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October 20, 2016

VIA ELECTRONIC FILING

Resemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

RE: Joint Filing of
Verizon Pennsylvania LLC (formerly Bell Atlantic-Pennsylvania, Inc.)
and Global Crossing Local Services Inc. (formerly Frontier Local Services, Inc.)
for Approval of an Interconnection Agreement
[Reference Docket No. A-310703]
Dkt. No. _____

Dear Secretary Chiavetta:

Enclosed please find Amendment No. 4 to the Interconnection Agreement between Verizon Pennsylvania LLC f/k/a Bell Atlantic-Pennsylvania, Inc. ("Verizon PA") and Global Crossing Local Services Inc. f/k/a Frontier Local Services, Inc. ("Global Crossing"), which Agreement was filed with the Commission on May 19, 1998 and approved by the Commission by Order entered on March 5, 1999 in Docket No. A-310703. This Amendment should be attached to and made part of the May 19, 1998 filed Agreement. The Amendment is deemed to be effective as of September 16, 2016 and was signed by the second of the two parties' signers on September 28, 2016. Thus, this Joint Filing is being made within 30 days of the day that the Amendment was signed, as required by ordering Paragraph 5 of the Commission's May 3, 2004 Final Order in Docket No. M-00960799. As evidenced by the cc: below, notice of this filing is being provided to Global Crossing.

Very truly yours,

A handwritten signature in blue ink that reads "Suzan D. Paiva".

Suzan D. Paiva

SDP/slb

Enclosure

cc: Aimee Lee, Level 3 Communications, LLC for Global Crossing
Attached Service List

SERVICE LIST

Tanya J. McCloskey
Acting Consumer Advocate
Office of Consumer Advocate
555 Walnut Street, 5th Floor
Harrisburg, PA 17101-1921

John R. Evans
Office of Small Business Advocate
Commerce Building, Suite # 202
300 North Second Street
Harrisburg, PA 17101

Johnnie E. Simms
Bureau of Investigation & Enforcement
PA Public Utility Commission
Commonwealth Keystone Bldg
400 North Street
Harrisburg, PA 17105-3265

Office of Special Assistants
PA Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Bureau of Consumer Services
PA Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Office of the Attorney General
Bureau of Consumer Protection
Strawberry Square, 14th Floor
Harrisburg, PA 17120

AMENDMENT NO. 4
TO THE
INTERCONNECTION AGREEMENT
BETWEEN
VERIZON PENNSYLVANIA LLC,
F/K/A BELL ATLANTIC - PENNSYLVANIA, INC.
AND
GLOBAL CROSSING LOCAL SERVICES INC.

This Amendment No. 4 (the "Amendment") is made by and between Verizon Pennsylvania LLC, successor to Verizon Pennsylvania Inc., or Verizon Pennsylvania LLC, successor to Bell Atlantic - Pennsylvania, Inc. ("Verizon"), a Delaware limited liability company with offices at 1717 Arch Street, Philadelphia, PA 19103, and Global Crossing Local Services Inc., a corporation with offices at 180 S. Clinton Avenue, Rochester, NY 14646, Rochester, New York 14646 ("Global Crossing"), and shall be deemed effective on September 16, 2016 (the "Amendment Effective Date"). Verizon and Global Crossing are hereinafter referred to collectively as the "Parties" and individually as a "Party". This Amendment covers services in Verizon's service territory in the Commonwealth of Pennsylvania (the "State").

WITNESSETH:

WHEREAS, Verizon and Global Crossing are Parties to an Interconnection Agreement under Sections 251 and 252 of the Communications Act of 1934, as amended (the "Act") dated December 31, 1997 (the "Agreement"); and

WHEREAS, the Federal Communications Commission (the "FCC") released an order on August 21, 2003 in CC Docket Nos. 01-338, 96-98, and 98-147 (the "Triennial Review Order" or "TRO"), which became effective as of October 2, 2003; and

WHEREAS, on March 2, 2004, the U.S. Court of Appeals for the District of Columbia Circuit (the "D.C. Circuit") issued a decision affirming in part and vacating in part the TRO (the "D.C. Circuit Decision"); and

WHEREAS, on August 20, 2004, the FCC released an Order in WC Docket No. 04-313 and CC Docket No. 01-338 (the "Interim Rules Order") setting forth certain interim rules regarding the temporary reinstatement of unbundling obligations for certain network elements with respect to which the D.C. Circuit Decision holds that the FCC has made no lawful impairment finding under Section 251 of the Act; and

WHEREAS, on February 4, 2005, the FCC released an Order on Remand in WC Docket No. 04-313 and CC Docket No. 01-338 (the "TRRO") setting forth rules that supplanted, effective March 11, 2005, the temporary rules set forth in the Interim Rules Order and addressing the remanded issues raised in the D.C. Circuit Decision; and

WHEREAS, in light of the foregoing developments, the Parties, pursuant to Section 252(a) of the Act, wish to amend the Agreement in order to give contractual effect to the provisions set forth herein; and

NOW, THEREFORE, in consideration of the promises and mutual agreements set forth herein, the Parties agree to amend the Agreement as follows:

