4. Microwave Collocation
4.1 General

Unless otherwise specified herein, general regulations contained in Part A, Sections 1 through 4 and Part E, Sections 1 and 2 apply in addition to the regulations contained in this Section. Rates and charges for service explained herein are contained in Part M, Section 5.4.

4.1.1	Description
A.	Microwave collocation, which is available where technically feasible, provides for the interconnection of CLEC-provided facilities, equipment and support structures located in, on, or above the exterior walls and roof of those Telephone Company central offices/wire centers.
1.	Microwave collocation is available on a first-come first-served basis.
B.	The microwave equipment may include microwave antennas, mounts, towers or other antenna support equipment on the exterior of the building, and radio transmitter/receiver equipment located either inside or on the exterior of the building. All microwave antennas must be physically interconnected to Telephone Company facilities through the collocation arrangement.
C.	When interconnecting via microwave facilities, transmitter/receiver equipment may be located in the multiplexing node, or in a separate location inside, or on the exterior of the building as determined by the Telephone Company.

4. Microwave Collocation
4.2 Responsibility of the Telephone Company

4.2.1	Accommodations
A.	The Telephone Company will provide space within the cable riser, cable rack support structures and between the transmitter/receiver space and the roof space needed to reach the collocation arrangement (i.e., arrangements specified in Section 1 or Section 2) and to access the Telephone Company point of termination.
1.	Waveguide may not be placed in Telephone Company cable risers or racks.
2.	The Telephone Company reserves the right to prohibit the installation of wave-guide, metallic conduit and coaxial cable through or near sensitive equipment areas.
3.	The route of the waveguide and/or coaxial cable as well as any protection required will be discussed during the pre-construction survey.
B.	The Telephone Company will designate the space in, on or above the exterior walls and roof of the central office which will constitute the roof space or transmitter/receiver space.
1.	The Telephone Company may require the CLEC's transmitter/receiver equipment to be installed in a locked cabinet which may be free standing, wall mounted or relay rack mounted.
2.	The Telephone Company may enclose the CLEC's multiplexing node or transmitter/receiver equipment in a cage or room.
C.	At the option of the Telephone Company, the antenna support structure shall be built, owned and maintained by either the Telephone Company or by the CLEC. The Telephone Company reserves the right to use existing support structures for a CLEC's antenna, subject to space and capacity limitations. The Telephone Company also reserves the right to use any unused portion of a support structure owned by a CLEC for any reason, subject to the provisions contained herein. It shall be the responsibility of the owner of the support structure to maintain a record of the net book value of the structure.
1.	When the Telephone Company is the owner of the structure, it shall keep such records in accordance with the FCCs Part 32 uniform system of accounts.
2.	When the CLEC is the owner of the structure, it shall keep such records in accordance with generally accepted accounting principles.
D.	The owner of the support structure shall use reasonable efforts to accommodate requests by other CLECs to use the support structure for microwave interconnection on a first-come first-served basis, subject to the provisions of Section 4.4.

4. Microwave Collocation
4.2 Responsibility of the Telephone Company

4.2.2	Safety and Technical Standards
A.	The Telephone Company reserves the right to remove facilities and equipment from its list of approved products if such products, facilities and equipment are determined to be no longer compliant with NEBS standards or electromagnetic compatibility and electrical safety generic criteria for network telecommunication equipment specified in GR–1089–CORE.
B.	The Telephone Company reserves the right to review wind or ice loadings, etc., for antennas over eighteen inches in diameter or for any multiple antenna installations, and to require changes necessary to insure that such loadings meet generally accepted engineering criteria for radio tower structures.
C.	The minimum height of equipment placement, such as microwave antennas, must be eight feet from the roof.
1.	For masts, towers and/or antennas over ten feet in height, the CLEC or if applicable, the Telephone Company, shall have the complete structure, including guys and supports, inspected every two years by an acceptable licensed professional engineer of its choice specializing in this type of inspection.
2.	For CLEC owned structures that are solely for the use of one CLEC's antenna(s), such inspection will be at the CLEC's own cost and expense.
3.	For structures used by multiple CLECs, the costs associated with such inspection shall be apportioned based on relative capacity ratios. A copy of this report may be filed with the Telephone Company within ten days of the inspection. The owner shall be responsible to complete all maintenance and/or repairs, as recommended by the engineer, within ninety days.

