to which the Customer has not obtained all required governmental approvals, authorizations, licenses, consents and permits.

The Company may require a Customer to immediately shut down its transmission of signals if said transmission is causing interference to others.

Service may be used for the transmission of communications by the Customer.

Service may not be used for any unlawful purpose or for any purpose for which any payment or other compensation is received by the Customer, except when the Customer is a duly authorized and regulated common carrier or except as otherwise permitted by law.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.7. OBLIGATIONS OF THE CUSTOMER

2.7.1. CUSTOMER RESPONSIBILITY

The Customer shall be responsible for the following:

- A. The payment of all applicable charges;
- B. Damage to or loss of Company facilities or equipment caused by the acts or omissions of the Customer; or the noncompliance by the Customer with these regulations; or by fire or theft or other casualty on the Customer's premises, unless caused by the gross negligence or willful misconduct of the employees or agents of the Company; (C)
- C. Providing at no charge, as specified from time to time by the Company, any needed personnel, equipment, space and power to operate Company facilities and equipment installed on the premises of the Customer, and the level of heating and air conditioning necessary to maintain the proper operating environment on such premises; (C)
- D. Obtaining, maintaining, and otherwise having full responsibility for all rights-of-way and conduit necessary for installation of facilities and associated equipment used to provide access and interconnection services to the Customer from the Company's designated point of termination or property line to the location of the equipment space. Any costs associated with the obtaining and maintaining the rights-of-way described herein, including the costs of altering the structure to permit installation of Company-provided facilities, shall be borne entirely by, or may be charged by the Company to, the Customer; (C)
(C)

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.7. OBLIGATIONS OF THE CUSTOMER (CONT'D)

2.7.1. CUSTOMER RESPONSIBILITY (CONT'D)

- E. Providing a safe place to work and complying with all laws and regulations regarding the working conditions on the premises at which Company employees and agents shall be installing or maintaining Company facilities and equipment. The Customer may be required to install and maintain Company facilities and equipment within a hazardous area if, in the Company's opinion, injury or damage to Company employees or property might result from installation or maintenance by the Company. The Customer shall be responsible for identifying, monitoring, removing and disposing of any hazardous material (e.g. friable asbestos) prior to any construction or installation work;
- F. Complying with all laws and regulations applicable to, and obtaining all consents, approvals, licenses and permits as may be required with respect to, the location of Company facilities and equipment in any Customer premises or the right-of-way for which the Customer is responsible under Section 2.7.1.D; and granting or obtaining permission for Company agents or employees to enter the premises of the Customer at any time for the purpose of installing, inspecting, maintaining, repairing, or upon termination of service as stated herein, removing the facilities or equipment of the Company; and
- G. Not creating or allowing to be placed any liens or other encumbrances on Company equipment or facilities.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.7. OBLIGATIONS OF THE CUSTOMER (CONT'D)

2.7.2. CLAIMS

With respect to any service or facility provided by the Company, the Customer shall indemnify, defend and hold harmless the Company from and against all claims, actions, damages, liabilities, costs and expenses, including reasonable attorney fees for:

- A. Any loss, destruction or damage to property of the Company or any third party, or the death or injury to persons, including, but not limited to, employees or invitees of either party, to the extent caused by or resulting from the negligent or intentional act or omission of the Customer, its employees, agents, representatives or invitees; or
- B. Any claim, loss, damage, expense or liability for infringement of any copyright, patent, trade secret, or any proprietary or intellectual property right of any third party, arising from any act or omission by the Customer, including, without limitation, use of Company services and facilities in a manner not contemplated by the agreement between the Customer and the Company.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.7. OBLIGATIONS OF THE CUSTOMER (CONT'D)

2.7.3. DETERMINATION OF JURISDICTION

When ordering Switched Access Service, the Customer may be required to provide a projected PIU factor, which may be subject to audit by the Company. Where jurisdiction can be determined from the call detail, the Company will develop a projected PIU factor from the call detail which will be used to bill the Customer.

The Company will use the jurisdictional report provided by the Customer, or, in the absence of such report, the Company projected PIU factor developed from the call detail, to bill all interstate and intrastate rates and/or nonrecurring charges until the Company receives a revised report from the Customer or updates the Company projected PIU factor developed from the call detail.

The Customer shall keep sufficient detail from which the PIU can be ascertained for at least 18 months and upon request of the Company make the records available for inspection. Such a request will be initiated by the Company no more than once per year. The Customer shall supply the data within thirty (30) calendar days of the Company request.

The Company may, in its sole discretion:

- waive any and all of the jurisdictional reporting obligations imposed by this tariff on the Customer and/or the Company, or
- assign a default PIU of 50%.

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2. GENERAL REGULATIONS

2.7. OBLIGATIONS OF THE CUSTOMER (CONT'D)

* * * (C)

2.7.4. [RESERVED FOR FUTURE USE] (C)

* * * (C)

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2. GENERAL REGULATIONS

2.8. CUSTOMER EQUIPMENT AND CHANNELS

2.8.1. DESCRIPTION

A Customer may transmit or receive information or signals via the facilities of the Company.

2.8.2. STATION EQUIPMENT

- A. Customer provided terminal equipment on the Customer's premises, and the electric power consumed by such equipment shall be provided and maintained at the expense of the Customer. (C)
- B. The Customer is responsible for ensuring that customer-provided equipment connected to Company equipment and facilities is compatible with such equipment and facilities. The magnitude and character of the voltages and currents impressed on Company-provided equipment and wiring by the connection, operation, or maintenance of such equipment and wiring shall be such as not to cause damage to the Company-provided equipment and wiring or injury to the Company's employees or to other persons. Any additional protective equipment required to prevent such damage or injury shall be provided by the Company at the Customer's expense. (C)

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2. GENERAL REGULATIONS

2.8. CUSTOMER EQUIPMENT AND CHANNELS (CONT'D)

2.8.3. INTERCONNECTION OF FACILITIES

- A. Any special interface equipment necessary to achieve compatibility between the facilities and equipment of the Company used for furnishing access and interconnection services and the channels, facilities, or equipment of others shall be provided at the Customer's expense. (C)
(C)
- B. Access and interconnection services may be connected to the services or facilities of other communications companies only when authorized by, and in accordance with, the terms and conditions of the tariffs of the other communications companies which are applicable to such connections. (C)

2.8.4. INSPECTION AND TESTING

- A. Upon suitable notification to the Customer, and at a reasonable time, the Company may make such tests and inspections as may be necessary without penalty or liability, to determine that the Customer is complying with the requirements set forth in Section 2.8 for the installation, operation, and maintenance of customer-provided facilities, equipment, and wiring in the connection of customer-provided facilities and equipment to Company-owned facilities and equipment. (C)
|
(C)
- B. If the protective requirements for customer-provided equipment are not being complied with, the Company may take such action as it deems necessary to protect its facilities, equipment, and personnel. The Company will notify the Customer promptly if there is any need for further corrective action. Within ten days of receiving this notice, the Customer must take this corrective action and notify the Company of the action taken. If the Customer fails to do this, the Company may take whatever additional action is deemed necessary, including the suspension of service, to protect its facilities, equipment and personnel from harm. (C)

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2. GENERAL REGULATIONS

2.9. PAYMENT ARRANGEMENTS

2.9.1. PAYMENT FOR SERVICE

The Customer is responsible for the payment of all charges for facilities and services furnished by the Company to the Customer.

A. Taxes

The Customer is responsible for the payment of any sales, use, gross receipts, excise, access or other local, state and federal taxes, charges or surcharges (however designated)(excluding taxes on the Company's net income) imposed on or based upon the provision, sale or use of access and interconnection services.

(C)

2.9.2 BILLING AND COLLECTION OF CHARGES

The Company shall bill on a current basis all charges incurred by and credits due to the Customer. All bills for service provided to the Customer by the Company are due (payment date) within 30 calendar days of the bill date and are payable in immediately available funds.

(C)

A. The Company shall bill in advance charges for all services provided during the ensuing billing period except for services billed on a per usage basis.

B. Billing shall be based on usage as determined by call detail. When call detail is unavailable, bills shall be based on estimated PIU as described in Section 2.7.3. The Company will apply a default 50% assumed PIU factor when call detail is unavailable and the Customer fails to provide PIU.

(C)

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2. GENERAL REGULATIONS

2.9. PAYMENT ARRANGEMENTS (CONT'D)

2.9.2. BILLING AND COLLECTION OF CHARGES (CONT'D)

- C. When service does not begin on the first day of the month, or end on the last day of the month, the charge for the fraction of the month in which service was furnished will be calculated on a pro rata basis. For this purpose, every month is considered to have thirty (30) days.
- D. Billing of the Customer by the Company will begin on the Service Commencement Date (or "In Service Date"), which is the first day following the date on which the Company notifies the Customer that the service or facility is available for use, except that the Service Commencement Date may be postponed by mutual agreement of the parties, or if the service or facility does not conform to standards set forth in this tariff or the Service Order. Billing accrues through and includes the day that the service, circuit, arrangement or component is discontinued.
- E. If any portion of the payment is received by the Company after the date due, or if any portion of the payment is received by the Company in funds which are not immediately available, then a late payment penalty shall be due to the Company. The late payment penalty shall be the portion of the payment not received by the due date, multiplied by a late factor of 1.5%.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.9. PAYMENT ARRANGEMENTS (CONT'D)

2.9.3. DISPUTED BILL PROCEDURES

The Customer shall notify the Company of any disputed items on an invoice within thirty (30) days of receipt of the invoice. If the Customer and the Company are unable to resolve the dispute to their mutual satisfaction, the Customer may file a complaint with the Bureau of Consumer Services in accordance with the Commission's rules and procedures as found on the Commission's website at <http://www.puc.state.pa.us>. The address and telephone number of the Bureau are as follows:

Bureau of Consumer Services
P.O. Box 3265
Harrisburg, Pennsylvania 17105-3265
Telephone: 1-800-692-7380

The Customer must pay all undisputed charges by the applicable due date. After filing a claim for disputed charges with the Company, the Customer may be required, at the Company's sole discretion, to place all disputed amounts into a U.S.-based, interest bearing escrow account with a third party escrow agent, with costs paid for by the disputing party.

2.10. ADVANCE PAYMENTS AND DEPOSITS

2.10.1. ADVANCE PAYMENTS

To safeguard its interests, the Company may require a Customer to make an Advance Payment before services and facilities are furnished. The Advance Payment will not exceed an amount equal to the non-recurring charge(s) and one month's charges for the service or facility. In addition, where special construction is involved, the Advance Payment may also include an amount equal to the estimated non-recurring charges for the special construction and recurring charges (if any) for a period to be set between the Company and the Customer. The Advance Payment will be applied, as a credit, to the Customer's billed service charges. When there has been a decrease in the number of services originally ordered, only the portion of the Advance Payment for services actually installed will be credited. An Advance Payment may be required in addition to a deposit.

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2. GENERAL REGULATIONS

2.10. ADVANCE PAYMENTS AND DEPOSITS (CONT'D)

2.10.2. DEPOSITS

- A. To safeguard its interests, the Company may require a Customer to make a deposit to be held as a guarantee for the payment of charges. A deposit does not relieve the Customer of the responsibility for the prompt payment of bills on presentation. The deposit will not exceed an amount equal to:
 - 1. Two (2) month's charges for a service or facility which has a minimum payment period of one (1) month; or
 - 2. The charges that would apply for the minimum payment period for a service or facility which has a minimum payment period of more than one (1) month; except that the deposit may include an additional amount in the event that a termination charge is applicable.
- B. A deposit may be required in addition to an Advance Payment. (C)
- C. When a service or facility is discontinued, the amount of a deposit, if any, will be applied to the Customer's account and any credit balance remaining will be refunded. Before the service or facility is discontinued, the Company may, at its option, return the deposit or credit it to the Customer's account.
- D. Deposits held will accrue interest at a rate of five (5) percent annually, without deductions for any taxes on such deposits.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.11. DISCONTINUANCE AND CANCELLATION OF SERVICE

2.11.1. DISCONTINUANCE OF SERVICE

- A. Upon nonpayment of any amount owing to the Company, the Company may, by giving ten (10) days' prior written notice to the Customer, discontinue or suspend service without incurring any liability.
- B. Upon violation of any of the other material terms or conditions for furnishing service the Company may, by giving thirty (30) days' prior written notice to the Customer, discontinue or suspend service without incurring any liability if such violation continues during that period.
- C. Upon condemnation of any material portion of the facilities used by the Company to provide service to a Customer or if a casualty renders all or any material portion of such facilities inoperable beyond feasible repair, the Company, by notice to the Customer, may discontinue or suspend service without incurring any liability.
- D. Upon the Customer's insolvency, assignment for the benefit of creditors, filing for bankruptcy or reorganization, or failing to discharge an involuntary petition within the time permitted by law, the Company may immediately discontinue or suspend service without incurring any liability.
- E. Upon any governmental prohibition or required alteration of the services to be provided or any violation of an applicable law or regulation, the Company may immediately discontinue service without incurring any liability.
- F. Upon the Company's discontinuance of service to the Customer, the Company, in addition to all other remedies that may be available to the Company at law or in equity or under any other provision of this tariff, may declare all future monthly and other charges which would have been payable by the Customer during the remainder of the term for which such services would have otherwise been provided to the Customer to be immediately due and payable (discounted to present value at six (6) percent).

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.11. DISCONTINUANCE AND CANCELLATION OF SERVICE (CONT'D)

2.11.2. CANCELLATION OF APPLICATION FOR SERVICE

- A. Applications for service are non-cancellable unless the Company otherwise agrees. Where the Company permits a Customer to cancel an application for service prior to the start of service or prior to any construction, installations or preparation for installation, no charges will be imposed except for those specified below.
- B. Where, prior to cancellation by the Customer, the Company incurs any expenses in installing the service or in preparing to install the service that it otherwise would not have incurred, a charge equal to the costs the Company incurred, less net salvage, shall apply, but in no case shall this charge exceed the sum of the charge for the minimum period of services ordered, including installation charges, and all charges others levy against the Company that would have been chargeable to the Customer has service begun (all discounted to present value at six (6) percent).
- C. Where the Company incurs any expense in connection with special construction, or where special arrangements of facilities or equipment have begun, before the Company receives a cancellation notice, a charge equal to the costs incurred, less net salvage, applies. In such cases, the charge will be based on such elements as the cost of the equipment, facilities, and material, the cost of installation, engineering, labor, and supervision, general and administrative expense, other disbursements, depreciation, maintenance, taxes, provision for return on investment, and any other costs associated with the special construction or arrangements.
- D. The special charges described in B., above, will be calculated and applied on a case-by case basis.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.12. CHANGES IN SERVICE REQUESTED

If the Customer makes or requests material changes in circuit engineering, equipment specifications, service parameters, premises locations, or otherwise materially modifies any provision of the application for service, the Customer's installation fee shall be adjusted accordingly.