1. Amendment to Agreement. The Agreement is amended to include the following provisions and the Pricing Attachment to this Amendment (including Exhibit A) attached hereto, all of which shall apply to and be a part of the Agreement notwithstanding any other provision of the Agreement or a Verizon tariff or a Verizon Statement of Generally Available Terms and Conditions ("SGAT").
2. General Conditions.
 - 2.1 Notwithstanding any other provision of the Agreement, this Amendment, or any Verizon tariff or SGAT: (a) Verizon shall be obligated to provide access to unbundled Network Elements ("UNEs"), combinations of unbundled Network Elements ("Combinations"), or UNEs commingled with wholesale services ("Commingling") to Global Crossing under the terms of this Amendment only to the extent required by both 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, and (b) Verizon may decline to provide access to UNEs, Combinations, or Commingling to Global Crossing under the terms of this Amendment to the extent that provision of access to such UNEs, Combinations, or Commingling is not required by 47 U.S.C. § 251(c)(3) or is not required by 47 C.F.R. Part 51.
 - 2.2 To the extent Verizon is required to provide a UNE, Combination, or Commingling under this Amendment, Global Crossing may use such UNE, Combination, or Commingling only for those purposes for which Verizon is required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 to provide such UNE, Combination, or Commingling to Global Crossing.
 - 2.3 Notwithstanding any other provision of the Agreement, this Amendment, or any Verizon tariff or SGAT, to the extent Verizon becomes obligated to provide to Global Crossing pursuant to both 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 a Discontinued Facility or a UNE, Combination, or Commingling that, as of the Amendment Effective Date, Verizon is not required to provide to Global Crossing under the Amended Agreement, 47 U.S.C. § 251(c)(3), and 47 C.F.R. Part 51, the rates, terms, conditions for such Discontinued Facility, UNE, Combination, or Commingling shall be as provided in an applicable Verizon tariff that Verizon, after the Amendment Effective Date, establishes or revises to provide for such rates, terms, and conditions, or (in the absence of an applicable Verizon tariff that Verizon, after the Amendment Effective Date, establishes or revises to provide for such rates, terms, and conditions) as mutually agreed by the Parties in a written amendment to the Amended Agreement.
 - 2.4 Discontinued Facilities
 - 2.4.1 Generally
 - 2.4.1.1 Notwithstanding any other provision of the Agreement, this Amendment, or any Verizon tariff or SGAT, Verizon shall not be obligated to offer or provide access on an unbundled basis at rates prescribed under Section 251 of the Act to any facility that is or becomes a Discontinued Facility, whether as a stand-alone UNE, as part of a

Combination, or otherwise. To the extent Verizon has not already ceased providing a particular Discontinued Facility to Global Crossing, Verizon, provided it has given at least ninety (90) days written notice of discontinuance of such Discontinued Facility, will continue to provide such Discontinued Facility under the Amended Agreement only through the effective date of the notice of discontinuance, and not beyond that date.

- 2.4.1.2 To the extent a facility is (or becomes) a Discontinued Facility only as to new orders that Global Crossing may place for such a facility, Verizon, to the extent it has not already discontinued its acceptance of such new orders and provided it has given at least ninety (90) days written notice in cases where it has not already discontinued its acceptance of such new orders, may reject such new orders on the effective date of the notice of discontinuance and thereafter. Verizon may, but shall not be required to, issue the foregoing notice in advance of the date on which the facility shall become a Discontinued Facility as to new orders that Global Crossing may place, so as to give effect to Verizon's right to reject such new orders immediately on that date.
- 2.4.1.3 The Parties acknowledge that Verizon, prior to the Amendment Effective Date, has provided Global Crossing with any required notices of discontinuance of certain Discontinued Facilities, and that Verizon, to the extent it has not already done so pursuant to a pre-existing or independent right it may have under the Agreement, a Verizon SGAT or tariff, or otherwise, may, at any time and without further notice to Global Crossing, cease providing any such Discontinued Facilities.
- 2.4.1.4 Notwithstanding any other provision of the Amended Agreement, Global Crossing shall not order a UNE or combination of UNEs where the order would conflict with a non-impaired Wire Center designation set forth in a list of non-impaired Wire Centers that Verizon makes or has made available to Global Crossing by notice and/or by publication on Verizon's wholesale website or that otherwise conflicts with the non-impairment criteria set forth in the TRRO (including, but not limited to, the caps on the number of DS1 and DS3 Loops and DS1 and DS3 Transport circuits that Verizon is required to provide on an unbundled basis), and Verizon, without first seeking dispute resolution under Paragraph 234 of the TRRO, may reject any such orders that Global Crossing submits.
- 2.4.1.5 If, Global Crossing, inadvertently or otherwise, submits to Verizon an order that conflicts with Section 2.4.1.4 above and Verizon, inadvertently or otherwise, provisions the order on a Section 251 UNE basis, then upon thirty (30) days notice from Verizon the subject service, facility or arrangement shall be converted (or, in Verizon's sole discretion, repriced in lieu of actual conversion until such

time as Verizon elects to convert) to an analogous service, facility, or arrangement that is available under Verizon's interstate special access tariff (i.e., on the rates, terms, and conditions that apply for a month-to-month term, unless at the time Global Crossing placed the subject disallowed order Global Crossing was subscribed to an applicable special access term/volume plan or other applicable special access tariff arrangement, in which case the rates, terms, and conditions of plan or arrangement shall apply) or, in the case of Dark Fiber Transport, the analogous commercial service as determined by Verizon in its sole discretion (the "Replacement Terms"). The Replacement Terms shall apply retroactively to the date of provisioning of the subject service, facility, or arrangement, and shall apply prospectively from that date until such time as different rates, terms, and conditions become effective under an available alternative service, facility, or arrangement that Global Crossing validly requests. Without limiting Verizon's rights or Global Crossing's obligations under this section, Global Crossing shall cooperate with Verizon in implementing the requirements of this section and shall promptly submit any access service request ("ASR") (or other transaction type upon which the Parties mutually agree) that may be needed, and take such other action as may be needed, to implement the requirements of this section.

2.4.1.6 This Section 2.4 is intended to limit any obligation Verizon might otherwise have to provide to Global Crossing (or to notify Global Crossing of the discontinuance of) any facility that is or becomes a Discontinued Facility, and nothing contained in this Section 2.4 or elsewhere in this Amendment shall be deemed to establish in the first instance or to extend any obligation of Verizon to provide any facility or Discontinued Facility. This Section 2.4 shall apply notwithstanding anything contained in the Agreement, this Amendment, or any Verizon tariff or SGAT, but without limiting any other right Verizon may have under the Agreement, this Amendment, or any Verizon tariff or SGAT to cease providing a facility that is or becomes a Discontinued Facility.