4.2.3	Security
A.	The Telephone Company will permit the CLEC's employees, agents and contractors approved by the Telephone Company, to access the areas where the CLEC's microwave antenna and associated equipment (e.g., tower and support structure, transmitter/receiver equipment, and waveguide and/or coaxial cable) is located, during business hours, for purposes of installation and routine maintenance, provided that the CLEC employees, agents and contractors comply with the policies and practices of the Telephone Company pertaining to fire, safety and security. Such approval will not be unreasonably withheld.
1.	During non-business hours, the Telephone Company will provide access on a per event basis.
2.	The Telephone Company will also permit all approved employees, agents and contractors of CLECs to have access to the CLEC's cable and associated equipment (e.g., repeaters). This will include access to riser cable, cableways, and any room or area necessary for access.

4. Microwave Collocation
4.3 Responsibility of the CLEC

4.3.1	Safety and Technical Standards
A.	The CLEC shall provide written notice to the Telephone Company of any complaint (and resolution of such complaint) by any governmental authority or others pertaining to the installation, maintenance or operation of the CLEC's facilities or equipment located in roof space or transmitter/receiver space. The CLEC also agrees to take all necessary corrective action.
B.	All CLEC microwave equipment to be installed in or on the exterior of the Telephone Company central offices must be on the Telephone Company's list of approved products or equipment that is demonstrated as complying with the technical specifications described herein. Where a difference may exist in the following specifications, the more stringent shall apply.
C.	The CLEC must comply with Telephone Company technical specifications for microwave collocation interconnection specified in NIP–74171, and digital switch environmental requirements specified in NIP–74165, as they relate to fire, safety, health, environmental, and network safeguards, and ensure that CLEC provided equipment and installation activities do not act as a hindrance to Telephone Company services or facilities. The CLEC's equipment placed in or on roof space or transmitter/receiver space must also comply with all applicable rules and regulations of the FCC and the FAA.
D.	CLEC facilities shall be placed, maintained, relocated or removed in accordance with the applicable requirements and specifications of the current edition of NIP–74171, national electric code, the national electric safety code, rules and regulations of OSHA, and any governing authority having jurisdiction.
E.	All CLEC microwave facilities must comply with CEF, BR–760–200–030 and SR–TAP–001421. and the Telephone Company's practices as they relate to fire, safety, health, environmental safeguards, transmission and electrical grounding requirements, or interferences with Telephone Company services or facilities.
F.	The equipment located in, on, or above the exterior walls or roof of the Telephone Company's building must either be on the Telephone Company's list of approved products or fully comply with requirements specified in GR–63–CORE, GR–1089–CORE, and NIP–74171. This equipment must also comply with IP72201 and central office engineering environmental and transmission standards as they relate to fire, safety, health, environmental safeguards, or interference with Telephone Company service or facilities.
G.	Each transmitter individually and all transmitters collectively at a given location shall comply with appropriate federal, state and/or local regulations governing the safe levels of radio frequency radiation. The minimum standard to be met by the CLEC in all cases is specified in ANSI C95.1–1982.

4. Microwave Collocation
4.3 Responsibility of the CLEC

4.3.2	Placement and Removal of Facilities and Equipment
A.	Prior to installation of the CLEC's facilities or transmission equipment for microwave interconnection, the CLEC must obtain at its sole cost and expense all necessary licenses, permits, approvals, and/or variances for the installation and operation of the equipment and particular microwave system, and when applicable for any towers or support structures, as may be required by authorities having jurisdiction.
B.	The CLEC is not permitted to penetrate the building exterior wall or roof when installing or maintaining transmission equipment and support structures. All building penetration will be done by the Telephone Company or a hired agent of the Telephone Company.
C.	Any CLEC's equipment used to produce or extract moisture must be connected to existing or newly constructed building or roof top drainage systems, at the expense of the CLEC.
D.	The CLEC will be responsible for supplying, installing, maintaining, repairing and servicing the following microwave specific equipment regardless of where it may be placed.
1.	Its waveguide, waveguide conduit, and/or coaxial cable, the microwave antenna and associated tower and support structure and any associated equipment; and the transmitter/receiver equipment.