2.13. ALLOWANCES FOR INTERRUPTIONS IN SERVICE

Interruptions in service, which are not due to the negligence of or noncompliance with the provisions of this Tariff by the Customer or to the operation or malfunction of the facilities, power or equipment provided by the Customer, will be credited to the Customer as set forth in 2.13.1 for the part of the service that the interruption affects. (C)

2.13.1. CREDIT FOR INTERRUPTIONS

- A. A credit allowance will be made when an interruption occurs because of a failure of any component furnished by the Company under this Tariff. An interruption period begins when a Customer reports a service, facility or circuit to be interrupted and releases it for testing and repair. An interruption period ends when the service, facility or circuit is operative. If the Customer reports a service, facility or circuit to be inoperative but declines to release it for testing and repair, it is considered to be impaired, but not interrupted. (C)
- B. For calculating credit allowances, every month is considered to have thirty (30) days. A credit allowance is applied on a pro rata basis against the rates specified hereunder and is dependent upon the length of the interruption. Only those facilities on the interrupted portion of the circuit will receive a credit.
- C. Credit allowances for usage services apply only to the applicable monthly rates.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.13. ALLOWANCES FOR INTERRUPTIONS IN SERVICE (CONT'D)

2.13.1. CREDIT FOR INTERRUPTIONS (CONT'D)

- D. A credit allowance will be given for facility interruptions of 15 minutes or more. Credit allowances shall be calculated as follows:

<u>Interruptions of 24 Hours or Less</u>	
<u>Length of Interruption</u>	<u>Interruption Period To Be Credited</u>
Less than 15 minutes	None
15 minutes up to but not including 3 hours	1/10 Day
3 hours up to but not including 6 hours	1/5 Day
6 hours up to but not including 9 hours	2/5 Day
9 hours up to but not including 12 hours	3/5 Day
12 hours up to but not including 15 hours	4/5 Day
15 hours up to but not including 24 hours	One Day

Two or more interruptions of 15 minutes or more during any one 24-hour period shall be considered as one interruption.

Interruptions over twenty-four (24) hours and less than seventy-two (72) hours will be credited 1/5 day for each three (3) hour period or fraction thereof. No more than one full day's credit will be allowed for any period of twenty-four (24) hours. (C)

Interruptions over seventy-two (72) hours will be credited two (2) days for each full twenty-four (24) hour period. No more than thirty (30) days credit will be allowed for any one month period. (C)

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.13. ALLOWANCES FOR INTERRUPTIONS IN SERVICE (CONT'D)

2.13.2. LIMITATIONS ON ALLOWANCES

No credit allowance will be made for:

- A. Interruptions due to the negligence of, or noncompliance with the provisions of this Tariff, by the Customer, authorized user, joint user, or other common company providing service connected to the service of the Company;
- B. Interruptions due to the negligence of any person other than the Company, including but not limited to the Customer or other common companies connected to the Company's facilities;
- C. Interruptions due to the failure or malfunction of non-Company equipment;
- D. Interruptions of service during any period in which the Company is not given full and free access to its facilities and equipment for the purpose of investigating and correcting interruptions;
- E. Interruptions of service during a period in which the Customer continues to use the service on an impaired basis;
- F. Interruptions of service during any period when the Customer has released service to the Company for maintenance purposes or for implementation of a Customer order for a change in service arrangements; and
- G. Interruption of service due to circumstances or causes beyond the control of the Company.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.13. ALLOWANCES FOR INTERRUPTIONS IN SERVICE (CONT'D)

2.13.3. CANCELLATION OF SERVICE

If a Customer cancels a Service Order or terminates services before the completion of the term for any reason whatsoever or as defined elsewhere in this tariff, the Customer agrees to pay to the Company the following sums which shall become due and owing as of the effective date of the cancellation or termination and be payable within the period set forth in Section 2.9.2: all costs, fees and expenses reasonably incurred in connection with 1) all Non-Recurring charges reasonably expended by the Company to establish service to the Customer, plus 2) any disconnection, early cancellation or termination charges reasonably incurred and paid to third parties by the Company on behalf of the Customer, plus 3) all Recurring Charges specified in the applicable Service Order Tariff for the balance of the then current term.

2.14. TRANSFERS AND ASSIGNMENTS

The Customer may not transfer or assign the use of service without the express prior written consent of the Company. The Company will only permit a Customer to transfer its existing service to another entity if the existing Customer has paid all charges owed to the Company. Such transfer or assignment shall only apply where there is no interruption of the use or location of service. All rates, terms and conditions shall apply to all such permitted transferees or assignees.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.15. NOTICES AND COMMUNICATIONS

The Customer shall designate on the Service Order a U.S. address to which the Company shall mail or deliver all notices and other communications, except that the Customer may also designate a separate U.S. address to which the Company's bills for service shall be mailed.

The Company shall designate on the Service Order an address to which the Customer shall mail or deliver all notices and other communications, except that the Company may designate a separate address on each bill for service to which the Customer shall mail payment on that bill.

All notices or other communications required to be given pursuant to this Tariff will be in writing. Notices and other communications of either party, and all bills mailed by the Company, shall be presumed to have been delivered to the other party on the third business day following placement of the notice, communication or bill with the U.S. Mail or a private delivery service, prepaid and properly addressed, or when actually received or refused by the addressee, whichever occurs first.

The Company or the Customer shall advise the other party of any changes to the addresses designated for notices, other communications or billing, by following the procedures for giving notice set forth herein.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.16. ORDERING, RATING AND BILLING OF ACCESS SERVICES WHERE MORE THAN ONE EXCHANGE TELEPHONE COMPANY IS INVOLVED

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The Company accepts and adheres to the Ordering and Billing Forum guidelines, Multiple Exchange Carrier Access Billing (MECAB) and Multiple Exchange Carrier Ordering and Design (MECOD).

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2. GENERAL REGULATIONS

2.16. ORDERING, RATING AND BILLING OF ACCESS SERVICES WHERE MORE THAN
ONE EXCHANGE TELEPHONE COMPANY IS INVOLVED (CONT'D)

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2. GENERAL REGULATIONS

2.16. ORDERING, RATING AND BILLING OF ACCESS SERVICES WHERE MORE THAN
ONE EXCHANGE TELEPHONE COMPANY IS INVOLVED (CONT'D)

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2. GENERAL REGULATIONS

2.17. RATES BASED UPON DISTANCE

Where the charges for service are specified based upon distance, the following rules apply:

- A. Distance between two points is measured as airline distance. In the case of distance measurement for tandem transport, the two points are the access tandem and the Company's End Office, Trunk Gateway, or functionally equivalent location. Their measurement points are a set of geographic "V" (vertical) and "H" (horizontal) coordinates.
- B. The airline distance between any two points is determined as follows:
 - 1. Obtain the "V" and "H" coordinates for each point.
 - 2. Compute the difference between the "V" coordinates of the two points; and the difference between the two "H" coordinates.
 - 3. Square each difference obtained in step (2) above.
 - 4. Add the square of the "V" difference and the square of the "H" difference obtained in step (3).
 - 5. Divide the sum of the squares by 10. Round to the next higher whole number if any fraction is obtained.
 - 6. Obtain the square root of the whole number result obtained above. Round to the next higher whole number if any fraction is obtained. This is the airline mileage.

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2. GENERAL REGULATIONS

2.18. INDIVIDUAL CASE BASIS ARRANGEMENTS

When the Company furnishes a facility or service for which a rate or charge is not specified in the Company's tariffs, changes will be determined on an Individual Case Basis. Specialized rates or charges will be made available to similarly situated customers on a non-discriminatory basis.

2.19. SPECIAL CONSTRUCTION

2.19.1. DESCRIPTION

Subject to the arrangement of the Company, and to all of the regulations contained in this tariff, special construction of the facilities may be undertaken on a reasonable efforts basis at the request of the Customer. Special construction is that construction undertaken:

- where facilities are not presently available, and there is no other requirement for the facilities so constructed;
- of a type other than that which the Company would normally utilize in the furnishing of its services;
- over a route other than that which the Company would normally utilize in the furnishing of its services;
- in a quantity greater than that which the Company would normally construct;
- on an expedited basis;
- on a temporary basis until permanent facilities are available;
- involving abnormal costs; or
- in advance of its normal construction.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.19. SPECIAL CONSTRUCTION (CONT'D)

2.19.2. BASIS FOR RATES AND CHARGES

Rates and charges for special construction will be based on the costs incurred by the Company and may include (1) nonrecurring type charges, (2) recurring type charges, (3) termination liabilities, or (4) combination thereof.

A. Basis for Cost Computation

The cost may include one or more of the following items to the extent that they are applicable:

1. Cost installed of the facilities to be provided, including estimated costs for the rearrangement of existing facilities. Cost installed includes the cost of:
 - a. Equipment and materials provided or used;
 - b. Engineering, labor and supervision;
 - c. Transportation; and
 - d. Rights-of-way.
2. Cost of maintenance;
3. Depreciation on the estimated cost installed of any facilities provided, based on the anticipated useful service life of the facilities with an appropriate allowance for the estimated net salvage;
4. Administration, taxes and uncollectible revenue on the basis of reasonable average costs for these items;
5. License preparation, processing and related fees;
6. Tariff preparation, processing and related fees;
7. Any other identifiable costs related to the facilities provided; or
8. An amount for return and contingencies

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.19. SPECIAL CONSTRUCTION (CONT'D)

2.19.3. TERMINATION LIABILITY

To the extent that there is no other requirement for use by the Company, a termination liability may apply for facilities specially constructed at the request of the Customer.

- A. The termination liability period is the estimated service life of the facilities provided.
- B. The amount of the maximum termination liability is equal to the estimated amounts for:
 - 1. Cost installed of the facilities provided, including estimated costs for rearrangements of existing facilities and/or construction of new facilities as appropriate. Cost installed includes the cost of:
 - a. Equipment and materials provided or used;
 - b. Engineering, labor and supervision;
 - c. Transportation; and
 - d. Rights-of-way.
 - 2. License preparation, processing and related fees;
 - 3. Tariff preparation, processing and related fees;
 - 4. Cost of removal and restoration, where appropriate; and
 - 5. Any other identifiable costs related to the specially constructed or rearranged facilities.
- C. The applicable termination liability charge is based on the normal method for circulating the unpaid balance of a term obligation.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911)

2.20.1. GENERAL

The Company will provide a universal central office number 911 for the use of Public Safety Answering Points (PSAP) engaged in providing telecommunications services for a Public Agency engaged in protecting the safety and property of the general public. Use of the 911 number will provide the public with a means of simple and direct telephone access to such Public Safety Answering Points.

In providing this service, the Company will arrange to route 911 telephone calls from telephones with specified Area Code and central office designations to a Public Safety Answering Point specified by an appropriate Public Agency.

2.20.2. GLOSSARY OF TERMS

Host Telephone Company: The service provider, which is also the telecommunications public utility that provides 9-1-1 service to the county/municipality, and that houses the Automatic Location Identification (ALI)/MSAG data used for providing 9-1-1 service.

Telephone Company: A telecommunications public utility regulated by the Pennsylvania Public Utility Commission and which has or requests access to the county/municipality 9-1-1 system or connection to the serving selective router, including, but not limited to, local exchange carriers and competitive local exchange carriers. The term is synonymous with 'service provider'.

Content: The data elements of the MSAG including, but not limited to, the data elements that are entered into the following fields A-I of a standard MSAG record:

- A. Tax area record
- B. Locality
- C. Street
- D. Thoroughfare
- E. Directional [where required]
- F. Even (E), Odd (O), or All (A) [applied to house numbers]
- G. Low-High range of house numbers
- H. PSAP (Public Safety Answering Point)
- I. LAT/LONG (Latitude/Longitude) [where required]

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.2. GLOSSARY OF TERMS (CONT'D)

Formatting, Format: Shall include changes to the identity of fields, order of fields, and number and arrangement of data elements in each field, and a telephone company's rearrangement or regrouping of such data, without changing the MSAG content, for purposes of validating against MSAG records.