2.4.2 Continuation of Facilities Under Separate Arrangement. To the extent Global Crossing wishes to continue to obtain access to a Discontinued Facility under a separate arrangement (e.g., a separate agreement at market-based rates, an arrangement under a Verizon access tariff, or resale), Global Crossing shall have promptly undertaken and concluded such efforts as may be required to secure such arrangement prior to the date on which Verizon is permitted to cease providing the Discontinued Facility; provided, however, that in no event shall Global Crossing's failure to secure such an arrangement affect Verizon's right to cease providing a facility that is or becomes a Discontinued Facility. If Verizon is permitted to cease providing a Discontinued Facility under this Section 2.4 and Global Crossing has not submitted an LSR or ASR, as appropriate, to Verizon requesting

disconnection of the Discontinued Facility and has not separately secured from Verizon an alternative arrangement to replace the Discontinued Facility, then Verizon, to the extent it has not already done so prior to execution of this Amendment, shall convert the subject Discontinued Facility to, or (until such time as Verizon in its sole discretion elects to convert) reprice the subject Discontinued Facility by application of a new rate (or, in Verizon's sole discretion, by application of a surcharge) to be equivalent to, the access, resale, or other analogous arrangement that Verizon shall identify in a written notice to Global Crossing. The rates, terms, and conditions of any such arrangements shall apply and be binding upon Global Crossing as of the date specified in the written notice issued by Verizon. The Parties acknowledge that Verizon has, in such written notices issued to Global Crossing prior to the Amendment Effective Date, identified such arrangements to replace certain Discontinued Facilities and that Verizon, to the extent it has not already done so, may implement such arrangements without further notice.

- 2.4.3 Limitation With Respect to Replacement Arrangements. Notwithstanding any other provision of this Amended Agreement, any negotiations regarding any replacement arrangement or other facility or service that Verizon is not required to provide under the Federal Unbundling Rules shall be deemed not to have been conducted pursuant to the Amended Agreement, 47 U.S.C. § 252(a)(1), or 47 C.F.R. Part 51, and shall not be subject to arbitration pursuant to 47 U.S.C. § 252(b). Any reference in this Amended Agreement to Verizon's provision of a facility, service, or arrangement that Verizon is not required to provide under the Federal Unbundling Rules is solely for the convenience of the Parties and shall not be construed to require or permit arbitration of such rates, terms, or conditions pursuant to 47 U.S.C. § 252(b).
- 2.4.4 Pre-Existing and Independent Discontinuance Rights. Verizon's rights as to discontinuance of Discontinued Facilities pursuant to this Section 2.4 are in addition to, and not in limitation of, any rights Verizon may have as to discontinuance of Discontinued Facilities under the Agreement, a Verizon tariff or SGAT, or otherwise. Nothing contained herein shall be construed to prohibit, limit, or delay Verizon's exercise of any pre-existing or independent right it may have under the Agreement, a Verizon tariff or SGAT, or otherwise to cease providing a Discontinued Facility.
- 2.4.5 Implementation of Rate Changes. Notwithstanding any other provision of the Amended Agreement (including, but not limited to, the rates and charges set forth therein), Verizon may, but shall not be required to, implement any rate increases or new charges that may be established by the FCC in the TRRO or subsequent orders for unbundled network elements, combinations of unbundled network elements, or related services, by issuing to Global Crossing a notice of such rate increases and/or new charges, provided that the rate provisions of such FCC orders are not subject to a stay issued by any court of competent jurisdiction. Any such rate increases or new charges shall take effect on the date indicated in the notice issued by Verizon, but no earlier than the date established by the FCC, and shall be paid by Global Crossing in accordance with the terms of the Amended Agreement. Verizon may, but shall not be required to, use a true-up to apply the

rate increases or new charges effective as of the date indicated in the notice issued by Verizon. The Parties acknowledge that Verizon, prior to the Amendment Effective Date, may have provided Global Crossing such a notice(s) identifying rate increases or new charges for certain Discontinued Facilities, and that no further notice is required for those rate increases or new charges to take effect. Any such rate increases and new charges that the FCC may establish shall be in addition to, and not in limitation of, any rate increases and new charges that the Pennsylvania Public Utility Commission may approve or that Verizon may otherwise implement under the Amended Agreement or applicable tariffs. Nothing set forth in this Section 2.4.5 shall be deemed an admission of Verizon (including, but not limited to, as to whether this Amendment is required in order for Verizon to charge the FCC-prescribed rate increases and new charges described herein) or limit Verizon's right to appeal, seek reconsideration of, or otherwise seek to have stayed, modified, reversed, or invalidated any limit the FCC may impose on Verizon's rates and charges.

3. Provision of Certain Facilities and Services.

3.1 FTTP Loops

3.1.1 Notwithstanding any other provision of the Amended Agreement or any Verizon tariff or SGAT, and for the avoidance of doubt, in no event shall Global Crossing be entitled to obtain access to an FTTP Loop (or any segment or functionality thereof) on an unbundled basis.

3.1.2 For the avoidance of any doubt, Section 3.1.1 above applies with respect to all FTTP Loops (and segments thereof), including, but not limited to, (i) where Verizon deploys (or has deployed) a FTTP Loop to the customer premises of an end user that has not been served by any Verizon Loop other than a FTTP Loop and (ii) where (a) Verizon deploys (or has deployed) an FTTP Loop to replace a copper Loop previously used to serve a particular end user's customer premises, and (b) Verizon retires (or has retired) that copper Loop and there are no other available copper Loops or Hybrid Loops for Global Crossing's provision of a voice grade service to that end user's customer premises.

3.2 Hybrid Loops.

3.2.1 Packet Switched Features, Functions, and Capabilities. Notwithstanding any other provision of the Amended Agreement or any Verizon Tariff or SGAT, Global Crossing shall not be entitled to obtain access to the Packet Switched features, functions, or capabilities of any Hybrid Loop on an unbundled basis.

3.2.2 Broadband Services. Notwithstanding any other provision of the Amended Agreement (but subject to and without limiting Section 2 above) or any Verizon Tariff or SGAT, when Global Crossing seeks access to a Hybrid Loop for the provision of "broadband services," as such term is defined by the FCC, then in accordance with, but only to the extent required by, 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, Verizon shall provide Global Crossing with unbundled access under the Amended Agreement to the existing time division multiplexing features, functions, and capabilities of that Hybrid Loop (but no

features, functions or capabilities used to transmit packetized information) to establish a complete time division multiplexing transmission path between the main distribution frame (or equivalent) in a Verizon wire center serving an end user to the demarcation point at the end user's customer premises.

