This Schedule #{{ScheduleId}} to the Frontier Services Agreement dated {{FSA\_StartDate}} between {{Subscriber\_Name}} (“**Customer**”) and Frontier. This Schedule is dated {{Effective\_Date}} (the “**Schedule Effective Date**”). Customer orders and Frontier agrees to provide the Services listed below executed by Customer.

**Frontier 10Gigabit and**

**100Gigabit Optical Transport Service**

**Service Schedule (Service Reference)**

Operational Provisions

1. **The Service**
   1. This Service Schedule (Service Reference) is for the supply of 10Gigabit and 100Gigabit Optical Transport Services for Customers who have executed a Frontier Services Agreement (“**FSA**”) and Non – Disclosure Agreement (“**NDA**”), in addition to the ability to submit Access Service Requests (“**ASRs**”), commonly referred to as Service Orders via the Frontier Ordering GUI Virtual Front Office (“**VFO**”) <https://wholesale.frontier.com/wholesale/systems-and-online-tools/connectivity-and-e-bonding>. This will apply to the first and any subsequent Service Orders throughout the lifecycle of an effective FSA unless alternative configurations are necessary outside of the standard configurations as described in Section 2, therefore resulting in the need to pursue a separate amendment.
2. Service Description
   1. 10Gigabit and 100Gigabit Optical Transport Services is an intraLATA/intrastate[[1]](#footnote-1), point-to-point dedicated wavelength service for the use of transporting data signals between a Customers chosen point-to-point design configuration that may include collocations, points of presence and or two end user premise locations where Optical Transport Services have been identified through existing capable network elements within Frontier’s Shared Serving Wire Centers as listed in Exhibit C.
   2. 10Gigabit and 100Gigabit Optical Transport Service will be designed, provisioned and implemented according to standard ITU-T G.872 and G.709 architecture, frame format and payload mappings consisting of support for the following protocols:
      1. OC192 Transparency
      2. 10G LAN-PHY
      3. 10G WAN-PHY
      4. 100G LAN-PHY
      5. 100G WAN-PHY
   3. There are three (3) available network protection configurations per Exhibit B.
      1. Un-protected Two-Fiber: No card or route protection; un-protected circuit at both ends. This service provides *no* optical protection of the signal from the customer. Transportation is provided by ROADM or DWDM or a combination of both.
      2. Protected Four-Fiber: Card protection (1+1), no route protection; un-protected circuit at both ends. This service provides *no* optical protection of the signal from the customer. However, this service will provide route protection upon entering the first Frontier node, but *not* fiber diversity (closed loops may apply). Transportation is provided by ROADM or DWDM or a combination of both.
      3. Protected Four-Fiber Plus Path Diversity: Both card protection (1+1) and fiber path diversity; protected. circuit at both ends. This service provides both route protection and fiber diversity upon entering and exiting the first Frontier node (*no* closed loops may apply). Transportation is provided by ROADM or DWDM or a combination of both.
   4. 10Gigabit and 100Gigabit Optical Transport Service will require an Access Service Request (“**ASR**”)/Service Order (“**SO**”) specifying both locations and necessary customer facing interfaces. Ordering examples can be found at: <https://wholesale.frontier.com/wholesale/access-services/asr-samples-by-product>.
   5. Frontier’s Ordering Guidelines for this Service can be found at: https://wholesale.frontier.com/wholesale/access-services/ethernet-order-samples.
   6. 10Gigabit and 100Gigabit Optical Transport supported IEEE 802.3ae-2002 interfaces

|  |  |
| --- | --- |
| Interface | Definition |
| 10GBase - LR | 10Gbps Baseband signaling over Single Mode Fiber with 1310nm (10km) |
| 100GBase – LR4 | 100Gbps Baseband signaling over Single Mode Fiber with 1310nm (10km) |