2.20.3. REGULATIONS

- A. The Company will comply with the Protocols as set forth in, and in the form of, Service Provider E-9-1-1 Protocols, Service Provider E-9-1-1 Questionnaire and Testing Procedures in accordance with the Petition of Bell Atlantic-Pennsylvania, Inc. for a Declaratory Order (MSAG); Docket No. P-00971203; Settlement Agreement of all Parties and Joint Petition entered August 7, 1998.
- B. The Company is indemnified under the Public Safety Emergency Telephone Act, Act 78 of 1990.
- C. The Company's liability and indemnification for 9-1-1 Service is described in this section.
- D. Cases of service interruptions affecting public health and safety shall receive priority attention under any and all conditions, particularly in time of disaster. Every appropriate resource will be utilized. The service provider will make reasonable best efforts to have its system fully functional as soon as possible, unless conditions beyond the service provider's control prevent service restoration.
- E. The service provider will not use the county's/municipality's MSAG for any purpose that is not directly related to and required for the provision of 9-1-1 service.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.3. REGULATIONS (CONT'D)

- F. The Host Telephone Company will install the county's/municipality's MSAG in 'read/write' format and will not modify the content of the MSAG unless requested or permitted to do so by the county/municipality. A request to modify content by the Host Telephone Company shall be responded to by the county/municipality within ten (10) business days or the request is deemed to be approved. The request shall be in writing and shall set forth in reasonable detail the proposed modification and all reasons in support. The request shall be granted provided the modification is necessary for the Host Telephone Company's provision, maintenance, or upgrading of the 9-1-1 Service.
- G. The Company shall not otherwise modify the content of the MSAG, but may make formatting changes approved by the county/municipality necessary to enable the MSAG to conform to the Company's information system(s). The request shall be in writing and shall set forth in reasonable detail the formatting changes and all reasons in support. The county/ municipality shall respond to the request in ten (10) business days or the request is deemed to be approved. The request shall be granted provided the formatting change does not impair the integrity and accuracy of the MSAG database. For the purposes of this regulation, a content or formatting change does not include the use of the MSAG content in telephone companies' operational support systems to validate customer information for input to the ALI database.
- H. The service provider will not sell, lease, rent, loan or provide, or transfer the county's/municipality's MSAG to any other person(s) or entity(ies) without the express written authorization of the county's/municipality's 9-1-1 coordinator, or his or her designee.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.3. REGULATIONS (CONT'D)

- I. The Company will not, without the written consent of the county/ municipality, modify or create any derivative of the county's/municipality's MSAG, except as follows: one mirror image copy of the MSAG may be made in electronic form for archival purposes (the copy may be made in read/write format by the Host Telephone Company, but shall be made solely in read-only format by all other telephone companies), and the Company may make a mirror image copy, solely in read-only format and only for database reconciliation, address verification for new connections of service, and other functions that are necessary to ensure that the name and address information provided by the service provider to the county/municipality is accurate and conforms to the county's/municipality's MSAG format.
- J. A Public Safety Answering Point (PSAP) is the answering point for a 9-1-1 call. A PSAP may be designated as Primary or Secondary, which refers to the order in which calls are directed for answering. Primary PSAPs answer first; Secondary PSAPs receive calls on a transfer basis only.
- K. Any person dialing "9-1-1" from a telephone which is usable for local exchange telephone network access and arranged to provide 9-1-1 Service will be automatically connected to the appropriate PSAP for that telephone.
- L. For the purposes of this Tariff, a Responding Agency is an agency that is prepared to provide one or more specific emergency services via calls received from a PSAP.
- M. 9-1-1 calls originated from the Company's Local Exchange Service access facilities shall be completed to the appropriate PSAP without a charge being assessed to the calling party by the Company.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.3. REGULATIONS (CONT'D)

- N. 9-1-1 Service may be classified as one of two types: Basic Service or Enhanced Service.
1. Basic 9-1-1 Service provides for routing all 9-1-1 calls originated by telephones having telephone numbers beginning with a given central office prefix code or codes, to a single PSAP which is prepared to receive those calls. Basic 9-1-1 Service has certain inherent features and optional features which may or may not be available with Enhanced 9-1-1 Service.
 2. Enhanced 9-1-1 Service provides certain features such as selective routing of 9-1-1 calls to a specific PSAP which is selected from the various PSAPs serving customers within that central office area. Enhanced 9-1-1 Service has certain other inherent and optional features which may or may not be available with Basic 9-1-1 Service.
- O. The Company's 9-1-1 Service is provided consistent with the county/municipal 9-1-1 protocols and the Pennsylvania Emergency Services Act. Future revisions or additions made to the Protocols by a county/municipality will be handled by the Company as described in the Protocols, and any tariff changes will be made accordingly.

2.20.4. LIABILITY AND INDEMNIFICATION

- A. This offering is limited to the provision and use of the digits "9-1-1" as the Universal Emergency Telephone Number (Code).
- B. 9-1-1 Service is one-way service only.
- C. The Company shall not incur any liability, direct or indirect, to any person who dials, or attempts to dial, the digits "9-1-1", or to any other person who may be affected by the dialing of the digits "9-1-1". The Company's entire liability arising out of the provision of 9-1-1 Service under this tariff shall be limited as set forth in this section and in the rules.

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.4. LIABILITY AND INDEMNIFICATION (CONT'D)

- D. The Company does not undertake to answer and forward 9-1-1 calls to Responding Agencies but furnishes the use of its facilities to enable the customer to access the PSAP for their region and enables emergency personnel to respond to such calls on the customer's premises.
- E. 9-1-1 Service is provided solely for the benefit of the customer. The provision of 9-1-1 Service by the Company shall not be interpreted, construed or regarded as being for the benefit of, or creating any Company obligation toward, any third person or legal entity other than the customer.
- F. Each customer agrees to release, indemnify, defend, and hold harmless the Company from any and all loss, claims, demands, suits, or any liability whatsoever, whether suffered, made, instituted, or asserted by the customer or by any other party or person, for any loss, damage, or destruction of any property, whether owned by the customer or others.
- G. The customer also agrees to release, indemnify, and hold harmless the Company for any infringement or invasion of the right of privacy of any person or persons, caused or claimed to have been caused, directly or indirectly, by the installation, operation, failure to operate, maintenance, removal, presence, condition, occasion, or use of the 9-1-1 Service and the equipment associated therewith, including, but not limited to, the identification of the telephone number used by the party or parties accessing 9-1-1 Service hereunder, and which arise out of negligence or other wrongful act of the Company, the customer, its user, agencies or municipalities, or the employees or agents of any one of them.
- H. By calling 9-1-1 Service, the 9-1-1 calling party gives the Company consent to provide 9-1-1 information, consisting of the name, address, and telephone number of the customer at the location from which the call was made, to law enforcement agencies and other emergency service providers on a call-by-call basis to enable those agencies and service providers to respond to emergency calls for assistance.
- I. The Company maintains insurance coverage for liability related to or arising out of the provision of 9-1-1 Service.

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SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.5. E-9-1-1 TRUNK GROUP FAILURE OR 9-1-1 TANDEM FAILURE

In the event of a failure of all the trunk groups between the Comcast switch(es) and the 9-1-1 tandem, or a failure of the 9-1-1 tandem switch, the following procedure will be followed:

- A. The local 10 digit telephone number of the default 9-1-1 PSAP has been programmed into the Comcast central office switch. In those PSAPs where 10 digit telephone number access to the default 9-1-1 PSAP is not available, the customer must dial 0 to reach the operator platform. In the event of a trunking failure, calls usually routed to the 9-1-1 trunks will be routed to the ten digit telephone number of the default PSAP. If the Comcast personnel via local alarm observe the trunking failure, the alternate routing plan will be invoked along with immediate attempts to isolate and restore the failure. Notification will be made to the local 9-1-1 agency designated notification point. If Comcast is notified of the failure by the 9-1-1 tandem or local 9-1-1 agency, the Comcast operations center will immediately invoke the alternate routing plan and assist as needed to isolate and restore service.
- B. In the event of a failure of all of the trunk groups between Comcast switch(es) and the 9-1-1 tandem, or a failure of the 9-1-1 tandem switch, the Comcast switch is programmed to play the following announcement: "We're sorry, all circuits are busy; will you please try your call again later. Comcast."

SWITCHED ACCESS SERVICES

2. GENERAL REGULATIONS

2.20. UNIVERSAL EMERGENCY TELEPHONE NUMBER SERVICE (911, E911) (CONT'D)

2.20.6. SWITCH ISOLATION

In the event of a complete switch failure and isolation from the 9-1-1 and public switched telephone networks, the following procedure will be followed:

- A. Upon determination of a switch failure and isolation, Comcast personnel will invoke recovery procedures in an effort to restore the switch to service as soon as possible.
- B. Notification of the failure condition and restoral status will be made to the local 9-1-1 agency designated notification point.
- C. All efforts will be made to restore the failure quickly and return all service to normal.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.1. DESCRIPTION

Switched Access Service provides a physical or logical transmission path for the routing, transport, origination and/or termination of Customer traffic between End Users and a third-party's access tandem (or equivalent) by utilizing the services, facilities or equipment owned or controlled through contract or other means, by the Company.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.2. RULES AND REGULATIONS

The Company has certain obligations pertaining only to the provision of Switched Access Service. These obligations are as follows:

3.2.1. OBLIGATIONS OF THE COMPANY

A. Network Management

The Company will administer its network to insure that provision of acceptable service levels, to all telecommunications users of the Company's network services. The Company maintains the right to apply protective controls, i.e., those actions, such as call gapping, which selectively cancel the completion of traffic, over any traffic carried over its network, including that associated with a Customer's Switched Access Service. Generally, such protective measures would only be taken as a result of occurrences such as a failure or overload of Company or Customer facilities, natural disasters, mass calling or national security demands.

B. Design and Traffic Routing Of Switched Access Service

The Company shall design and determine the routing of Switched Access Service, including the selection of the first point of switching and the selection of facilities from the interface to any switching point and to the end offices where busy hour minutes of capacity are ordered. The Company shall also decide if capacity is to be provided by originating only, terminating only, or two-way trunk groups. Finally, the Company will decide whether trunk side access will be provided through the use of two-wire or four-wire trunk terminating equipment. Selection of facilities and equipment and traffic routing of the service are based on standard engineering methods, available facilities and equipment and the Company's traffic routing plans. If the Customer desires different routing or directionality than that determined by the Company, the Company will work cooperatively with the Customer in determining (1) whether the service is to be routed directly to an end office or through an access tandem switch and (2) the directionality of the service.

SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.2. RULES AND REGULATIONS (CONT'D)

3.2.1. OBLIGATIONS OF THE COMPANY (CONT'D)

C. Provision of Service Performance Data

Subject to availability, end-to-end service performance data available to the Company through its own service evaluation routines may also be made available to the Customer based on previously arranged intervals and format. These data provide information on overall end-to-end call completion and non-completion performance Customer equipment blockage, failure results and transmission performance. These data do not include service performance data which are provided under other tariff sections, e.g., testing service results. If data are to be provided in other than paper format, the charges for such exchange will be determined on an individual case basis.

D. Trunk Group Measurements Reports

Subject to availability, the Company will make available trunk group data in the form of usage in CCS, peg count and overflow to the Customer based on previously agreed to intervals. If data are to be provided in other than paper format, the charges for such exchange will be determined on an individual base basis.

SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.2. RULES AND REGULATIONS (CONT'D)

3.2.2. TRAFFIC TYPE DESIGNATION

The Company affirms that all of its Pennsylvania traffic either originates from or terminates to a VoIP end user and is therefore, VoIP-PSTN.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.3. SWITCHED ACCESS RATE CATEGORIES (C)

The following rate categories apply to all forms of Switched Access Service provided by the Company, unless otherwise specified in this Tariff. (C)

- Carrier Common Line
- Network Access (C)
- Tandem Transport (C)

3.3.1. CARRIER COMMON LINE

The Carrier Common Line rate category provides Customers with the use of services, facilities, and/or equipment owned, or controlled through contractual or other arrangements, by the Company in order to access End Users necessary to furnish intrastate communications. No Carrier Common Line charge is assessed in this Tariff. (C)

3.3.2. NETWORK ACCESS

Network Access provides the functional equivalent of traditional end office switching. It consists of the following elements: Network Switching and Common Trunk Port.

A. Network Switching

Network Switching provides for (a) the establishment of a call path for the routing of Customer communications from the Company's End Office, Trunk Gateway, or functionally equivalent location to a Company End User and (b) the establishment of a call path for the routing of communications originating from a Company End User for delivery to the Company's End Office, Trunk Gateway, or functionally equivalent location.

The "establishment" of call path and routing is achieved through equipment and facilities, including, in some cases, a soft switch or similar equipment, owned or controlled through contract or other means, by the Company, which allows for the routing of voice communications between the Company's Trunk Gateway Location and End Users via SS7 signaling based on telephone numbers obtained by the Company and assigned to End Users as set forth in the LERG. (C)

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.3. STANDARD RATE CATEGORIES (CONT'D)

3.3.2. NETWORK ACCESS (CONT'D)

B. Common Trunk Port

Common Trunk Port provides for the termination of tandem transport trunks in shared ports at the Company End Office, Trunk Gateway, or functionally equivalent location. The Common Trunk Port rate is assessed on a per-MOU basis to all trunkside originating and terminating access minutes routed to the Company via a third party access tandem.

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3.3.3. TANDEM TRANSPORT

The Tandem Transport rate category provides for the transmission between an access tandem and the Company's End Office, Trunk Gateway, or functionally equivalent location. Rate elements include:

A. Transport Termination

The Transport Termination element includes the non-distance sensitive portion of Tandem Transport and is assessed on a per-access-minute-of-use basis.

B. Transport Mileage

The Transport Mileage element includes the distance sensitive portion of Tandem Transport and is assessed on a per-access-minute-of-use-per-mile basis. Transport Mileage will be calculated based on the airline mileage between the access tandem (or functional equivalent) and the Company's End Office, Trunk Gateway, or functionally equivalent location within the applicable LATA.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.3. STANDARD RATE CATEGORIES (CONT'D)

3.3.3. TANDEM TRANSPORT (CONT'D) (C)

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.4. OTHER RATE CATEGORIES

3.4.1. 8XX TOLL-FREE ACCESS SERVICE

All appropriate Switched Access rate elements apply to 8XX Toll-Free Access Service.

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8XX Toll-Free Access Service is an originating access service offering. The service provides for the forwarding of End User originated 8XX calls to a Company Service Control Point, which will initiate a query to the database for the identification and delivery of the call. The call is forwarded to the appropriate customer based on the dialed 8XX number.