- 3.2.3 Narrowband Services. Notwithstanding any other provision of the Amended Agreement (but subject to and without limiting Section 2 above) or any Verizon Tariff or SGAT, when Global Crossing seeks access to a Hybrid Loop for the provision to its customer of "narrowband services," as such term is defined by the FCC, then in accordance with, but only to the extent required by, 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, Verizon shall, in its sole discretion, either (a) provide access under the Amended Agreement to a spare home-run copper Loop serving that customer on an unbundled basis, or (b) provide access under the Amended Agreement, on an unbundled basis, to a DS0 voice-grade transmission path between the main distribution frame (or equivalent) in the end user's serving wire center and the end user's customer premises, using time division multiplexing technology.
- 3.2.4 IDLC Hybrid Loops. Notwithstanding any other provision of the Amended Agreement (but subject to and without limiting Section 2 above) or any Verizon Tariff or SGAT, if Global Crossing requests, in order to provide narrowband services, unbundling of a 2 wire analog or 4 wire analog Loop currently provisioned via Integrated Digital Loop Carrier (over a Hybrid Loop), Verizon shall, as and to the extent required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, provide Global Crossing unbundled access to a Loop capable of voice-grade service to the end user customer served by the Hybrid Loop.
- 3.2.4.1 Verizon will endeavor to provide Global Crossing with an existing copper Loop or a Loop served by existing Universal Digital Loop Carrier ("UDLC"). Standard recurring and non-recurring Loop charges will apply. In addition, a non-recurring charge will apply whenever a line and station transfer is performed.
- 3.2.4.2 If neither a copper Loop nor a Loop served by UDLC is available, Verizon shall, upon request of Global Crossing, construct the necessary copper Loop or UDLC facilities. In addition to the rates and charges payable in connection with any unbundled Loop so provisioned by Verizon, Global Crossing shall be responsible for the following charges: (a) an engineering query charge for preparation of a price quote; (b) upon Global Crossing's submission of a firm construction order, an engineering work order nonrecurring charge; and (c) construction charges, as set forth in the price quote. If the order is cancelled by Global Crossing after construction work has started, Global Crossing shall be responsible for cancellation charges and a pro-rated charge for construction work performed prior to the cancellation.
- 3.2.4.3 Verizon may exclude its performance in connection with providing unbundled Loops pursuant to this Section 3.2.4

from standard provisioning intervals and performance measures and remedies, if any, contained in the Amended Agreement or elsewhere.

3.3 Sub-Loop.

3.3.1 Distribution Sub-Loop Facility. Notwithstanding any other provision of the Amended Agreement (but subject to the conditions set forth in Section 2 above) or any Verizon tariff or SGAT, in accordance with, but only to the extent required by, 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, upon site-specific request, Global Crossing may obtain access to the Distribution Sub-Loop Facility at a technically feasible access point located near a Verizon remote terminal equipment enclosure at the rates and charges provided for Unbundled Sub-Loop Arrangements (or the Distribution Sub-Loop) in the Amended Agreement. It is not technically feasible to access the sub-loop distribution facility if a technician must access the facility by removing a splice case to reach the wiring within the cable.

3.4 Commingling and Combinations.

3.4.1 Commingling. Notwithstanding any other provision of the Amended Agreement (but subject to and without limiting the conditions set forth in Section 2 above and in Section 3.4.2 below) or any Verizon tariff or SGAT:

3.4.1.1 Verizon will not prohibit the commingling of an unbundled Network Element or a combination of unbundled Network Elements obtained under the Agreement or Amended Agreement pursuant to 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, or under a Verizon UNE tariff ("Qualifying UNEs"), with wholesale services obtained from Verizon under a Verizon access tariff or separate non-251 agreement ("Qualifying Wholesale Services"), but only to the extent and so long as commingling and provision of such Network Element (or combination of Network Elements) is required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51. Moreover, to the extent and so long as required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 (subject to Section 3.4.1.2 below), Verizon shall, upon request of Global Crossing, perform the functions necessary to commingle or combine Qualifying UNEs with Qualifying Wholesale Services. The rates, terms and conditions of the applicable access tariff or separate non-251 agreement will apply to the Qualifying Wholesale Services, and the rates, terms and conditions of the Amended Agreement or the Verizon UNE tariff, as applicable, will apply to the Qualifying UNEs; provided, however, that a nonrecurring charge will apply for each UNE circuit that is part of a commingled arrangement, as set forth in the Pricing Attachment to this Amendment. This charge is intended to offset Verizon's costs of implementing and managing commingled arrangements. "Ratcheting," as that term is defined by the FCC, shall not be required. Qualifying UNEs that are commingled with Qualifying Wholesale Services are not included in the

shared use provisions of the applicable tariff. Verizon may exclude its performance in connection with the provisioning of commingled facilities and services from standard provisioning intervals and from performance measures and remedies, if any, contained in the Amended Agreement or elsewhere.

3.4.1.2 Limitations on Section 3.4. Section 3.4 is intended only to address the Parties' rights and obligations as to the combining and/or commingling of UNEs that Verizon is already required to provide to Global Crossing under the Amended Agreement, 47 U.S.C. § 251(c)(3), and 47 C.F.R. Part 51. Nothing contained in Section 3.4 shall be deemed: (a) to establish any obligation of Verizon to provide Global Crossing with access to any facility that Verizon is not required to provide to Global Crossing on an unbundled basis under the Amended Agreement, 47 U.S.C. § 251(c)(3), and 47 C.F.R. Part 51, or (b) to limit any right of Verizon under the Amended Agreement, any Verizon tariff or SGAT, or otherwise, to cease providing a facility that is or becomes a Discontinued Facility.