1. **Service Availability and Requirements**
   1. This Service is only available within Frontier Optical Transport Enabled Wire Centers per Exhibit C to provide services to wireline end-user customers only. For clarification purposes, the rates described herein may not be used to purchase Service to cell sites, cell towers or wireless switches.
   2. Where facilities are not available or discovered not available during a site visit (i.e.; conduit, riser, local loop route, MPOE, space, etc.) such facilities may be constructed and are subject to additional fees, not representative to this Service or listed as part of Exhibit B and requires a separate Aid in Construction Amendment or Letter.
2. **Standard Service Rate Elements**
   1. To simplify pricing, a Monthly Recurring Charge (“**MRC**”) will be applied to terminations (not to exceed two (2) channel terminations) as listed in Exhibit B without regard to the number of terminations. For example, a single termination service (e.g., into a collocation or meet point) will be billed the same termination MRC as a dual termination service.
   2. An MRC will be applied for any mileage determined to be Interoffice. Interoffice Mileage is defined as mileage between Frontier Central Offices and/or Frontier Optical Transport Enabled Wire Centers needed to complete the necessary design path and will be applied in a per mile manner. Should a path equate to a fractionalized number, Frontier will round this number up to the next full mile number.
   3. An MRC will be applied, for a fixed market mileage component, on all point-to-point optical transport paths regardless if Interoffice Mileage is not required or necessary.
   4. A Non-Recurring Charge (“**NRC**”) will be applied for all new installations only.
   5. Additional Miscellaneous Charges in support of providing this Service can be found in Section 8.
3. **Standard Provisioning/Process Intervals**
   1. This Service is designed and implemented within a project managed environment. Each installation is considered unique and will require a negotiated timeline based on the findings of a site survey. No standard intervals are available for this Service.
4. **Moves**
   1. Physical moves consist of any relocation of the physical termination and or access from one floor to another within a building and or to another physical address location and must be cared for on a Disconnect Service Order followed by a New Service Order issued. This type of move cannot be accommodated on a Change Service Order.
5. **Customer Responsibilities**
   1. Customer is responsible for any and all trouble reporting with respect to performance or lack thereof via the following guidelines and procedures: <https://wholesale.frontier.com/docs/wholesaledocs/frontier-trouble-administration-guide.pdf?sfvrsn=20>.
6. **Miscellaneous Terms Associated with the Service**
   1. Frontier’s Routine Network Maintenance Window is between 12:01 am and 6:00 am local time, Monday through Friday.
   2. Available term agreements associated with this Service are one (1), two (2), three (3) and five (5) year as established within the Variable Term Agreement (“**VTA**”) field of the ASR/SO.
   3. Minimum period for this Service shall be the length of the term as specified in the VTA field of the ASR/Service Order for this Service, including mileage. In the event a cancellation order is received after the service start date but prior to fulfilling the Service Term or any subsequent Renewal Service Term (where the extension is greater than month to month and other than as a result of a breach by Frontier)**,** Early Termination Liability charges will be assessed and invoiced in the amount of 100% of the MRC for the remaining period of the original term as indicated in the VTA field of the originating ASR/Service Order.
   4. Expedites or the ability to improve a delivery date outside of Frontier’s negotiated Firm Order Commitment date is permitted with this Service. This fee will only be applied when the EXP field is populated with a “y” and Frontier is capable of shortening the negotiated delivery date. This does not guarantee a reduced delivery. However, should Frontier be in a position to better the delivery time prior to the firm order commitment date provided, a fee of $450 will be applied for each day the delivery interval was improved upon.
   5. Cancellation charges will be administered as referenced in Section 4 of the FSA, for this Service and Schedule.
   6. Supplication Administrative fees will be charged in the amount of $75 for any and all activity populated as “2”, “3” or “4” within the SUP field of the Administrative Section of the Service Order. Supplications populated as a “1” within the SUP field, will automatically incur the appropriate fees associated with a Cancellation as stated above.
   7. No Trouble Found Administration fees will be charged in the amount of $150, whenever a Frontier technician is dispatched for a customer reported trouble ticket and no issues were found or deemed the responsibility of Frontier.
7. **Order Requirements**
   1. Ordering Period. All Orders must be placed by Customer during the period beginning on the Schedule Effective Date and ending at 11:59 PM on {{Effective\_Date}} (“**Ordering Period**”) (which, for the avoidance of any doubt, does not include any orders in progress or existing as of the Schedule Effective Date). The Ordering Period shall automatically be extended on a month-to-month basis after {{ContractTerm}}, subject to termination by either Party on at least sixty (60) days prior written notice.
   2. Placement of Orders. Customer remains responsible in all respects for ensuring the accuracy of orders for the FOTS Services pursuant to this Schedule, as well as for post-ordering verification that the FOTS Services have been ordered with the appropriate Contract ID in order to obtain the applicable pricing for such FOTS Services. In order for Customer to be eligible for the rates referenced in Exhibit B to this Schedule, Customer must populate the PNUM field of the ASR/Service Order with the following Contract ID: **FOTS{{ScheduleId}}**. If Customer fails to use the appropriate Contract ID in the ASR/Service Order to order Service then Customer is responsible to submit an ASR/Service Order change order correcting the Contract ID. In cases where the rates associated with the corrected Contract ID are lower, Frontier will correct the billing on a prospective basis, beginning with the next billing period after the date on which Frontier receives and processes Customer’s ASR/Service Order change order. If Customer orders FOTS Service with an incorrect Contract ID on the ASR/Service Order resulting in Customer being under-billed for FOTS Service, Frontier may subsequently correct the Contract ID and retroactively bill Customer the appropriate charges associated with the correct Contract ID for the full period for which Customer was underbilled subject to the applicable statute of limitations.
   3. New Orders Only. The rates, terms and conditions of this Schedule are only available for new orders and shall not apply to any pending orders, upgrades, moves, rehomes or re-terms of existing circuits ordered prior to the Schedule Effective Date. In the event that Customer orders FOTS Services that do not qualify (including, but not limited to new orders that replace disconnected circuits ordered under previous products or contracts), the rates, terms and conditions of this Schedule shall not apply to such orders and Frontier, at any time after discovering the error, may use retroactive and prospective billing adjustments as necessary to apply the correct rates for the entire period for which Customer incorrectly received the benefits of this Schedule, subject to the applicable statute of limitations.