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A. Customer Identification Charge

The 8XX Toll-Free Access Service Customer Identification Charge applies for the identification of and delivery of 8XX calls to the appropriate customer. The charge is assessed to the Customer on a per query basis.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.5. RATES AND CHARGES

3.5.1. [RESERVED FOR FUTURE USE]

3.5.2. CARRIER COMMON LINE	MONTHLY RATE PER MOU
Per Minute of Use	
• Verizon Territory	\$0.000000
• Century Link (former Embarq) Territory	0.000000

3.5.3. NETWORK ACCESS

A. Network Switching

1. Originating – Non-8YY	
• Verizon Territory	\$0.002406
• Century Link Territory	0.003892
Originating – 8YY	
• Verizon Territory	\$0.000000 (D)
• Century Link Territory	0.000000 (D)
2. Terminating	
• Verizon Territory	0.000000
• Century Link Territory	0.000000

B. Common Trunk Port

1. Originating – Non-8YY	
• Verizon Territory	0.001688
• Century Link Territory	0.000490
Originating – 8YY	
• Verizon Territory	0.000000 (D)
• Century Link Territory	0.000000 (D)
2. Terminating	
• Verizon Territory	0.000000
• Century Link Territory	0.000000

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.5. RATES AND CHARGES (CONT'D)

3.5.4. TANDEM TRANSPORT

**PER ACCESS
MINUTE**

A. Transport Termination

1. Originating

- Verizon Territory \$0.000000
- Century Link Territory 0.000000

2. Terminating

- Verizon Territory 0.000000
- Century Link Territory 0.000000

B. Transport Mileage, per mile

1. Originating

- Verizon Territory 0.000000
- Century Link Territory 0.000000

2. Terminating

- Verizon Territory 0.000000
- Century Link Territory 0.000000

3.5.5. 8XX TOLL-FREE ACCESS SERVICE

RATE PER QUERY

A. Customer Identification Charge

- Verizon Territory \$0.0002000 (D)
- Century Link Territory \$0.0002000 (D)

SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.6. MISCELLANEOUS SERVICES

3.6.1 SERVICE CHANGE DISPUTE

If an End User disputes a change in service, the Company will investigate the origin of the change. If the change was due to a Company error, the original service will be restored free of charge. If the change was submitted by a Customer or a third party and either the Customer or the third party is unable to produce evidence of the End User's consent then the responsible Customer or third party will be responsible for all charges and penalties associated with the unauthorized change.

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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SWITCHED ACCESS SERVICES

3. SWITCHED ACCESS SERVICE

3.7. [RESERVED FOR FUTURE USE] (C)

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SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

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4.1. GENERAL

Except as set forth in 4.2 following, Special Access Services are not generally available but may be provided subject to the terms, conditions, and limitations as set forth in Section 5.3, following, for Special Assemblies and Individual Case Basis Arrangements.

4.2. ETHERNET TRANSPORT SERVICES

Comcast's Ethernet Transport Services will be provided in accordance with the service descriptions, technical specifications, and performance standards set forth in Section 4.2 of this Tariff. If any of the definitions or regulations contained in this Section 4.2 conflict with those elsewhere in this Tariff, those contained in this Section 4.2 shall prevail.

Service is offered subject to facility and equipment availability. Intrastate Ethernet Transport Service may only be purchased by Customers whose traffic on the service will be at least 90% intrastate in nature.

4.2.1. DEFINITIONS

- A. "Agreement" consists of the Enterprise Master Services Agreement executed by the Customer and accepted by Comcast, the Product-Specific Attachment, the terms and conditions contained in this Tariff, any written amendments executed by both parties, and each Sales Order accepted by Comcast under the Agreement.
- B. "Comcast" refers to the operating company affiliate or subsidiary of Comcast that provides the Services.
- C. "Comcast Equipment" refers to any and all facilities, equipment or devices provided by Comcast or its authorized contractors at the Service Location(s) that are used to deliver any of the Services including, but not limited to, all terminals, wires, modems, lines, circuits, ports, routers, gateways, switches, channel service units, data service units, cabinets, and racks. Notwithstanding the above, inside telephone wiring within the Service Location, whether or not installed by Comcast, shall not be considered Comcast Equipment.

(C)

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

(C)

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.1. DEFINITIONS (CONT'D)

- D. “Comcast Switch” means Comcast’s ethernet terminating device located at a Service Location and used for provisioning its services and the delivery of the UNI. The Comcast Switch constitutes Comcast Equipment.
- E. “Customer Switch or Router” means the switch or router installed at the Service Location and used to connect to the UNI. The Customer Switch or Router may be Comcast Equipment or Customer-Provided Equipment.
- F. “Customer” refers to the company, corporation or other entity that purchases Services from Comcast.
- G. “Estimated Availability Date” means the target date for delivery of Service.
- H. “HFC Network” means a hybrid fiber coax network.
- I. “Interconnection Facilities” means transmission capacity provided by Comcast, Customer or a third-party supplier to extend the Comcast Equipment from a Comcast terminal to any other location (e.g., a local loop provided by a local exchange company or other communications company).
- J. “Jitter”, also known as Frame Delay Variation, is defined as the short-term variations measured for a portion of successfully delivered service frames over a 30 day period.
- K. “Latency”, also known as Frame Delay, is defined as the maximum delay measured for a portion of successfully delivered service frames over a 30 day period.
- L. “Objective” – As it relates to Technical Specifications and Performance Standards is the definition of how the Service is provisioned. It does not constitute a guarantee. For guarantees, please see Section 4.2.15 – Service Level Agreement (SLA).

(C)

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

(C)

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.1. DEFINITIONS (CONT'D)

- M. "Off-Net" - means geographical locations that are outside of Comcast's service area and/or geographical locations that are within Comcast's service area generally, but are not readily accessible by Comcast Network facilities. All Off-Net Services are provided by third-party service providers.
- N. "Off-Net Dedicated Fiber" – means Off-Net services that are provisioned over dedicated fiber optic network.
- O. "Off-Net Non-Dedicated Fiber"- means Off-Net services that are provisioned over a non-dedicated fiber optic network.
- P. "Off-Net Non-Fiber– means Off- Net services that are provisioned over a non-fiber network such as coax, fixed wireless, and other non-fiber access technologies.
- Q. "On-Net" - means geographical locations where Comcast currently provides Services through its Comcast Network. On-Net Services may be provisioned over a fiber optic network, ("On-Net Fiber") or via a hybrid fiber coax network ("On Net HFC Network"), as available through Comcast.
- R. "Packet Loss", also known as Frame Loss, is the difference between the number of service frames transmitted at the ingress UNI and the total number of service frames received at the egress UNI over a 30 day period.
- S. "Planned Service Interruption" means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network.
- T. "Product Specific Attachment(s) (PSA)" refers to the additional terms and conditions applicable to Services ordered by Customer under the Agreement.
- U. "Sales Order" means a request for Comcast to provide the Services to a service location submitted by Customer to Comcast (a) on a then-current Comcast form designated for that purpose or (b) if available, through a Comcast electronic order processing system designated for that purpose.

(C)

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

(C)

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.1. DEFINITIONS (CONT'D)

- V. "Service" means "Service" means (1) Ethernet Transport Services, and (2) Business Wavelength Services.
- W. "Service Commencement Date" means the date(s) on which Comcast first makes Service available for use by Customer. A single Sales Order containing multiple Service Locations or Services may have multiple Service Commencement Dates.
- X. "Service Interruption" means a complete loss of signal that renders the Service unusable.
- Y. "Service Location" means the Customer location(s) where Comcast provides Services, to the extent the Customer owns, leases, or otherwise controls such location(s).
- Z. "Service Term" means the duration of time (commencing on the Service Commencement Date) for which Services are ordered, as specified in a Sales Order.
- AA. "Termination Charges" refers to charges that may be imposed by Comcast if, prior to the end of the applicable Service Term (a) Comcast terminates Services for cause or (b) Customer terminates Services without cause. Termination Charges are as set forth in each PSA, and are in addition to any other rights and remedies under the Agreement.

(C)

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.2. PROVISIONING ENTITY

On-Net Service shall be provided by Comcast Business Communications, LLC. On-Net Service provided over the HFC Network and Off-Net Services are available in a limited number of Comcast markets.

4.2.3. REGULATORY APPROVAL; TRAFFIC MIX

Comcast's pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be exclusively for the transmission of communications that is classified as jurisdictionally interstate under FCC rules and regulations. For services for which the endpoints of the service are in the same state, Customer specifically represents that more than ten percent (10%) of the traffic transmitted via the Service will be interstate. (For this purpose, Customer's representation relates to the traffic carried over the Service rather than the locations of the physical endpoints of the facility over which the Service is delivered.) If at any time during the term of the Agreement or any Service Term, less than ten percent (10%) of the traffic transmitted via such Service(s) is interstate, Customer shall immediately notify Comcast of the same in writing. Further, Comcast reserves the right, in its reasonable sole discretion, to reclassify Customer's use of Service as jurisdictionally interstate or intrastate, as appropriate. Customer agrees to indemnify, defend, and hold Comcast harmless from any claims by third parties, including, without limitation, any governmental entities, resulting from or arising out of Customer's failure to properly represent or certify the jurisdictional nature of its use of the Service(s).

4.2.4. CUSTOM INSTALLATION FEES

All rates and charges quoted herein provide for the furnishing of facilities when suitable facilities are available or where the design or construction of the necessary facilities does not involve unusual costs. When, at the request of Customer, Comcast designs and/or constructs facilities that it would otherwise not construct, or the construction of such facilities involves a greater expense than would otherwise be incurred, Custom Installation nonrecurring charges may apply.

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all Custom Installation fee(s). Customer will pay the Custom Installation fee(s) within thirty (30) days of the invoice date unless a payment schedule is specified in the applicable Service Order.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.5. PROVISIONING INTERVAL

Following its acceptance of a Sales Order, Comcast shall notify Customer of the Estimated Availability Date applicable to that Sales Order. Comcast shall use commercially reasonable efforts to provision the Service on or before the Estimated Availability Date; provided, however, that Comcast's failure to provision by said date shall not constitute a breach of the Agreement.

4.2.6. SERVICE COMMENCEMENT DATE

Comcast shall inform Customer when Service is available and performing in accordance with the "Technical Specifications" set forth in Section 4.2.15 ("Availability Notification"). Charges for Service shall begin to accrue as of the Service Commencement Date. The Service Commencement Date shall be earliest of: (a) the date on which Customer confirms receipt of and concurrence with the Availability Notification; (b) five (5) business days following the date of the Availability Notification, if Customer fails to notify Comcast that the Service does not comply materially with the Technical Specifications set forth in Section 4.2.15 hereto; or (c) the date on which Customer first uses the Service.

4.2.7. MINIMUM SERVICE TERM

The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. In the event that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is twelve (12) months.

4.2.8. TERMINATION CHARGES

A. Termination Charges for On-Net Services

1. Subject to Section 4.2.8.C, in the event that On-Net Service is terminated following Comcast's acceptance of the applicable Sales Order but prior to the Service Commencement Date, Customer shall pay Termination Charges equal to one hundred and twenty percent (120%) of the costs and expenses incurred by Comcast in installing or preparing to install the On-Net Service.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.8. TERMINATION CHARGES (CONT'D)

A. Termination Charges for On-Net Services (Cont'd)

2. Subject to Section 4.2.8.C, in the event that On-Net Service is terminated on or following the Service Commencement Date but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to a percentage of the monthly recurring charges remaining for the unexpired portion of the then-current Service Term, calculated as follows:
 - a. 100% of the monthly recurring charges with respect to months 1-12 of the Service Term; plus
 - b. 80% of the monthly recurring charges with respect to months 13-24 of the Service Term; plus
 - c. 65% of the monthly recurring charges with respect to months 25 through the end of the Service Term; plus
 - d. 100% of any remaining, unpaid Custom Installation Fees.

Termination Charges shall be immediately due and payable upon cancellation or termination and shall be in addition to any and all accrued and unpaid charges for the Service rendered by Comcast through the date of cancellation or termination.

B. Termination Charges for Off-Net Services

1. Subject to Section 4.2.8.C, in the event that Off-Net Service is terminated following Comcast's acceptance of the applicable Sales Order but prior to the Service Commencement Date, Customer shall pay Termination Charges equal to one hundred and twenty percent (120%) of the costs and expenses incurred by Comcast in installing or preparing to install the Off- Net Service, including any third-party incurred by Comcast as a result of the early termination of the Service.
2. Subject to Section 4.2.8.C, in the event that Off-Net Service is terminated on or following the Service Commencement Date but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to:
 - a. 100% of the monthly recurring charges remaining through the end of the Service Term plus
 - b. 100% of any remaining, unpaid Custom Installation Fees; plus
 - c. any third-party charges, incurred by Comcast as a result of the early termination of Service.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.8. TERMINATION CHARGES (CONT'D)

C. Exclusions

Termination Charges shall not apply to Service terminated by Customer (a) as a result of Comcast's material and uncured breach of the Agreement.

D. Portability

Customer may terminate an existing On-Net Service ("Existing Service") and turn up a replacement On-Net Service (i.e. activate Service with termination points on Comcast's network that are different than those of the Existing Service) ("Replacement Service") without incurring Termination Charges with respect to the Existing Service, provided that (a) the Replacement Service must have a Service Term equal to or greater than the remaining Service Term of the Existing Service but in no event less than twelve (12) months; (b) the Replacement Service must have monthly recurring charges equal to or greater than the monthly recurring charges for the Existing Service; (c) Customer submits a Sales Order to Comcast for the Replacement Service within ninety (90) days after termination of the Existing Service and that Sales Order is accepted by Comcast; (d) Customer reimburses Comcast for any and all installation charges that were waived with respect to the Existing Service; and (e) Customer pays the actual costs incurred by Comcast in installing and provisioning the Replacement Service.

E. Upgrades

Customer may upgrade the speed or capacity of an Existing Service without incurring Termination Charges, provided that (a) the upgraded Service (the "**Upgraded Service**") must assume the remaining Service Term of the Existing Service, but in no event less than twelve (12) months; (b) the Upgraded Service must have the same points of termination on Comcast's network as the Existing Service; (c) Customer submits a Sales Order to Comcast for the Upgraded Service and that Sales Order is accepted by Comcast; (d) Customer pays Comcast's applicable nonrecurring charges for the upgrade; and (e) Customer agrees to pay the applicable monthly recurring charges for the Upgraded Service commencing with the upgrade. Upgrades to Off-Net Services are subject to the applicable third party service provider rules and availability. Comcast has no obligation to upgrade Customer's Off-Net Service.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.8. TERMINATION CHARGES (CONT'D)

F. Off-Net Services

If customer is receiving off-net services, comcast shall, in its sole discretion, have the ability to (a) provide on-net services in lieu of such off-net services and/or (b) substitute the current off-net services provider for an alternate off-net services provider, each, at no additional cost to customer; provided, however, that comcast shall not make any changes to customer's off-net services provider that could, in comcast's reasonable opinion, impair customer's specific network design or provider attributes (*e.g.*, diversity). Comcast shall use commercially reasonable efforts to coordinate a mutually agreeable time with customer to conduct any such changes.