3.4.2 Service Eligibility Criteria for Certain Combinations and Commingled Facilities and Services. Notwithstanding any other provision of the Agreement, this Amendment (but subject to the conditions set forth in Sections 2 and 3.4.1 above), or any Verizon tariff or SGAT:

3.4.2.1 Verizon shall not be obligated to provide:

3.4.2.1.1 an unbundled DS1 Loop in combination with unbundled DS1 or DS3 Dedicated Transport, or commingled with DS1 or DS3 access services;

3.4.2.1.2 an unbundled DS3 Loop in combination with unbundled DS3 Dedicated Transport, or commingled with DS3 access services;

3.4.2.1.3 unbundled DS1 Dedicated Transport commingled with DS1 channel termination access service;

3.4.2.1.4 unbundled DS3 Dedicated Transport commingled with DS1 channel termination access service; or

3.4.2.1.5 unbundled DS3 Dedicated Transport commingled with DS3 channel termination service,

(individually and collectively "High Capacity EELs") except to the extent and so long as Verizon is required by 47 U.S.C. § 251(c)(3) and 47 C.F.R Part 51 to do so, and then not unless and until Global Crossing certifies in writing (using an ASR or, as applicable, LSR) to Verizon for each DS1 circuit or DS1 equivalent circuit that it is in

compliance with each of the service eligibility criteria set forth in 47 C.F.R. § 51.318. Global Crossing must remain in compliance with said service eligibility criteria for so long as Global Crossing continues to receive the aforementioned combined or commingled facilities and/or services from Verizon. The service eligibility criteria shall be applied to each DS1 circuit or DS1 equivalent circuit. If the circuit is, becomes, or is subsequently determined to be, noncompliant, the noncompliant circuit will be treated as described in Section 3.4.2.2 below. The foregoing shall apply whether the circuits in question are being provisioned to establish a new circuit or to convert an existing wholesale service, or any part thereof, to unbundled network elements. For existing circuits, the CLEC must re-certify in writing (i.e., ASR or, as applicable, LSR) for each DS1 circuit or DS1 equivalent within 30 days of the Amendment Effective Date. Circuits not re-certified shall be treated as described in Section 3.4.2.2 below.

3.4.2.2 Without limiting any other right Verizon may have to cease providing circuits that are or become Discontinued Facilities, if a circuit is or becomes noncompliant as described in Section 3.4.2.1 above, and Global Crossing has not submitted an LSR or ASR, as appropriate, to Verizon requesting disconnection of the noncompliant facility and has not separately secured from Verizon an alternative arrangement to replace the noncompliant circuit, then Verizon, to the extent it has not already done so prior to execution of this Amendment, shall reprice the subject circuit, effective beginning on the date on which the circuit became non-compliant, by application of a new rate (or, in Verizon's sole discretion, by application of a surcharge to an existing rate) to be equivalent to an analogous access service or other analogous arrangement that Verizon shall identify in a written notice to Global Crossing. Any negotiations regarding any replacement arrangement or other facility or service that Verizon is not required to provide to Global Crossing under both 47 C.F.R. 251(c)(3) and 47 C.F.R. Part 51 shall be deemed not to have been conducted pursuant to the Amended Agreement, 47 U.S.C. § 252(a)(1), or 47 C.F.R. Part 51, and shall not be subject to arbitration pursuant to 47 U.S.C. § 252(b).

3.4.2.3 Each written certification to be provided by Global Crossing pursuant to Section 3.4.2.1 above must contain the following information for each DS1 circuit or DS1 equivalent: (a) the local number assigned to each DS1 circuit or DS1 equivalent; (b) the local numbers assigned to each DS3 circuit (must have 28 local numbers assigned to it); (c) the date each circuit was established in the 911/E911 database; (d) the collocation termination connecting facility assignment for each circuit, showing that the collocation arrangement was established pursuant to 47 U.S.C. § 251(c)(6), and not under a federal

collocation tariff; (e) the interconnection trunk circuit identification number that serves each DS1 circuit. There must be one such identification number per every 24 DS1 circuits; and (f) the local switch that serves each DS1 circuit. When submitting an ASR for a circuit, this information must be contained in the Remarks section of the ASR, unless provisions are made to populate other fields on the ASR to capture this information.

- 3.4.2.4 The charges for conversions are as specified in the Pricing Attachment to this Amendment and apply for each circuit converted.
- 3.4.2.5 All ASR-driven conversion requests will result in a change in circuit identification (circuit ID) from access to UNE or UNE to access. If such change in circuit ID requires that the affected circuit(s) be retagged, then a retag fee per circuit will apply as specified in the Pricing Attachment.
- 3.4.2.6 All requests for conversions will be handled in accordance with Verizon's conversion guidelines. Each request will be handled as a project and will be excluded from all ordering and provisioning metrics.
- 3.4.2.7 Once per calendar year, Verizon may obtain and pay for an independent auditor to audit Global Crossing's compliance in all material respects with the service eligibility criteria applicable to High Capacity EELs. Any such audit shall be performed in accordance with the standards established by the American Institute for Certified Public Accountants, and may include, at Verizon's discretion, the examination of a sample selected in accordance with the independent auditor's judgment. To the extent the independent auditor's report concludes that Global Crossing failed to comply with the service eligibility criteria for any DS1 or DS1 equivalent circuit, then (without limiting Verizon's rights under Section 3.4.2.2 above) Global Crossing must convert all noncompliant circuits to the appropriate service, true up any difference in payments, make the correct payments on a going-forward basis, reimburse Verizon for the entire cost of the audit within thirty (30) days after receiving a statement of such costs from Verizon. Should the independent auditor confirm Global Crossing's compliance with the service eligibility criteria for each DS1 or DS1 equivalent circuit, then Global Crossing shall provide to the independent auditor for its verification a statement of Global Crossing's out-of-pocket costs of complying with any requests of the independent auditor, and Verizon shall then reimburse Global Crossing for its out-of-pocket costs within thirty (30) days of the auditor's verification of the same. Global Crossing shall maintain records adequate to support its compliance with the service eligibility criteria for each DS1 or DS1 equivalent circuit for at least eighteen (18) months after the service arrangement in question is terminated.