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| --- |
| **Interstate / Intrastate Pricing Certification:** Customer certifies that its dedicated point-to-point traffic over such Services:  {{#IF\_INTERSTATE\_PRICE\_MORE\_THAN\_10}}🗹{{/IF\_INTERSTATE\_PRICE\_MORE\_THAN\_10}}{{^IF\_INTERSTATE\_PRICE\_MORE\_THAN\_10}}🞎{{/IF\_INTERSTATE\_PRICE\_MORE\_THAN\_10}}will be **more than 10%** interstate in nature; OR {{#IF\_INTERSTATE\_PRICE\_LESS\_THAN\_10}}🗹{{/IF\_INTERSTATE\_PRICE\_LESS\_THAN\_10}}{{^IF\_INTERSTATE\_PRICE\_LESS\_THAN\_10}}🞎{{/IF\_INTERSTATE\_PRICE\_LESS\_THAN\_10}} will be **10% or less** interstate in nature.  The term “interstate in nature” means that the traffic originates in one state and terminates in another state or outside the United States, regardless of how it is routed. |

**[SIGNATURE PAGE FOLLOWS]**

**SIGNATURE PAGE**

This Schedule is not effective and pricing, dates and terms are subject to change until signed by both parties, and may not be effective until approved by the FCC and/or applicable State Commission. This Schedule and any of the provisions hereof may not be modified in any manner except by mutual written agreement. The rates in Exhibit B do not include any taxes, fees or surcharges applicable to the Service. This Schedule, and all terms and conditions of the FSA, is the entire agreement between the parties with respect to the Services described herein, and supersedes any and all prior or contemporaneous agreements, representations, statements, negotiations, and undertakings written or oral with respect to the subject matter hereof.

|  |  |
| --- | --- |
| **{{Subscriber\_Name}}** | **Citizens Telecom Services Company LLC,** on behalf of the Frontier Telephone Companies identified in Exhibit 1 of the FSA: |
|  |  |
|  |  |
| Signature: {{Signer1Signature}} | Signature: {{Signer2Signature}} |
|  |  |
|  |  |
| Printed Name: {{Signer1FullName}} | Printed Name: {{Signer2FullName}} |
|  |  |
| Title: {{Signer1Title}} | Title: {{Signer2Title}} |
|  |  |
| Date: {{Signer1Date}} | Date: {{Signer2Date}} |