4.2.9. ADDITIONAL INFORMATION

As necessary for the interconnection of the Service with services provided by others, Comcast may request (as applicable), and Customer will provide to Comcast, circuit facility assignment information, firm order commitment information, and design layout records necessary to enable Comcast to make the necessary cross-connection between the Service and Customer's other service provider(s). Comcast may charge Customer nonrecurring and monthly recurring cross-connect charges to make such connections.

4.2.10. ETHERNET NETWORK SERVICE (ENS) SERVICE DESCRIPTION

ENS is a multipoint-to-multipoint transport service that enables Customer to connect multiple physically distributed Service Locations across a metropolitan area network ("MAN") or wide area network ("WAN") as if such Service Locations are on the same local area network ("LAN") by providing an ethernet virtual connection ("EVC") between such Service Locations. The EVC is provided by using industry standard 100 Mbps, 1 Gbps, 10 Gbps or 100 Gbps ethernet user-to-network interfaces, which are located on a Comcast Switch ("UNI") to enable bidirectional connections between the Customer Switches or Routers at the Service Locations. ENS provides virtual LAN ("VLAN") transparency, enabling Customer to implement Customer's own VLANs without any coordination with Comcast. ENS is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast offers three (3) classes of ENS, as described in the Technical Specifications.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.11. ETHERNET PRIVATE LINE (EPL) SERVICE DESCRIPTION

EPL is a point-to-point transport service that provides an EVC between two (2) Service Locations by using industry standard 100 Mbps, 1 Gbps, 10 Gbps or 100 Gbps UNI to enable bidirectional connections between the Customer Switches or Routers at such Service Locations. EPL is available with flexible bandwidth options from 1 Mbps to 10 Gbps. EPL enables the Customer to use any VLANs without coordination with Comcast. Comcast offers three (3) classes of EPL, as described in the Technical Specifications.

4.2.12. ETHERNET VIRTUAL PRIVATE LINE (EVPL) SERVICE DESCRIPTION

EVPL is a point-to-multipoint transport service that provides a connection between two (2) Service Locations similar to EPL, but supports the added flexibility to multiplex multiple EVCs on a single UNI at the Customer's hub or aggregation Service Location (the "Aggregation Service Location"). Specifically, EVPL provides an EVC between the Aggregation Service Location and one or more other Service Locations by using industry standard 100 Mbps, 1 Gbps, 10 Gbps or 100 Gbps UNI to enable bidirectional connections between the Customer Switch or Router at Customer's Aggregation Service Location and the Customer Switch or Router at one or more of Customer's other Service Locations. The multiplexing capability is not available at Service Locations served by Comcast On-Net HFC. For clarity, in order for EVPL to enable a connection between two (2) Service Locations, one of such Service Locations must be the Aggregation Service Location. By way of example, in the diagram below, EVPL enables a bidirectional connection between Service Location 1 and Service Location 2, and between Service Location 1 and Service Location 3, but not between Service Location 2 and Service Location 3. EVPL is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast offers three classes of EVPL, as described in the Technical Specifications.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.13. MULTIPLE ACCESS OPTIONS

The services are available with the following access options:

- On-Net Fiber Access – Connectivity to Service Locations is enabled via Comcast On-Net Fiber infrastructure.
- On-Net HFC Access – Connectivity to Service Locations is enabled via Comcast On-Net HFC infrastructure.
- Off-Net Access (Off-Net Dedicated Fiber, Off-Net Non-Dedicated Fiber, and Off-Net Non-Fiber) – Connectivity to Service Locations is enabled through a network-to-network interface (“NNI”) via third-party network provider.

4.2.14. EVC AREA TYPES AND OFF-NET SERVICE LOCATIONS

- A. The Services are available both within and between certain major metropolitan areas throughout the United States. Each EVC is assigned an EVC area type (Metro, Regional or Continental, as described below) based upon the proximity of Customer’s respective Service Locations. “Region” means a Comcast-defined geographical region, as determined by Comcast from time to time, within Comcast’s cable footprint. “Metro” means a Comcast-defined sales market, as determined by Comcast from time to time, within a Region.
- Metro – EVC enables connectivity between Service Locations within the same Metro.
 - Regional – EVC enables connectivity between Service Locations that are in different Metros, but within the same Region.
 - Continental – EVC enables connectivity between Service Locations that are in different Regions.
- B. Customer acknowledges and agrees that without Customer confirmation of the Service, Comcast may be unable to completely deliver the Service. Comcast shall make three (3) attempts to schedule a call during which Customer will confirm readiness to receive the Service. If Comcast’s attempts to schedule a call are unsuccessful, then Comcast may terminate the applicable Service Order at such Service Location, upon prior written notice to Customer (subject to applicable Termination Charges).

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES

A. Ethernet User-to-Network Interface

The Services provide bidirectional, full duplex transmission of untagged ethernet frames using a standard IEEE 802.3 UNI to attach to the Customer Switch or Router. Figure 1 lists the available UNI speeds and their UNI physical interfaces, and available committed information rate (“CIR”) bandwidth increments and committed burst sizes (“CBS”). CIR increments of less than 10 Mbps are generally not available in conjunction with Off-Net Services.

UNI SPEED	UNI PHYSICAL INTERFACE	CIR INCREMENTS	CBS (BYTES)
		1Mbps	25,000
100Mbps	100BaseT	10Mbps	250,000
1Gbps	1000BaseT or 1000BaseSX	100Mbps	2,500,000
10Gbps	10GBase-SR or 10GBase-LR	1Gbps	25,000,000
100 Gbps	100GBASE- LR4	10 Gbps	25,000,000

**FIGURE 1: AVAILABLE UNI INTERFACE TYPES AND
CBS VALUES FOR DIFFERENT CIR INCREMENTS**

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES (CONT'D)

B. Class of Service Options

The Services are available with three (3) different CoS options that allow for differentiated Service performance levels for different types of network traffic. This includes Basic (Low), Priority (Medium) and Premium (High). CoS is used to prioritize customer mission-critical traffic over lower priority traffic in the network. Customer must specify a CIR for each CoS to indicate how much bandwidth should be assigned to that CoS. The performance metrics associated with each CoS are described in the SLA. As described in the following table, permissible CoS options vary by access type.

Access Type	CoS Options
On-Net Fiber	Basic, Priority & Premium
On-Net HFC	Basic & Priority
Off-Net Dedicated Fiber	Basic, Priority & Premium
Off-Net Non-Dedicated Fiber	Basic & Priority
Off-Net Non-Fiber	Basic & Priority

FIGURE 2: CoS OPTIONS

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES (CONT'D)

C. CoS Identification and Marking

Customer traffic classification and forwarding is based upon CoS prioritization that is specified in the Sales Order. It is the Customer's responsibility to shape traffic to ordered bandwidth. If the Customer only orders a single CoS solution, Customer is not required to mark Customer's packets and all Customer packets will be forwarded based upon 802.1p value associated with the CoS level specified in the Sales Order. All packets, tagged or untagged, will be mapped into the subscribed CoS.

- If Customer implements a multi-CoS solution or for EVPL ports with service multiplexing, the Customer must mark all packets using C-tag 802.1p CoS values as specified in the table below to ensure the Service will provide the intended CoS performance objectives.
- For multi-CoS solutions, untagged packets will be treated as if they are marked with a 0. Packets with other 802.1p values are mapped to the lowest subscribed CoS.
- For EVPL ports with service multiplexing, untagged packets will be discarded and C-tag VLAN ID values are used to map traffic to applicable EVCs. Based on Ethernet Frame 802.1p values, Customer's traffic is mapped to the Comcast forwarding classes traffic accordingly to the table below:

CoS Type	802.1p Marking
Basic (Low)	0-1
Priority (Medium)	2-3
Premium (High)	5

FIGURE 3: CoS MARKING

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES (CONT'D)

D. Traffic Management

Comcast's Network traffic-policing policies restrict traffic flows to the subscribed CIR for each CoS. Comcast will discard non-conforming packets if (a) the Customer transmitted bandwidth rate for any CoS exceeds the subscribed CIR and CBS or (b) 64 byte frames comprise more than 50% of the CIR for On-Net HFC Service. For packets marked with a non-conforming CoS marking, the Service will transmit such packets using the Basic CoS without altering the Customer's CoS markings. Traffic management policies associated with Off-Net Services will conform to the policies enforced by the third-party service provider. Encrypted tunnels cannot exceed 30Gpbs for Regional or Continental EVC area types.

E. Mac Learning and Forwarding (ENS Only)

The ENS is capable of learning up to 2,500 MAC addresses from all interfaces connecting to the Service. It is highly recommended that routing equipment be utilized to minimize the number of MAC addresses exposed directly to the Service in larger networks. Any addresses in excess of 2,500 will not be learned and traffic directed to these addresses will be treated as "unknown unicast".

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES (CONT'D)

F. Maximum Frame Size

Services delivered via fiber support a maximum transmission unit (“MTU”) frame size of 2,000 bytes for untagged, tagged and Q- in-Q traffic with IEEE 802.1q or IEEE 802.1ad encapsulation types.

Services delivered via On-Net Fiber may, if set forth in a Sales Order or change order thereto, support an MTU up to 9,100 bytes for untagged, tagged and Q-in-Q frame sizes.

Services delivered via Off-Net Dedicated Fiber may, if set forth in a Sales Order or change order thereto, support an MTU up to 9,100 bytes for untagged, tagged and Q-in-Q frame sizes, but only, and solely, to the extent the applicable Off-Net provider can support such MTU frame size.

Services delivered via HFC support an MTU frame size of 1,522 bytes for untagged, tagged and Q-in-Q traffic with IEEE 802.1q or IEEE 802.1ad encapsulation types.

Services delivered via On-Net HFC may, if set forth in a Sales Order or change order thereto, support an MTU up to 2,000 bytes for untagged, tagged and Q-in-Q frame sizes.

Services delivered via Off-Net Non-Dedicated Fiber and Off-Net Non-Fiber, if set forth in a Sales Order or change order thereto, support an MTU up to 1,600 bytes for untagged, tagged and Q-in-Q frame sizes, but only, and solely, to the extent the applicable Off-Net provider can support such MTU frame size.

For Services delivered via Fiber or HFC all frames that exceed specifications shall be dropped.

Transport Type	MTU Size
On-Net Fiber and Off-Net Dedicated Fiber	1,600-9,100 bytes
On-Net HFC	1,522-2000 bytes
Off-Net Non-Dedicated Fiber and Off-Net Non-Fiber	1,522 -1,600 bytes

FIGURE 4 MAXIMUM FRAME SIZE

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.15. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS FOR SERVICES (CONT'D)

G. Customer Traffic Transparency

All fields within a Customer's ethernet frames (unicast, multicast and broadcast, except L2CP) from the first bit of payload are preserved and transparently transported over UNI to UNI connections, as long as the ethernet frames are mapped into the EVC.

H. Ethernet Service Frame Disposition

The Services process different types of ethernet frames differently. Ethernet frames may pass unconditionally through the Network or may be limited, as indicated in the table below. The following table illustrates Comcast's service frame disposition for each service frame type.

Service Frame Type	ENS Frame Delivery	EPL and EVPL Frame Delivery
Unicast	All frames delivered unconditionally	All frames delivered unconditionally
Multicast	All frames delivered conditionally	All frames delivered unconditionally
Broadcast	All frames delivered conditionally	All frames delivered unconditionally

ENS only:

- Unicast Traffic. Unicast traffic must be bidirectional in order to facilitate mac-learning and avoid restriction.
- Multicast Traffic. By default, every ENS port is able to support up to 2 Mbps of multicast traffic. If an ENS Customer requires greater than 2 Mbps of multicast bandwidth, Customer must uniquely specify the bandwidth Customer requires for each root site and associated CoS at the time of contracting the ENS.
- Broadcast Traffic. Broadcast and unknown unicast traffic are restricted to 1.2mb or 300pps on ingress to the network.

EVPL only:

- Customer is responsible for mapping multicast, broadcast and unknown unicast traffic to specific Customer VLANs.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.16. TRANSMISSION PROTOCOLS

User data protocol (“UDP”) is the default protocol for communication between two (2) Service Locations. If Customer elects to change from UDP to another protocol (*e.g.*, transmission control protocol (“TCP”)), Customer does so at its own risk and acknowledges and agrees that the transmission speed may be negatively impacted.

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS

A. Availability SLA

Comcast’s liability and Customer’s sole remedy for Service Interruptions, and errors, omissions, interruptions, delays, outages, or defects in transmission or switching of any Service (individually or collectively, “**Liability**”), shall be limited to the amounts set forth in the Tables below with the stated percentages to be applied against the MRC (as defined below) associated with the impacted portion of the Service set forth in the Sales Order (“**Availability Credit**”). For the purposes of calculating credit for a Service Interruption, the “**Length of Service Interruption**” begins when the Customer reports such Service Interruption and a trouble ticket is opened, and concludes upon the closing of the same trouble ticket or, if sooner, the termination of the Service Interruption, less any time Comcast is awaiting additional information or premises testing from the Customer. In no event shall the total amount of Availability Credit issued to Customer’s account on a per-month basis exceed 50% of the total monthly recurring charge (“**MRC**”) associated with the impacted portion of the Service set forth in the Sales Order. The Length of Service Interruptions for separately occurring Service Interruptions will not be aggregated for purposes of determining Availability Credit allowances. To qualify, Customer must request the Availability Credit from Comcast within thirty (30) days of the beginning of the Service Interruption. Comcast shall not incur any Liability, including Availability Credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions, Customer actions, omissions or equipment (including Customer-Provided Equipment), a Customer Switch or Router, or any other items set forth in the “Exceptions to Credit Allowances” section below.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

A. Availability SLA (Cont'd)

TABLE 1: Availability SLA for Services provided over On-Net Fiber or Off-Net Dedicated Fiber Transport (99.99% Availability)

Length of Service Interruption:	Availability Credit:
Less than 4 minutes	None
At least 4 minutes but less than 4 hours	5% of Total MRC
At least 4 hours but less than 8 hours	10% of Total MRC
At least 8 hours but less than 12 hours	20% of Total MRC
At least 12 hours but less than 16 hours	30% of Total MRC
At least 16 hours but less than 24 hours	40% of Total MRC
24 hours or greater	50% of Total MRC

TABLE 2: Availability SLA for Services provided over On-Net HFC, Off-Net Non-Dedicated Fiber or Off-Net Non-Fiber Transport (99.9% Availability)

Length of Service Interruption:	Availability Credit:
Less than 40 minutes	None
At least 40 minutes but less than 4 hours	5% of Total MRC
At least 4 hours but less than 8 hours	10% of Total MRC
At least 8 hours but less than 12 hours	20% of Total MRC
At least 12 hours but less than 16 hours	30% of Total MRC
At least 16 hours but less than 24 hours	40% of Total MRC
24 hours or greater	50% of Total MRC

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

B. Performance Objectives SLA

The performance objectives associated with traffic flows between any two (2) Service Locations are dependent upon the performance tier, which is determined by Comcast, in its sole discretion, based on the locations of the respective Service Locations, designated as “Service Location A” and “Service Location Z” on the applicable Sales Order (“**Performance Tier**” or “**PT**”). Traffic flow between Service Location A and Service Location Z is a “**Service Location Pairing**.”