3.5 Routine Network Modifications.

3.5.1 General Conditions. In accordance with, but only to the extent required by, 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, and subject to the conditions set forth in Section 2 above:

3.5.1.1 Verizon shall make such routine network modifications, at the rates and charges set forth in the Pricing Attachment to this Amendment, as are necessary to permit access by Global Crossing to the Loop, Dedicated Transport, or Dark Fiber Transport facilities available under the Amended Agreement (including DS1 Loops and DS1 Dedicated Transport, and DS3 Loops and DS3 Dedicated Transport), where the facility has already been constructed. Routine network modifications applicable to Loops or Transport may include, but are not limited to: rearranging or splicing of in-place cable at existing splice points; adding an equipment case; adding a doubler or repeater; installing a repeater shelf; deploying a new multiplexer or reconfiguring an existing multiplexer; accessing manholes; and deploying bucket trucks to reach aerial cable. Routine network modifications applicable to Dark Fiber Transport may include, but are not limited to, splicing of in-place dark fiber at existing splice points; accessing manholes; deploying bucket trucks to reach aerial cable; and routine activities, if any, needed to enable Global Crossing to light a Dark Fiber Transport facility that it has obtained from Verizon under the Amended Agreement. Routine network modifications do not include the construction of a new Loop or new Transport facilities, trenching, the pulling of cable, the installation of new aerial, buried, or underground cable for a requesting telecommunications carrier, or the placement of new cable. Verizon shall not be required to build any time division multiplexing (TDM) capability into new packet-based networks or into existing packet-based networks that do not already have TDM capability. Verizon shall not be required to perform any routine network modifications to any facility that is or becomes a Discontinued Facility.

3.5.2 Performance Plans. Verizon may exclude its performance in connection with the provisioning of Loops or Transport (including Dark Fiber Transport) for which routine network modifications are performed from standard provisioning intervals and performance measures and remedies, if any, contained in the Amended Agreement or elsewhere.

3.5.3 Nothing contained in this Section 3.5 shall be deemed: (a) to establish any obligation of Verizon to provide on an unbundled basis under 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 any facility that the Amended Agreement does not otherwise require Verizon to provide on an unbundled basis under 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51, (b) to obligate Verizon to provide on an unbundled basis under 47 U.S.C. § 251(c)(3) or 47 C.F.R. Part 51, for any period of time not required under the Amended Agreement, access to any Discontinued Facility, or (c) to limit any right of Verizon under the Amended

Agreement, any Verizon tariff or SGAT, or otherwise, to cease providing a Discontinued Facility.

4. Miscellaneous Provisions.

- 4.1 Conflict between this Amendment and the Agreement. This Amendment shall be deemed to revise the terms and provisions of the Agreement to the extent necessary to give effect to the terms and provisions of this Amendment. In the event of a conflict between the terms and provisions of this Amendment and the terms and provisions of the Agreement this Amendment shall govern, provided, however, that the fact that a term or provision appears in this Amendment but not in the Agreement, or in the Agreement but not in this Amendment, shall not be interpreted as, or deemed grounds for finding, a conflict for purposes of this Section 4.1.
- 4.2 Counterparts. This Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original and all of which together shall constitute one and the same instrument.
- 4.3 Captions. The Parties acknowledge that the captions in this Amendment have been inserted solely for convenience of reference and in no way define or limit the scope or substance of any term or provision of this Amendment.
- 4.4 Scope of Amendment. This Amendment shall amend, modify and revise the Agreement only to the extent set forth expressly herein. As used herein, the Agreement, as revised and supplemented by this Amendment, shall be referred to as the "Amended Agreement." Nothing in this Amendment shall be deemed to amend or extend the term of the Agreement, or to affect the right of a Party to exercise any right of termination it may have under the Agreement.
- 4.5 Reservation of Rights. Notwithstanding any contrary provision in the Agreement, this Amendment, or any Verizon tariff or SGAT, nothing contained in the Agreement, this Amendment, or any Verizon tariff or SGAT shall limit either Party's right to appeal, seek reconsideration of or otherwise seek to have stayed, modified, reversed or invalidated any order, rule, regulation, decision, ordinance or statute issued by the Pennsylvania Public Utility Commission, the FCC, any court or any other governmental authority related to, concerning or that may affect either Party's rights or obligations under the Agreement, this Amendment, any Verizon tariff or SGAT, or Applicable Law.
- 4.6 Joint Work Product. This Amendment is a joint work product, and any ambiguities in this Amendment shall not be construed by operation of law against either Party.
- 4.7 Definitions. Notwithstanding any other provision in the Agreement or any Verizon tariff or SGAT, the following terms, as used in the Amended Agreement, shall have the meanings set forth below:
- 4.7.1 Call-Related Databases. Databases, other than operations support systems, that are used in signaling networks for billing and collection, or the transmission, routing, or other provision of a telecommunications service. Call-related databases include, but are not limited to, the calling name database, 911 database, E911 database, line information database, toll free calling database,

advanced intelligent network databases, and downstream number portability databases.

- 4.7.2 Dark Fiber Loop. Consists of fiber optic strand(s) in a Verizon fiber optic cable between Verizon's accessible terminal, such as the fiber distribution frame, or its functional equivalent, located within a Verizon wire center, and Verizon's accessible terminal located in Verizon's main termination point at an end user customer premises, such as a fiber patch panel, and that Verizon has not activated through connection to electronics that "light" it and render it capable of carrying telecommunications services.
- 4.7.3 Dark Fiber Transport. An optical transmission facility within a LATA, that Verizon has not activated by attaching multiplexing, aggregation or other electronics, between Verizon switches (as identified in the LERG) or wire centers. Dark fiber facilities between (i) a Verizon wire center or switch and (ii) a switch or wire center of Global Crossing or a third party are not Dark Fiber Transport.
- 4.7.4 Dedicated Transport. A DS1 or DS3 transmission facility between Verizon switches (as identified in the LERG) or wire centers, within a LATA, that is dedicated to a particular end user or carrier. Transmission facilities or services provided between (i) a Verizon wire center or switch and (ii) a switch or wire center of Global Crossing or a third party are not Dedicated Transport.
- 4.7.5 Discontinued Facility. Any facility that Verizon, at any time, has provided or offered to provide to Global Crossing on an unbundled basis pursuant to 47 U.S.C. § 251(c)(3) and/or 47 C.F.R. Part 51 (whether under the Agreement, a Verizon tariff, or a Verizon SGAT), but which by operation of law has ceased or ceases to be subject to an unbundling requirement under 47 U.S.C. § 251(c)(3) or 47 C.F.R. Part 51. By way of example and not by way of limitation, Discontinued Facilities include the following, whether as stand-alone facilities or combined with other facilities: (a) any Entrance Facility; (b) any type of switching, including, but not limited to, Local Switching; (c) OCn Loops and OCn Dedicated Transport; (d) DS1 Loops or DS3 Loops out of any wire center at which 47 U.S.C. § 251(c)(3) or 47 C.F.R. Part 51 does not require Verizon to provide Global Crossing with unbundled access to such Loops; (e) Dark Fiber Loops; (f) any DS1 Loop or DS3 Loop that exceeds the maximum number of such Loops that Verizon is required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 to provide to Global Crossing on an unbundled basis at a particular building location; (g) DS1 Dedicated Transport, DS3 Dedicated Transport, or Dark Fiber Transport on any route as to which 47 U.S.C. § 251(c)(3) or 47 C.F.R. Part 51 does not require Verizon to provide Global Crossing with unbundled access to such Transport; (h) any DS1 Dedicated Transport circuit or DS3 Dedicated Transport circuit that exceeds the number of such circuits that Verizon is required by 47 U.S.C. § 251(c)(3) and 47 C.F.R. Part 51 to provide to Global Crossing on an unbundled basis on a particular route; (i) the Feeder portion of a Loop; (j) Line Sharing; (k) any Call-Related Database other than the 911 and E911 databases; (l) Signaling; (m) Shared Transport; (n) FTTP Loops (lit or unlit) in a new build environment; (o) FTTP Loops (lit or unlit) in an overbuild environment, subject to the limited exceptions set forth in Section 3.1 above; (p) Hybrid Loops (subject to