**Exhibit A**

**FRONTIER OPTICAL TRANSPORT SERVICES**

**SERVICE LEVEL AGREEMENT**

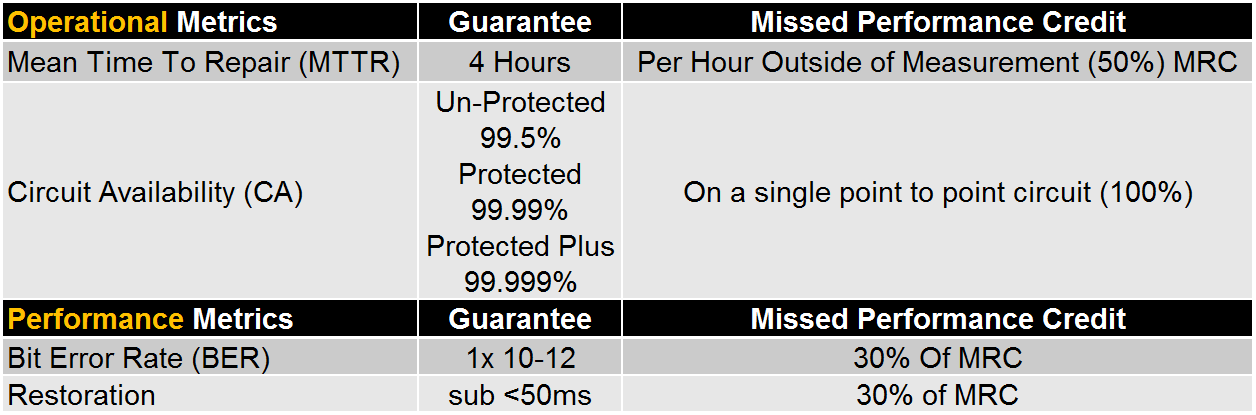
1. Service Level Agreement (“**SLA**”) Summary

The following applies to Frontier Optical Transport Service only and is meant to provide Customer’s sole and exclusive remedy for service interruptions and or service deficiencies as outlined herein.

1. Service Level Guarantee (“**SLG**”) and Missed Performance Credits (“**MPCs**”)

This table demonstrates Frontier’s SLG and available MPCs followed by definitions and calculations in support thereof. All performance attributes and operational attributes are based on definitions and recommendations provided by the International Telecommunication Union (“**ITU**”) standards, for the sake of continuity and comparison.

Table 2.1



1. Definitions
   1. Service Level Agreement
      1. To be used as the vehicle between Frontier and Customer solidifying the scope of performance metrics applied in the delivery of Optical Transport Services.
   2. Service Level Guarantee
      1. Frontier’s defined level of performance associated with the delivery of Optical Transport Services surrounding network performance measurements for repair intervals, availability, transfer rate and restoration. In order to qualify for this SLG, Customer must adhere to and agree to the common understanding, pre-established and supportable measurements as outlined within Frontier’s SLA.
   3. Missed Performance Credits
      1. Financial credits associated with missed performance metrics, as demonstrated in the above-mentioned, within a billing cycle and as further defined herein.
   4. Billing Cycle
      1. Frontier billing cycle is measured as a thirty (30) calendar day assignment.
   5. Mean Time To Repair
      1. Mean Time to Repair (“**MTTR**”) is defined as the average elapsed time between the opening of a trouble ticket, assessment of the trouble ticket and a return to complete service availability, as the result of a confirmable service interruption.
   6. Service Interruption
      1. An unscheduled duration of service unavailability, due to a fault caused solely by Frontier, resulting in nonuse of a point-to-point optical transport path for more than sixty (60) seconds within a fifteen (15) minute period.
   7. Circuit Availability (“**CA**”) is defined as the percentage of time within a calendar month that Frontier Optical Transport Service is available for use by the Customer.
   8. Bit Error Rate (“**BER**”) is defined as the number of data stream bits received over a communication medium altered by noise, interference, distortion and or synchronization errors.
   9. Restoration is defined as the amount of time, described in milliseconds for the optical transport path to reroute and re-establish a communications path as the result of an interruption in service[[2]](#footnote-2).
2. Calculations
   1. MTTR is calculated from the moment a trouble ticket is confirmed (in minutes) through closure and released back into service to the Customer.
   2. CA is calculated as follows: twenty-four (24) times the number of days in a month, times one (1) minus the number of hours an optical transport path was out of service divided by twenty-four (24), times the number of days in a month times one (1).
   3. BER of one in one trillion is demonstrated and cared for at the time of installation or after a service interruption and made available to the customer from their assigned project manager, through a birth certificate.
   4. Restoration is demonstrated and cared for at the time of installation or after a service interruption and made available to the customer from their assigned project manager, through a birth certificate.
3. Exclusions
   1. A service interruption will not be considered valid if the point-to-point circuit path, in question, is incapacitated or unavailable due to any of the following:
      1. A complete optical transport path that has not been fully tested and or accepted, following the provisioning of a new installation order, or the change to an existing optical transport path, or newly installed optical transport path; or
      2. Provisioning based on incorrect, inaccurate and or incomplete information, with respect to network specifications received on an ASR/SO by Customer, for the delivery of an optical transport path; or
      3. Any period where Frontier has notified Customer of scheduled maintenance, or the need for an emergency rearrangement; or
      4. A Force Majeure event as defined in the FSA; or
      5. Any and all service troubles not reported in a manner consistent with the guidelines and procedures as outlined in Section 7.1 of the Frontier Optical Transport Service Schedule; or
      6. Any service interruption found to be the direct result of withholding or omissions in relation to the use of this Service by Customer or authorized parties on behalf of Customer; or
      7. Frontier was not afforded access to the necessary premises where all physical elements associated with an optical transport path termination or agreed upon d-marc.
4. Declaration of Missed Performance Credits
   1. In order to receive a credit associated with this SLA, Customer must do the following:
      1. Report the interruption and or degradation in service via a trouble ticket within forty-eight (48) hours of the event.
      2. Submit a written request via the following site: <https://wholesale.frontier.com/wholesale/billing> and allow thirty (30) business days for review and initial comment.
      3. Frontier will issue credits to the Customer (as a percentage of the MRC), for an optical transport circuit path where Frontier Optical Transport Service SLAs are not met, as follows:
         1. Operational Attributes and Performance Attributes associated with MTTR, CA, BER and Restoration characteristics as referenced in Table 2.1.
         2. Shall be considered individually and are not cumulative in nature.
         3. May only claim one (1) instance per calendar month.
      4. All declarations must be pursued within ninety (90) business days of the confirmed missed performance metric. No considerations will be reviewed or considered outside of this timeframe.