For any Sales Order accepted by Comcast on or before June 15, 2023, the PT for a particular Service Location Pairing is assigned by Comcast, in its sole discretion, based on the Market of each Service Location in a Service Location Pairing.

For any Sales Order accepted by Comcast after June 15, 2023, the PT for a particular Service Location Pairing is assigned by Comcast, in its sole discretion, based on the mileage between Service Location A and Service Location Z (“**Mileage Band**”). For clarity and avoidance of doubt, the below table is intended only as a guide and Comcast reserves the right to assign or re-assign a particular Service Location Pairing a different PT than the PT corresponding to the applicable Mileage Band in the table below based on certain factors, including, but not limited to, Force Majeure, Market, the geographic landscape, terrain, and particular fiber route(s).

Performance Tiers	PT0	PT1	PT2	PT3	PT4
Mileage Band	0-50 miles	51-150 miles	151-750 miles	751-2,500 miles	2,501-4,300 miles

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

B. Performance Objectives SLA (Cont'd)

1. Access Types

- **On-Net Access.** For On-Net access, the Mileage Band will be determined by multiplying (A) the total number of direct air miles “as the crow flies” (“**Direct Miles**”) between Service Location A and Service Location Z, by (B) 1.25.
- **Off-Net Access.** In addition to On-Net access, Comcast enables Off-Net access to Ethernet Transport Services via one or more third party provider(s). The Performance Tier for Off-Net Service is based upon the location of the Off-Net Service Location, the location of the NNI between Comcast and the third party provider and the performance commitment from the third party provider. For Off-Net Access, the Mileage Band will equal the sum of: (A) (the Direct Miles between Service Location A and NNI * 1.25), plus (B) (Direct Miles between NNI and Service Location Z * 2).

2. Performance Tiers and Performance Objectives

Comcast collects continuous in-band performance measurements for the Services. The calculation of all Latency, Jitter and Packet Loss performance metrics for each calendar month for purposes of this performance objectives service level agreement are based upon the average of sample round trip measurements taken by Comcast during the applicable calendar month, excluding any period during which there is a Service Interruption. The below charts indicate the performance objectives for each of the performance metrics over each calendar month based on the applicable Performance Tier and CoS.

a. Performance Tier 0 (PT0) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (Round Trip Network Delay)	45ms	24ms	4ms
Jitter (Network Delay Variation)	20ms	10ms	1ms
Packet Loss	<1%	<0.01%	<0.001%

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

B. Performance Objectives SLA (Cont'd)

2. Performance Tiers and Performance Objectives (Cont'd)

b. Performance Tier 1 (PT1) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (Round Trip Network Delay)	90ms	46ms	14ms
Jitter (Network Delay Variation)	20ms	10ms	2ms
Packet Loss	<1%	<0.01%	<0.001%

c. Performance Tier 2 (PT2) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (Round Trip Network Delay)	160ms	90ms	46ms
Jitter (Network Delay Variation)	25ms	15ms	5ms
Packet Loss	<1%	<.02%	<.01%

d. Performance Tier 3 (PT3) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (Round Trip Network Delay)	200ms	160ms	90ms
Jitter (Network Delay Variation)	30ms	20ms	10ms
Packet Loss	<1%	<.04%	<.02%

e. Performance Tier 4 (PT4) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (Round Trip Network Delay)	240ms	200ms	160ms
Jitter (Network Delay Variation)	35ms	25ms	15ms
Packet Loss	<1%	<.05%	<.04%

3. Credit Allowance

Customer's sole remedy for Comcast's failure to achieve the applicable performance metric standards above over a given calendar month for the Service are the receipt of the following credit amounts with the stated percentages to be applied against the MRC associated with the impacted portion of the Service set forth in the Sales Order ("**Performance Objective Credits**").

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

B. Performance Objectives SLA (Cont'd)

TABLE 1: Credit Allowance for Latency Performance Metric

		Performance Tier									
		PT0		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 4	No Credit	0 - 14	No Credit	0 - 46	No Credit	0 - 90	No Credit	0 to 160	No Credit
		4.01 - 24	10%	14.01 - 46	10%	46.01 - 90	10%	90.01 - 160	10%	160.01 - 200	10%
		24.01 - 45	25%	46.01 - 90	25%	90.01 - 160	25%	160.01 - 200	25%	200.01 - 240	25%
		>45	50%	>90	50%	>160.01	50%	>200	50%	>240	50%
	Priority	0 - 24	No Credit	0 - 46	No Credit	0 - 90	No Credit	0 to 160	No Credit	0 to 200	No Credit
		24.01 - 45	10%	46.01 - 90	10%	90.01 - 160	10%	160.01 - 200	10%	200.01 - 240	10%
		45.01 - 60	25%	90.01 - 160	25%	160.01 - 200	25%	200.01 - 240	25%	240.01 - 300	25%
		>60	50%	>160.01	50%	>200	50%	>240	50%	>300	50%
	Basic	0 - 45	No Credit	0 - 90	No Credit	0 to 160	No Credit	0 to 200	No Credit	0 to 240	No Credit
		45.01 - 60	10%	90.01 - 160	10%	160.01 - 200	10%	200.01 - 240	10%	240.01 - 300	10%
		60.01 - 90	25%	160.01 - 200	25%	200.01 - 240	25%	240.01 - 300	25%	300.01 - 360	25%
		>90	50%	>200	50%	>240	50%	>300	50%	>360	50%

TABLE 2: Credit Allowance for Jitter Performance Metric

		Performance Tier									
		PT0		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 1	No Credit	0 - 2	No Credit	0 - 5	No Credit	0 - 10	No Credit	0 - 15	No Credit
		1.01 - 3	10%	2.01 - 3	10%	5.01 - 10	10%	10.01 - 15	10%	15.01 - 20	10%
		3.01 - 5	25%	3.01 - 5	25%	10.01 - 15	25%	15.01 - 20	25%	20.01 - 30	25%
		>5	50%	>5	50%	>15	50%	>20	50%	>30	50%
	Priority	0 - 10	No Credit	0 - 10	No Credit	0 - 15	No Credit	0 - 20	No Credit	0 - 25	No Credit
		10.01 - 15	10%	10.01 - 15	10%	15.01 - 20	10%	20.01 - 30	10%	25.01 - 40	10%
		15.01 - 20	25%	15.01 - 20	25%	20.01 - 30	25%	30.01 - 50	25%	40.01 - 60	25%
		>20	50%	>20	50%	>30	50%	>50	50%	>60	50%
	Basic	0 - 20	No Credit	0 - 20	No Credit	0 - 25	No Credit	0 - 30	No Credit	0 - 35	No Credit
		20.01 - 30	10%	20.01 - 30	10%	25.01 - 40	10%	30.01 - 50	10%	35.01 - 60	10%
		30.01 - 50	25%	30.01 - 50	25%	40.01 - 60	25%	50.01 - 80	25%	60.01 - 90.01	25%
		>50	50%	>50	50%	>60	50%	>80	50%	>90	50%

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By:

Kelly A. Clark, Corporate Director, Regulatory Affairs
One Comcast Center, 50th Floor
Philadelphia, PA 19103

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

B. Performance Objectives SLA (Cont'd)

3. Credit Allowance (Cont'd)

TABLE 3: Credit Allowance for Packet Loss Performance Metric

		Performance Tier									
		PT0		PT1		PT2		PT3		PT4	
		Measurement	Credit	Measurement	Credit	Measurement	Credit	Measurement	Credit	Measurement	Credit
Class of Service	Premium	0% - 0.001%	No Credit	0% - 0.001%	No Credit	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit
		0.001% - 2.00%	10%	0.001% - 2.00%	10%	0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Priority	0% - 0.01%	No Credit	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit	0% - 0.05%	No Credit
		0.01% - 2.00%	10%	0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%	0.05% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Basic	0% - 1.00%	No Credit	0% - 1.00%	No Credit	0% - 1.00%	No Credit	0% - 1%	No Credit	0% - 1%	No Credit
		1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%

Customer shall be entitled to receive a Performance Objective Credit only for one performance metric failure per affected portion of the Service per calendar month. For example, if the applicable metric for Jitter and Latency were missed for the same transport connection (Service Location A to Service Location Z) in a given calendar month, Customer will be entitled only to the Performance Objective Credit associated with either the Jitter or Latency failure for such portion of the Service. In addition, Customer may not receive both the Performance Objective Credit and an Availability Credit for the same portion of the Service in the same calendar month. To qualify for a Performance Objective Credit, Customer must request the applicable Performance Objective Credit from Comcast within thirty (30) days of the end of the applicable calendar month in which the applicable Performance Metric standard was not achieved. Comcast shall not incur any Liability, including Performance Objective Credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions or other scheduled maintenance events, Customer actions or omissions, Customer-provided power or equipment, including Customer-Provided Equipment, a Customer Switch or Router or any other items set forth in the "Exceptions to Credit Allowances" section below.

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SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

C. Exceptions and Terms Applicable to All SLAs

1. Emergency Blocking

The parties agree that if either party hereto, in its reasonable and sole discretion, determines that an emergency action is necessary to protect its own network, the party may, after engaging in reasonable and good faith efforts to notify the other party of the need to block, block any transmission path over its network by the other party where transmissions do not meet material standard industry requirements. The parties further agree that none of their respective obligations to one another under the Agreement will be affected by any such blockage except that the party affected by such blockage will be relieved of all obligations to make payments for charges relating to the circuit(s) which is so blocked and that no party will have any obligation to the other party for any claim, judgment or liability resulting from such blockage.

2. Remedy Processes

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Sections B.1 and B.2 of this Service Level Agreement, as applicable. The Customer must submit the following information to the Customer's Comcast account representative with any and all claims for credit allowances: (a) Organization name; (b) Customer account number; and (c) basis of credit allowance claim (including date and time, if applicable). Comcast will acknowledge and review all claims promptly and will inform the Customer by electronic mail or other correspondence whether a credit allowance will be issued or the claim rejected, with the reasons specified for the rejection.

3. Exceptions to Credit Allowances

Comcast's failure to meet either of the SLAs set forth in this section shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other scheduled maintenance events; Customer actions or omissions; a Customer Switch or Router; Customer-provided power or equipment, including Customer-Provided Equipment; any third party not contracted through Comcast, including, without limitation, Customer's users, third-party network providers, any power, equipment or services provided by third parties; or an event of force majeure as defined in the Agreement.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.17. ETHERNET TRANSPORT SERVICE LEVEL AGREEMENTS (CONT'D)

C. Exceptions and Terms Applicable to All SLAs (Cont'd)

4. Other Limitations

The total credit allowance per calendar month under section 4.2.17 is capped at 50% of that month's mrc for the impacted portions of service. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives or otherwise comply with this SLA.

4.2.18. NETWORK MONITORING

Comcast monitors On-Net Service on a 24x7x365 basis.

4.2.19. TECHNICAL SUPPORT AND MAINTENANCE

Comcast provides a toll-free trouble reporting telephone number to the Enterprise Technical Support (ETS) Center that operates on a 24x7x365 basis. Comcast provides technical support for service-related inquiries. Technical support will not offer consulting or advice on issues relating to CPE or other equipment not provided by Comcast.

A. Escalation

Reported troubles are escalated within the Comcast Business Services Network Operations Center (BNOC) to meet the response/restoration interval described below (Response and Restoration Standards). Service issues are escalated within the Comcast BNOC as follows: to a Supervisor at the end of the applicable time interval plus one (1) hour; to a Manager at the end of the applicable time interval plus two (2) hours, and to a Director at the end of the applicable time interval plus four (4) hours.

B. Maintenance

Comcast's standard maintenance window for On-Net Services is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance for On-Net Services is performed during the maintenance window and will be coordinated between Comcast and the Customer. The scheduled maintenance date will be determined by Comcast in its sole discretion; provided, that Comcast provides a minimum of seven (7) days' notice for On-Net Service impacting planned maintenance. Emergency maintenance is performed as needed without advance notice to Customer. Maintenance for Off-Net Services shall be performed in accordance with the applicable third party service provider rules. Therefore, Off-Net Service may be performed without advance notice to Customer.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.20. COMCAST EQUIPMENT

Comcast provides certain Comcast Equipment for provisioning its Services and the delivery of the UNI, which will reside at the Service Location. Comcast will retain ownership and management responsibility for this Comcast Equipment. This Comcast Equipment must be used only for receipt of Services. Customers are required to shape their egress traffic to the CIR identified in the Sales Order. Comcast will be excused from paying SLA credits, as set forth in Section 4.2.17, if the Service Interruption (as defined in Section 4.2.17) is the result of Customer's (a) failure to shape Customer's traffic to the contracted CIR or (b) utilization of Comcast Equipment for non-Comcast provided services.