the limited exceptions set forth in Section 3.2 above); and (q) any other facility or class of facilities as to which the FCC has not made a finding of impairment that remains effective or as to which the FCC makes (or has made) a finding of nonimpairment.

- 4.7.6 Distribution Sub-Loop Facility. The copper portion of a Loop in Verizon's network that is between the minimum point of entry ("MPOE") at an end user customer premises and Verizon's feeder/distribution interface.
- 4.7.7 DS1 Dedicated Transport. Dedicated Transport having a total digital signal speed of 1.544 Mbps.
- 4.7.8 DS3 Dedicated Transport. Dedicated Transport having a total digital signal speed of 44.736 Mbps.
- 4.7.9 DS1 Loop. A digital transmission channel, between the main distribution frame (or its equivalent) in an end user's serving wire center and the demarcation point at the end user customer's premises, suitable for the transport of 1.544 Mbps digital signals. This loop type is more fully described in Verizon TR 72575, as revised from time to time. A DS1 Loop requires the electronics necessary to provide the DS1 transmission rate. DS1 Loops are sometimes also known as DS1 "Links".
- 4.7.10 DS3 Loop. A digital transmission channel, between the main distribution frame (or its equivalent) in an end user's serving wire center and the demarcation point at the end user customer's premises, suitable for the transport of isochronous bipolar serial data at a rate of 44.736 Mbps (the equivalent of 28 DS1 channels). This Loop type is more fully described in Verizon TR 72575, as revised from time to time. A DS3 Loop requires the electronics necessary to provide the DS3 transmission rate. DS3 Loops are sometimes also known as DS3 "Links".
- 4.7.11 Entrance Facility. A transmission facility (lit or unlit) or service provided between (i) a Verizon wire center or switch and (ii) a switch or wire center of Global Crossing or a third party.
- 4.7.12 Feeder. The fiber optic cable (lit or unlit) or metallic portion of a Loop between a serving wire center and a remote terminal or feeder/distribution interface.
- 4.7.13 FTTP Loop. A Loop consisting entirely of fiber optic cable, whether dark or lit, that extends from the main distribution frame (or its equivalent) in an end user's serving wire center to the demarcation point at the end user's customer premises or to a serving area interface at which the fiber optic cable connects to copper or coaxial distribution facilities that extend to the end user's customer premises demarcation point, provided that all copper or coaxial distribution facilities extending from such serving area interface are not more than 500 feet from the demarcation point at the respective end users' customer premises; provided, however, that in the case of predominantly residential multiple dwelling units (MDUs), an FTTP Loop is a Loop consisting entirely of fiber optic cable, whether dark or lit, that extends from the main distribution frame (or its equivalent) in

the wire center that serves the multiunit premises: (a) to or beyond the multiunit premises' minimum point of entry (MPOE), as defined in 47 C.F.R. § 68.105; or (b) to a serving area interface at which the fiber optic cable connects to copper or coaxial distribution facilities that extend to or beyond the multiunit premises' MPOE, provided that all copper or coaxial distribution facilities extending from such serving area interface are not more than 500 feet from the MPOE at the multiunit premises.


- 4.7.14 [This Section Intentionally Left Blank].
- 4.7.15 Hybrid Loop. A local Loop composed of both fiber optic cable and copper wire or cable. An FTTP Loop is not a Hybrid Loop.
- 4.7.16 Line Sharing. The process by which Global Crossing provides xDSL service over the same copper Loop that Verizon uses to provide voice service by utilizing the frequency range on the copper loop above the range that carries analog circuit-switched voice transmissions (the High Frequency Portion of the Loop, or "HFPL"). The HFPL includes the features, functions, and capabilities of the copper Loop that are used to establish a complete transmission path between Verizon's main distribution frame (or its equivalent) in its serving Wire Center and the demarcation point at the end user's customer premises.
- 4.7.17 Local Switching. The line-side and trunk-side facilities associated with the line-side port, on a circuit switch in Verizon's network (as identified in the LERG), plus the features, functions, and capabilities of that switch, unbundled from loops and transmission facilities, including: (a) the line-side Port (including the capability to connect a Loop termination and a switch line card, telephone number assignment, dial tone, one primary directory listing, pre-subscription, and access to 911); (b) line and line group features (including all vertical features and line blocking options the switch and its associated deployed switch software are capable of providing that are provided to Verizon's local exchange service Customers served by that switch); (c) usage (including the connection of lines to lines, lines to trunks, trunks to lines, and trunks to trunks); and (d) trunk features (including the connection between the trunk termination and a trunk card).
- 4.7.18 Packet Switched. Routing or forwarding of packets, frames, cells, or other data units based on address or other routing information contained in the packets, frames, cells or other data units, or functions that are performed by the digital subscriber line access multiplexers, including but not limited to the ability to terminate an end-user customer's copper Loop (which includes both a low-band voice channel and a high-band data channel, or solely a data channel); the ability to forward the voice channels, if present, to a circuit switch or multiple circuit switches; the ability to extract data units from the data channels on the Loops; and the ability to combine data units from multiple Loops onto one or more trunks connecting to a packet switch or packet switches.
- 4.7.19 Signaling. Signaling includes, but is not limited to, signaling links and signaling transfer points.