**Exhibit B**

**FRONTIER OPTICAL TRANSPORT SERVICES FLAT RATE PRICING SCHEDULE[[3]](#footnote-3)**

***Note: all pricing is point-to-point (includes both endpoints)***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FOTS PRICING | | | | | |
| **Rate Element** | | **Term** | | | |
| **1 Year** | **2 Year** | **3 Year** | **5 Year** |
| Terminations (MRCs) | | | | | |
| 10G Un-Protected Channel Terminations | | $4,710 | $3,770 | $3,200 | $2,780 |
| 10G Protected Channel Terminations | | $6,266 | $5,017 | $4,257 | $3,699 |
| 10G Protected Plus Channel Terminations | | $6,741 | $5,397 | $4,580 | $3,980 |
| 100G Un-Protected Channel Terminations | | $11,204 | $8,970 | $7,612 | $6,710 |
| 100G Protected Channel Terminations | | $13,215 | $10,580 | $8,979 | $8,075 |
| 100G Protected Plus Channel Terminations | | $16,088 | $12,880 | $10,931 | $9,831 |
| Mileage Related (MRCs) | | | | | |
| Interoffice Mileage (per Mile) | | $0 | $0 | $0 | $0 |
| Mileage (Fixed Market Mile) | | $0 | $0 | $0 | $0 |
| Additional Miscellaneous | | | | | |
| One Time NRC | | $3,500 | $3,500 | $3,500 | $3,500 |
| Expedite |  | $450 per day the due date is improved - outside of FOC date communicated | | | |
| Supplications | | $75 per each supplication into the Carrier Center | | | |

**Exhibit C**

**FRONTIER COMMUNICATIONS OPTICAL TRANSPORT SERVICE BUILDING LIST****[[4]](#footnote-4)[[5]](#footnote-5)**



1. intraLATA/*inter*state exceptions include LATA 644 (IA/NE), 938 (IL/IN). [↑](#footnote-ref-1)
2. Available on Protected and Protected Plus circuit paths only [↑](#footnote-ref-2)
3. AZ and NM properties will be treated as ICB and are subject to Frontier’s Business Decision Tool Process [↑](#footnote-ref-3)
4. AZ and NM properties will be treated as ICB and are subject to Frontier’s Business Decision Tool Process [↑](#footnote-ref-4)
5. Please note that the following list is subject to change and will be updated quarterly. Updated lists may be obtained through your assigned Account Manager as requested. [↑](#footnote-ref-5)