4.2.21. RESPONSE AND RESTORATION STANDARDS

Comcast has the following response and restoration objectives:

CATEGORY	TIME INTERVAL	MEASUREMENT	REMEDIES
<i>Mean Time to Respond</i> Telephonically to Call	15 minutes	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore</i> On-Net Comcast Equipment	4 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore</i> Off-Net Equipment	6 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore</i> On-Net Services	6 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore</i> Off-Net Services	9 hours	Averaged Over A Month	Escalation (see above)

Customer shall bear any expense incurred, e.g., dispatch/labor costs, where a Service Interruption is found to be the fault of Customer, its end users, agents, representatives or third-party suppliers.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.22. EMERGENCY BLOCKING

The parties agree that if either party hereto, in its reasonable and sole discretion, determines that an emergency action is necessary to protect its own network, the party may, after engaging in reasonable and good faith efforts to notify the other party of the need to block, block any transmission path over its network by the other party where transmissions do not meet material standard industry requirements. The parties further agree that none of their respective obligations to one another under the Agreement will be affected by any such blockage except that the party affected by such blockage will be relieved of all obligations to make payments for charges relating to the circuit(s) which is so blocked and that no party will have any obligation to the other party for any claim, judgment or liability resulting from such blockage.

4.2.23. REMEDY PROCESSES

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Sections 4.2.17.A and 4.2.17.B, as applicable. The Customer must submit the following information to the Customer's Comcast account representative with any and all claims for credit allowances: (a) Organization name; (b) Customer account number; and (c) basis of credit allowance claim (including date and time, if applicable). Comcast will acknowledge and review all claims promptly and will inform the Customer by electronic mail or other correspondence whether a credit allowance will be issued or the claim rejected, with the reasons specified for the rejection.

4.2.24. EXCEPTIONS TO CREDIT ALLOWANCES

Comcast's failure to meet either of the SLAs set forth in Section 4.2.17 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other scheduled maintenance events; Customer actions or omissions; a Customer Switch or Router; Customer-provided power or equipment, including Customer-Provided Equipment; any third party not contracted through Comcast, including, without limitation, Customer's users, third-party network providers, any power, equipment or services provided by third parties; or an event of force majeure as defined in the Agreement.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.25. OTHER LIMITATIONS

THE TOTAL CREDIT ALLOWANCE PER CALENDAR MONTH UNDER SECTION 4.2.17 IS CAPPED AT 50% OF THAT MONTH'S MRC FOR THE IMPACTED PORTIONS OF SERVICE. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives or otherwise comply with this SLA.

4.2.26. RATES AND CHARGES

Comcast may enter into term agreements with prices that may vary subject to the availability of promotional offers and/or the Customer's choice of term, bandwidth, and associated Special Construction or related charges. Special Construction charges shall be applied on an individual case basis as set forth in Section 4.2.4. The minimum term for these Services is twelve (12) months.

Customer networks are configured by designing a combination of Ports and Bandwidth / Class of Service (CoS) at each location, as shown below. Total bandwidth at a site may not exceed the port limit.

- ENS - One Port and Bandwidth (up to three CoS) at each location.
- EPL - One Port at each location and Bandwidth (up to three CoS) between each location.
- EVPL - One Port at each location and Bandwidth (up to three CoS) between locations. Bandwidth from multiple locations may be multiplexed on a single Port at a Customer's hub or aggregation site.

A. Port Charges

A Port Charge applies in addition to Bandwidth charges.

PORT SPEED	PORT CHARGE PER MONTH
10/100 Mbps	\$195.00
Gig E	\$845.00

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.26. RATES AND CHARGES (CONT'D)

B. Ethernet Network Service (ENS)

BANDWIDTH (MBPS)	MAXIMUM MONTHLY RATES			
	EVC (BASIC CoS)	EVC (PRIORITY CoS)	EVC (PREMIUM CoS)	NRC
1	\$90.00	\$100.00	\$105.00	\$500.00
2	\$155.00	\$165.00	\$170.00	\$500.00
3	\$220.00	\$235.00	\$240.00	\$500.00
4	\$285.00	\$300.00	\$320.00	\$500.00
5	\$350.00	\$370.00	\$390.00	\$500.00
6	\$415.00	\$435.00	\$460.00	\$500.00
7	\$480.00	\$505.00	\$535.00	\$500.00
8	\$545.00	\$570.00	\$605.00	\$500.00
9	\$610.00	\$635.00	\$675.00	\$500.00
10	\$675.00	\$715.00	\$740.00	\$1,000.00
20	\$780.00	\$845.00	\$935.00	\$1,000.00
30	\$870.00	\$960.00	\$1,055.00	\$1,000.00
40	\$975.00	\$1,065.00	\$1,170.00	\$1,000.00
50	\$1,065.00	\$1,170.00	\$1,285.00	\$1,000.00
60	\$1,170.00	\$1,275.00	\$1,405.00	\$1,000.00
70	\$1,260.00	\$1,390.00	\$1,520.00	\$1,000.00
80	\$1,365.00	\$1,495.00	\$1,640.00	\$1,000.00
90	\$1,455.00	\$1,600.00	\$1,770.00	\$1,000.00
100	\$1,560.00	\$1,705.00	\$1,885.00	\$2,000.00
200	\$1,675.00	\$1,885.00	\$2,120.00	\$2,000.00
300	\$1,795.00	\$2,055.00	\$2,365.00	\$2,000.00
400	\$1,910.00	\$2,235.00	\$2,600.00	\$2,000.00
500	\$2,030.00	\$2,405.00	\$2,845.00	\$2,000.00
600	\$2,145.00	\$2,585.00	\$3,080.00	\$2,000.00
700	\$2,260.00	\$2,755.00	\$3,330.00	\$2,000.00
800	\$2,380.00	\$2,940.00	\$3,560.00	\$2,000.00
900	\$2,495.00	\$3,105.00	\$3,810.00	\$2,000.00
1000	\$2,615.00	\$3,290.00	\$4,045.00	\$2,000.00

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SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.26. RATES AND CHARGES (CONT'D)

C. Ethernet Private Line (EPL)

BANDWIDTH (Mbps)	MAXIMUM MONTHLY RATES			
	EVC (BASIC CoS)	EVC (PRIORITY CoS)	EVC (PREMIUM CoS)	NRC
1	\$50.00	\$65.00	\$80.00	\$500.00
2	\$105.00	\$130.00	\$145.00	\$500.00
3	\$170.00	\$180.00	\$220.00	\$500.00
4	\$220.00	\$245.00	\$285.00	\$500.00
5	\$275.00	\$310.00	\$365.00	\$500.00
6	\$325.00	\$375.00	\$430.00	\$500.00
7	\$375.00	\$440.00	\$505.00	\$500.00
8	\$440.00	\$505.00	\$570.00	\$500.00
9	\$495.00	\$560.00	\$650.00	\$500.00
10	\$545.00	\$625.00	\$730.00	\$1,000.00
20	\$625.00	\$730.00	\$830.00	\$1,000.00
30	\$715.00	\$820.00	\$935.00	\$1,000.00
40	\$795.00	\$910.00	\$1,055.00	\$1,000.00
50	\$870.00	\$1,000.00	\$1,155.00	\$1,000.00
60	\$960.00	\$1,105.00	\$1,260.00	\$1,000.00
70	\$1,040.00	\$1,195.00	\$1,380.00	\$1,000.00
80	\$1,120.00	\$1,285.00	\$1,480.00	\$1,000.00
90	\$1,195.00	\$1,380.00	\$1,585.00	\$1,000.00
100	\$1,285.00	\$1,480.00	\$1,705.00	\$2,000.00
200	\$1,480.00	\$1,600.00	\$1,845.00	\$2,000.00
300	\$1,600.00	\$1,730.00	\$1,990.00	\$2,000.00
400	\$1,715.00	\$1,845.00	\$2,130.00	\$2,000.00
500	\$1,835.00	\$1,975.00	\$2,275.00	\$2,000.00
600	\$1,950.00	\$2,105.00	\$2,420.00	\$2,000.00
700	\$2,065.00	\$2,225.00	\$2,560.00	\$2,000.00
800	\$2,185.00	\$2,355.00	\$2,705.00	\$2,000.00
900	\$2,300.00	\$2,485.00	\$2,845.00	\$2,000.00
1000	\$2,420.00	\$2,600.00	\$3,005.00	\$2,000.00

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.2. ETHERNET TRANSPORT SERVICES (CONT'D)

4.2.26. RATES AND CHARGES (CONT'D)

D. Ethernet Virtual Private Line (EVPL)

BANDWIDTH (MBPS)	MAXIMUM MONTHLY RATES			
	BASIC BANDWIDTH	EVC (PRIORITY CoS)	EVC (PREMIUM CoS)	NRC
1	\$130.00	\$145.00	\$155.00	\$500.00
2	\$260.00	\$285.00	\$310.00	\$500.00
3	\$390.00	\$430.00	\$470.00	\$500.00
4	\$535.00	\$570.00	\$625.00	\$500.00
5	\$665.00	\$715.00	\$780.00	\$500.00
6	\$795.00	\$860.00	\$935.00	\$500.00
7	\$925.00	\$1,000.00	\$1,090.00	\$500.00
8	\$1,055.00	\$1,155.00	\$1,260.00	\$500.00
9	\$1,185.00	\$1,300.00	\$1,415.00	\$500.00
10	\$1,315.00	\$1,445.00	\$1,560.00	\$1,000.00
20	\$1,430.00	\$1,510.00	\$1,585.00	\$1,000.00
30	\$1,545.00	\$1,625.00	\$1,715.00	\$1,000.00
40	\$1,665.00	\$1,755.00	\$1,845.00	\$1,000.00
50	\$1,780.00	\$1,870.00	\$1,965.00	\$1,000.00
60	\$1,900.00	\$2,000.00	\$2,095.00	\$1,000.00
70	\$2,015.00	\$2,120.00	\$2,225.00	\$1,000.00
80	\$2,130.00	\$2,250.00	\$2,355.00	\$1,000.00
90	\$2,250.00	\$2,365.00	\$2,485.00	\$1,000.00
100	\$2,365.00	\$2,485.00	\$2,615.00	\$2,000.00
200	\$2,470.00	\$2,600.00	\$2,755.00	\$2,000.00
300	\$2,575.00	\$2,715.00	\$2,885.00	\$2,000.00
400	\$2,680.00	\$2,835.00	\$3,030.00	\$2,000.00
500	\$2,780.00	\$2,950.00	\$3,160.00	\$2,000.00
600	\$2,885.00	\$3,070.00	\$3,300.00	\$2,000.00
700	\$2,990.00	\$3,185.00	\$3,430.00	\$2,000.00
800	\$3,095.00	\$3,300.00	\$3,575.00	\$2,000.00
900	\$3,200.00	\$3,420.00	\$3,705.00	\$2,000.00
1000	\$3,300.00	\$3,535.00	\$3,850.00	\$2,000.00

E. Equipment Fee

EQUIPMENT FEE PER MONTH
\$34.95

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES

Comcast's Business Wavelength Services will be provided in accordance with the service descriptions, technical specifications, and performance standards set forth in this Section 4.3 of this Tariff. If any of the definitions or regulations contained in this Section 4.3 conflict with those elsewhere in this Tariff, those contained in this Section 4.3 shall prevail.

4.3.1. DEFINITIONS

Definitions for this Service are as set forth for Ethernet Service in Section 4.2.1.

4.3.2. PROVISIONING ENTITY

Service shall be provided by Comcast Business Communications, LLC or its applicable affiliates and subsidiaries.

Comcast may provide Customer with Service and fiber maps during the term of the Agreement to further describe Service availability. Such maps are hereby deemed Comcast Confidential Information.

4.3.3. REGULATORY APPROVAL; TRAFFIC MIX

Comcast's pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be exclusively for the transmission of communications traffic that is classified as jurisdictionally intrastate under FCC rules and regulations. Customer specifically represents that ten percent (10%) or less of the traffic transmitted via the Service will be interstate. (For this purpose, Customer's representation relates to the traffic carried over the Service rather than the locations of the physical endpoints of the facility over which the Service is delivered.) If at any time during the term of the Agreement or any Service Term, more than ten percent (10%) of the traffic transmitted via the Service is interstate, Customer shall immediately notify Comcast of the same in writing. Further, Comcast reserves the right, in its reasonable sole discretion, to reclassify Customer's use of Service as jurisdictionally interstate or intrastate, as appropriate. Customer agrees to indemnify and hold Comcast harmless from any claims by third parties resulting from or arising out of Customer's failure to properly represent or certify the jurisdictional nature of its use of the Service(s).

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.4. SPECIAL CONSTRUCTION

All rates and charges quoted herein provide for the furnishing of facilities when suitable facilities are available or where the design or construction of the necessary facilities does not involve unusual costs. When, at the request of Customer, Comcast designs and/or constructs facilities that it would otherwise not construct, or the construction of such facilities involves a greater expense than would otherwise be incurred, Special Construction nonrecurring charges may apply.

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all special construction fee(s). Customer will pay such fee(s) within thirty (30) calendar days of the invoice date unless a payment schedule is specified in the applicable Service Order.

4.3.5. PROVISIONING INTERVAL

Following its acceptance of a Sales Order, Comcast shall notify Customer of the Estimated Availability Date applicable to that Sales Order. Comcast shall use commercially reasonable efforts to provision the Service on or before the Estimated Availability Date; provided, however, that Comcast's failure to provision by said date shall not constitute a breach of the Agreement.

4.3.6. SERVICE COMMENCEMENT DATE

Comcast shall inform Customer when Service is available and performing in accordance with the "Technical Specifications" set forth in Section 4.3.11 ("Availability Notification"). Charges for Service shall begin to accrue as of the Service Commencement Date. The Service Commencement Date shall be the earliest of: (A) the date on which Customer confirms receipt of and concurrence with the Availability Notification; (B) five (5) business days following the date of the Availability Notification, if Customer fails to notify Comcast that the Service does not comply materially with the Technical Specifications; or (C) the date on which Customer first uses the Service.