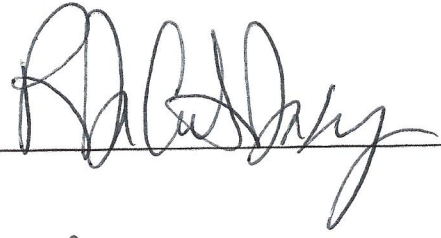
- 4.7.20 Sub-Loop for Multiunit Premises Access. Any portion of a Loop, other than an FTTP Loop, that is technically feasible to access at a terminal in Verizon's outside plant at or near a multiunit premises. It is not technically feasible to access a portion of a Loop at a terminal in Verizon's outside plant at or near a multiunit premises if a technician must access the facility by removing a splice case to reach the wiring within the cable.
- 4.7.21 Tandem Switching. The trunk-connect facilities on a Verizon circuit switch that functions as a tandem switch, plus the functions that are centralized in that switch, including the basic switching function of connecting trunks to trunks, unbundled from and not contiguous with loops and transmission facilities. Tandem Switching creates a temporary transmission path between interoffice trunks that are interconnected at a Verizon tandem switch for the purpose of routing a call. A tandem switch does not provide basic functions such as dial tone service.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be executed as of the Amendment Effective Date.

GLOBAL CROSSING LOCAL SERVICES INC.

VERIZON PENNSYLVANIA LLC

By:  _____

By:  _____

Printed: Gary Black

Printed: 

Title: VP - Carrier Relations

Title: Contract Management

Date: 9/27/16

Date: 9/28/16

Pricing Attachment

1. General
 - 1.1 As used in this Attachment:
 - 1.1.1 "Services" means and includes any Network Element or other service, facility, equipment or arrangement, provided pursuant to this Amendment; and,
 - 1.1.2 "Charges" means the rates, fees, charges and prices for a Service.
 - 1.2 Charges for Services provided under the Amended Agreement shall be those set forth in Exhibit A of this Pricing Attachment and in the Amended Agreement (including any cross references therein to applicable tariffs). For rate elements provided in Exhibit A of this Pricing Attachment that do not include a Charge, if any, whether marked as "TBD" or otherwise, Verizon is developing such Charges and has not finished developing such Charges as of the Amendment Effective Date. When Verizon finishes developing such a Charge, Verizon shall notify Global Crossing in writing of such Charge in accordance with, and subject to, the notices provisions of the Amended Agreement and thereafter shall bill Global Crossing, and Global Crossing shall pay to Verizon, for Services provided pursuant to this Amendment on the Amendment Effective Date and thereafter in accordance with such Charge. Any Charges set out in a notice provided by Verizon to Global Crossing pursuant to this Section 1.2 shall be deemed to be a part of Exhibit A of this Pricing Attachment immediately after Verizon sends such notice to Global Crossing and thereafter.
 - 1.3 In the absence of Charges for a Service established pursuant to Section 1.2 of this Attachment, the Charges for the Service shall be the Charges required, approved, or otherwise allowed to go into effect, by the Pennsylvania Public Utility Commission or the FCC (including, but not limited to, in a tariff that has been filed with the Pennsylvania Public Utility Commission or the FCC), provided such Charges are not subject to a stay issued by any court of competent jurisdiction.
 - 1.4 In the absence of Charges for a Service established pursuant to Sections 1.2 through 1.3 of this Attachment, the Charges for the Service shall be mutually agreed to by the Parties in writing.

EXHIBIT A¹

PA (fBA) NETWORK MODIFICATION - RATE ELEMENT	NON-RECURRING CHARGES
LINE AND STATION TRANSFER	TBD
CLEAR DEFECTIVE PAIR (Where feasible)	TBD
REASSIGNMENT OF NON-WORKING CABLE PAIR	TBD
BINDER GROUP REARRANGEMENT	TBD
REPEATER - INSTALLATION	TBD
APPARATUS CASE - INSTALLATION	TBD
RANGE EXTENDERS - DS-0 Installation	TBD
RANGE EXTENDERS - DS-1 Installation	TBD
CHANNEL UNIT TO UNIVERSAL/COTTED DLC SYSTEM (existing)	TBD
SERVING TERMINAL - INSTALLATION / UPGRADE	TBD
ACTIVATE DEAD COPPER PAIR	TBD
MULTIPLEXER - 1/0 - INSTALLATION	TBD
MULTIPLEXER - 1/0 - RECONFIGURATION	TBD
MULTIPLEXER - 3/1 - INSTALLATION	TBD
MULTIPLEXER - 3/1 - RECONFIGURATION	TBD
MULTIPLEXER - OTHER - INSTALLATION	TBD
MOVE DROP	TBD
CROSS-CONNECTION - EXISTING FIBER FACILITY	TBD
LINE CARD - INSTALLATION	TBD
COPPER REARRANGEMENT	TBD
CENTRAL OFFICE TERMINAL - INSTALLATION	TBD
IDLC ONLY CONDITION	TBD
OTHER REQUIRED MODIFICATIONS	TBD
NO FACILITIES - Confirmation	TBD
OTHER	
Commingled Arrangements – per circuit NRC	TBD
Conversion - Service Order	TBD
Conversion - Installation per circuit	TBD
Circuit Retag - per circuit	TBD
DARK FIBER	
Dark Fiber Routine Network Modifications	TBD

¹ This Exhibit may contain rates and charges for (and/or reference) services, facilities, arrangements and the like that Verizon does not have an obligation to provide under the Amended Agreement (e.g., services, facilities, arrangements and the like for which an unbundling requirement does not exist under 47 U.S.C. Section 251(c)(3)). Notwithstanding any such rates and/or charges (and/or references) and, for the avoidance of any doubt, nothing in this Exhibit shall be deemed to require Verizon to provide a service, facility, arrangement or the like that the Amended Agreement does not require Verizon to provide, or to provide a service, facility, arrangement or the like upon rates, terms or conditions other than those that may be required by the Amended Agreement.