4.3.7. MINIMUM SERVICE TERM

The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the Service Term for such Sales Order shall be twelve (12) months.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.8. TERMINATION CHARGES

- A. In the event that Service is terminated prior to the Service Commencement Date, Customer shall pay Termination Charges equal to the costs and expenses incurred by Comcast in installing or preparing to install the Service plus twenty percent (20%).
- B. In the event that Service is terminated on or following the Service Commencement Date but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to a percentage of the monthly recurring charges remaining for the unexpired portion of the then-current Service Term, calculated as follows:
 - 1. 100% of the monthly recurring charges with respect to months 1-12 of the Service Term; plus
 - 2. 80% of the monthly recurring charges with respect to months 13-24 of the Service Term; plus
 - 3. 65% of the monthly recurring charges with respect to months 25 through the end of the Service Term; plus
 - 4. 100% of any remaining, unpaid Special Construction Fees.
- C. Termination Charges shall be immediately due and payable upon cancellation or termination and shall be in addition to any and all accrued and unpaid charges for the Service rendered by Comcast through the date of cancellation or termination.
- D. Exclusions

Termination Charges shall not apply to Service terminated by Customer as a result of Comcast's material and uncured breach in accordance with the General Terms and Conditions.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.8. TERMINATION CHARGES (CONT'D)

E. Portability

Customer may terminate an existing Service (an “**Existing Service**”) and turn up a replacement Service (*i.e.*, activate Service with termination points on Comcast’s network that are different than those of the Existing Service) (a “**Replacement Service**”) without incurring Termination Charges with respect to the Existing Service, provided that (a) the Replacement Service must have a Service Term equal to or greater than the remaining Service Term of the Existing Service but in no event less than twelve (12) months; (b) the Replacement Service must have monthly recurring charges equal to or greater than the monthly recurring charges for the Existing Service; (c) Customer submits a Sales Order to Comcast for the Replacement Service within ninety (90) days after termination of the Existing Service and that Sales Order is accepted by Comcast; (d) Customer reimburses Comcast for any and all installation charges that were waived with respect to the Existing Service; and (e) Customer pays the actual costs incurred by Comcast in installing and provisioning the Replacement Service.

F. Upgrades and Features

Customer may upgrade the speed of an Existing Service or convert an Unprotected Circuit to a Protected Circuit (as defined and further described in Schedule A-1 herein) (in each case, an “**Upgraded Service**”) without incurring Termination Charges, provided that (A) the Upgraded Service must assume the remaining Service Term of the Existing Service, but in no event less than twelve (12) months; (B) the Upgraded Service must have the same points of termination on Comcast’s Network as the Existing Service; (C) Customer submits a Sales Order to Comcast for the Upgraded Service and that Sales Order is accepted by Comcast; (D) Customer pays Comcast’s applicable nonrecurring charges for the Upgraded Service; and (E) Customer agrees to pay the applicable monthly recurring charges for the Upgraded Service commencing with the Service Commencement Date for such Upgraded Service.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.9. ADDITIONAL INFORMATION

As necessary for the interconnection of the Service with services provided by others, Comcast may request (as applicable), and Customer will provide to Comcast, circuit facility assignment information, firm order commitment information, and design layout records necessary to enable Comcast to make the necessary cross-connection between the Service and Customer's other service provider(s). Comcast may charge Customer nonrecurring and monthly recurring charges to make such connections.

4.3.10. BUSINESS WAVELENGTH SERVICES DESCRIPTION

The Service is a private, dedicated, point-to-point transport service that provides secure, high-performance network connectivity between two (2) Service Locations to send and receive data by utilizing Dense Wavelength Division Multiplexing (DWDM) technology over Comcast lit fiber-optic lines. The Service can be delivered as either an Unprotected Circuit or a Protected Circuit, each as defined below.

- A. Unprotected. An "**Unprotected Circuit**" is point-to-point linear circuit utilizing one (1) static physical fiber path ("**Fiber Path**") terminating on single Comcast-owned Network Terminating Equipment ("**NTE**") at each circuit endpoint. NTE constitutes Comcast Equipment. Protection Switching (as defined below) is not provided at the NTE or within the transport network, even if Customer has more than one Unprotected Circuit. 10G and 100G circuits are available as Unprotected Circuits.
- B. Protected. A "**Protected Circuit**" is a point-to-point linear circuit utilizing two (2) diverse Comcast Fiber Paths that both terminate on the same NTE at each circuit endpoint but diverge along the circuit at the nearest point of divergence from each circuit endpoint and are routed to diverse Comcast headends. Each circuit utilizes a dedicated port on the NTE for the Customer handoff. One of the two (2) diverse Fiber Paths is designated by Comcast as the primary Fiber Path and the other Fiber Path is designated by Comcast as the secondary Fiber Path. In the event the primary Fiber Path is unavailable, Comcast re-routes traffic from the primary Fiber Path to the secondary Fiber Path ("**Protection Switching**"). Only one (1) Fiber Path is active at a given time. Only 10G circuits are available as Protected Circuits.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.11. TECHNICAL SPECIFICATIONS FOR SERVICES

The Services are bi-directional, point-to-point optical Services capable of transporting high bandwidths (*e.g.*, 10G and 100G) using Ethernet or Optical Transport Network (OTN) protocols. Each Service constitutes an entire wavelength or “Lambda” channel of a DWDM.

Customer Interface

Table 1 shows the customer interfaces supported, by protocol, for the Service.

Protocol	Interface(s)
Ethernet – 10G LAN PHY	10GBase-LR
Ethernet – 10G WAN PHY	10GBase-LW
Ethernet – 100G	100GBASE-LR4
OTN – 10G	OTU2, OTU2e
OTN – 100G	OTU4

Table 1: Wavelength Services Protocols and Customer Interfaces

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.12. SERVICE MONITORING, TECHNICAL SUPPORT AND MAINTENANCE

- A. Network Monitoring - Comcast monitors Services on a 24x7x365 basis.
- B. Technical Support - Comcast provides a toll-free trouble reporting telephone number to the Network Operations Center that operates on a 24x7x365 basis. Comcast provides technical support for service-related inquiries. Technical support will not offer consulting or advice on issues relating to equipment not provided by Comcast.
- C. Escalation. Reported troubles are escalated within the Comcast Business Services Network Operations Center to meet the response/restoration objectives described below (Response and Restoration Standards). Service issues are escalated within the Comcast Business Services Network Operations Center as follows: to a Supervisor at the end of the applicable objective time interval plus one (1) hour; to a Manager at the end of the applicable objective time interval plus two (2) hours; and to a Director at the end of the applicable objective time interval plus four (4) hours.
- D. Maintenance - Comcast's standard maintenance window for Services is Sunday to Saturday from 12:00 am to 6:00 am local time. Scheduled maintenance for Services is performed during the maintenance window and will be coordinated between Comcast and the Customer. Comcast provides a minimum three (3) business days' notice for maintenance expected to impact service for ≤ 50 ms. Comcast provides a minimum of seven (7) business days' notice for maintenance expected to impact service for > 50 ms. Emergency maintenance is performed as needed without advance notice to Customer.
- E. Comcast Equipment. Comcast provides certain Comcast Equipment, which will reside at the Service Location, for provisioning its Services. Comcast will retain ownership and management responsibility for this Company Equipment. This Comcast Equipment must only be used for receipt of Services.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.13. CUSTOMER RESPONSIBILITIES

Customer shall have the following responsibilities related to the installation, support, and maintenance of the Service:

- Connecting to the Demarcation Point.
- Responsibility for all equipment and service beyond the Demarcation Point and/or interconnection between Comcast Equipment and the wiring at the Demarcation Point.
- Procuring and maintaining equipment which is technically compatible with the Service and the Network.
- Providing an operating environment with temperatures not below fifty-five (55) or above eighty-five (85) degrees Fahrenheit. Humidity shall not exceed ninety (90) percent at eighty-five (85) degrees Fahrenheit.
- Providing secure space sufficient for access to one (1) standard, freestanding, equipment cabinet at each of the Customer facilities, no further than fifty feet from the Customer router or switch interface.
- Providing outside cable entry conduit(s), entry cable ground point, and internal building conduit to allow Comcast the ability to rod/rope a fiber optic cable to the Demarcation Point.
- Locating and marking all private underground utilities (water, electric, etc.) along path of new underground placement not covered by utility companies.
- Providing a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.
- Obtaining “right-of-way” entry easement for Comcast facilities and equipment from property owners at each Customer location.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.13. CUSTOMER RESPONSIBILITIES (CONT'D)

- Coring of the Service Location's outside wall and internal walls. Upon request, Comcast can perform this activity on an "as needed" basis for an additional one-time fee.
- Providing UPS AC power (back-up battery power) equipment, circuit sizing to be determined, if applicable.
- Emergency local generator backup service, if applicable.
- Providing access to the buildings and Demarcation Point at each Service Location to allow Comcast and its approved contractors to install the Service and for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- Providing, installing and maintaining a device that is capable of interconnecting network traffic between the Service and the Customer's Local Area Network ("LAN").
- Providing a point of contact ("POC") for installation, service activation and any maintenance activities.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.14. INTRASTATE WAVELENGTH SERVICE LEVEL AGREEMENTS (SLA)

Comcast's Intrastate Comcast Business Wavelength Services are backed by the following Service Level Agreement (SLA):

A. Availability SLA

Comcast's liability and Customer's sole remedy for Service Interruptions, and errors, omissions, interruptions, delays, outages, or defects in transmission or switching of any Services (individually or collectively, "Liability"), shall be limited to the amounts set forth in the tables below ("Availability Credit"). For the purposes of calculating credit for a Service Interruption, the length of Service Interruption begins when the Customer reports such Service Interruption and a trouble ticket is opened and concludes upon the closing of the same trouble ticket or, if sooner, the termination of the Service Interruption, less any time Comcast is awaiting additional information or premises testing from the Customer. The length of Service Interruptions for separately occurring Service Interruptions will not be aggregated for purposes of determining Availability Credit allowances. For purposes of calculating the Service credit percentage in the following tables, only the MRC of the impacted wavelength circuit shall apply. To qualify, Customer must request the Availability Credit from Comcast within thirty (30) days of the beginning of the Service Interruption. Comcast shall not incur any Liability, including availability credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions, Customer actions, omission or equipment, or any other items set forth in the "Exceptions to Credit Allowances" Section 4.3.15.B following.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.14. INTRASTATE WAVELENGTH SERVICE LEVEL AGREEMENTS (SLA) (CONT'D)

B. SLA for Unprotected and Protected Options

TABLE 1: SLA for Unprotected Circuits

Availability	Length of Service Interruption	Service Credit (Based on MRC of only the impacted wavelength circuit)
>= 99.44%	Less than 4 hours	No Credit
>= 98.89% < 99.44%	At least 4 hours but less than 8 hours	10% of the MRC
>= 98.33% < 98.89%	At least 8 hours but less than 12 hours	25% of the MRC
< 98.33%	At least 12 hours or greater	50% of the MRC

TABLE 2: SLA for Protected Circuits*

Availability	Length of Service Interruption	Service Credit (Based on MRC of only the impacted wavelength circuit)
> 99.99%	Less than 4 minutes 19 seconds	No Credit
>= 99.86% < 99.99%	At least 4 minutes 20 seconds but less than 1 hour	10% of the MRC
>= 98.61% < 99.85%	At least 1 hour but less than 10 hours	25% of the MRC
< 98.61%	At least 10 hours or greater	50% of the MRC

*Availability Credits on protected circuits are available only to the extent both Fiber Paths for such Protected Circuit simultaneously sustain a Service Interruption. For clarity and avoidance of doubt, if either Fiber Path for a Protected Circuit is Available, the entire Protected Circuit shall be considered Available for purposes of calculating Availability.

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.15. EXCEPTIONS AND TERMS APPLICABLE TO ALL SLAS

A. Remedy Processes

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Section 4.3.14.A., preceding. The Customer must submit the following information to the Customer's Comcast account representative with any and all claims for credit allowances: (a) Organization name; (b) Customer account number; and (c) basis of credit allowance claim (including date and time, if applicable). Comcast will acknowledge and review all claims promptly and will inform the Customer by electronic mail or other correspondence whether a credit allowance will be issued or the claim rejected, with the reasons specified for the rejection.

B. Exceptions to Credit Allowances

Comcast's failure to meet either of the SLAs set forth in 4.3.14 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other scheduled maintenance events; Customer actions or inactions; Customer-provided power or equipment; any third party not contracted through Comcast, including, without limitation, Customer's users, third-party network providers, any power, equipment or services provided by third parties; or an event of force majeure as defined in the Agreement

C. Other Limitations

The total credit allowance per calendar month under Section 4.3.14 is capped at 50% of that month's MRC for the impacted portions of the Service. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.

SWITCHED ACCESS SERVICES

4. SPECIAL ACCESS SERVICE

4.3. BUSINESS WAVELENGTH SERVICES (CONT'D)

4.3.16. RATES AND CHARGES

Comcast may enter into term agreements with prices that may vary subject to the availability of promotional offers and/or the Customer's choice of term, bandwidth, and associated Special Construction or related charges. Special Construction charges shall be applied on an individual case basis as described in Section 4.3.4 subject to the terms, conditions, and limitations set forth in Section 5.3, following, for Special Assemblies and Individual Case Basis Arrangements. The minimum term for Business Wavelength Service is thirty-six (36) months.

Business Wavelength Service is offered in 10G and 100G Bandwidths in Protected and Unprotected configurations. Ports are available in 10G and 100G and are priced per port, two ports per circuit.

Comcast Business Wavelength Services Pricing

Charge Type	Bandwidth	Protection	Term (months)	MRC	NRC
Service	10G	Unprotected	36	\$7,000.00	\$0.00
Service	10G	Unprotected	60	\$6,300.00	\$0.00
Service	10G	Protected	36	\$14,000.00	\$0.00
Service	10G	Protected	60	\$12,600.00	\$0.00
Service	100G	Unprotected	36	\$15,000.00	\$0.00
Service	100G	Unprotected	60	\$13,500.00	\$0.00
Service	100G	Protected	36	\$30,000.00	\$0.00
Service	100G	Protected	60	\$27,000.00	\$0.00
Port	10G	N/A	36	\$500.00	\$0.00
Port	10G	N/A	60	\$400.00	\$0.00
Port	100G	N/A	36	\$1,000.00	\$0.00
Port	100G	N/A	60	\$800.00	\$0.00

SWITCHED ACCESS SERVICES

5. RESERVED FOR FUTURE USE

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SWITCHED ACCESS SERVICES

5. RESERVED FOR FUTURE USE

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SWITCHED ACCESS SERVICES

6. RESERVED FOR FUTURE USE

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SWITCHED ACCESS SERVICES

6. RESERVED FOR FUTURE USE

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