4.3.3	Moves, Replacements or Other Modifications
A.	Where the CLEC intends to modify, move replace or add to equipment or facilities within or about the roof space or transmitter/receiver space(s) and requires special consideration (e.g., use of freight elevators, loading dock, staging area, etc.), the CLEC must request and receive written consent from the Telephone Company. Such consent will not be unreasonably withheld. The CLEC shall not make any changes from initial installation in terms of the number of transmitter/receivers, type of radio equipment, power output of transmitters or any other technical parameters without the prior written approval of the Telephone Company.

4. Microwave Collocation
4.4 Application of Rates and Charges

4.4.1	General
A.	Rates and charges as specified for collocation arrangements described in Sections 2 and 3 apply in addition to the rates and charges specified herein.
B.	Monthly rates for space and cable also apply for microwave collocation. The monthly rate for space applies per square foot of multiplexing node roof space and transmitter receiver space. The monthly rate for cable applies per foot, per innerduct, and is measured based on the point at which the cable enters the building from the roof.

4.4.2	Space and Facilities
A.	Monthly rates, which will be developed on an individual case basis, apply for the space (generally on the central office roof) associated with Telephone Company or CLEC-owned antenna support structures. The rate is calculated using the rate per square foot multiplied by the square footage of the foot print, the product of which is multiplied by the CLEC's relative capacity ratios (RCRs), (i.e., the sum of the RCRs of each of the CLEC's antennas).
1.	Square footage for the footprint will be based on the length times width of the entire footprint formed on the horizontal plane (generally the roof top) by the antenna(s), tower(s), mount(s), guy wires and/or support structures used by the CLEC. For a nonrectangular footprint, the length will be measured at the longest part of the footprint and the width will be the widest part of the footprint.
B.	The owner of the support structure (refer to Section 4.2.1) may charge CLECs proposing to use the structure, on a one-time basis, for the following costs and/or values.
1.	Any incremental costs associated with installing the user's antenna, including but not limited to, the costs of engineering studies, roof penetrations, structural attachments, support structure modification or reinforcement, zoning and building permits.
2.	A portion of the net book value of the support structure based on the RCR of the user's proposed antenna(s) to be mounted on the structure.
a.	A user's RCR represents the percent of the total capacity of the support structure used by user's antenna(s) on the structure. Spare capacity shall be deemed to be that of the owner of the structure. RCRs shall be expressed as a two place decimal number, rounded to the nearest whole percent. The sum of all user's RCRs and the owner's RCR shall at all times equal 1.00.
b.	It shall be the responsibility of the owner of the structure to provide the proposed user the net book value of the structure at the time of the proposed use. Upon request, the owner shall also provide the proposed user accounting records or other documentation supporting the net book value.

4. Microwave Collocation
4.4 Application of Rates and Charges

4.4.2	Space and Facilities
C.	The owner of the structure may not assess other users of the structure any charges in addition to the one-time charge, except that the owner of the structure may assess other user's a proportionate share of inspection costs and the Telephone Company may assess microwave CLECs monthly recurring charges for use of its roof space. At the time a CLEC (including the owner) proposes to attach additional antenna(s) to an existing support structure, it shall be the responsibility of that CLEC to obtain, at their cost and expense, an engineering analysis by a registered structural engineer to determine the relative capacity ratio of all antennas on the structure, including the proposed antenna(s).
D.	When a CLEC is the owner of the structure, the proposed user shall pay the owner directly the one-time charge. When the Telephone Company is the owner of the support structure, it shall determine the charge on an individual case basis. In the event that a CLEC who owns the support structure fails to comply with these provisions, at the Telephone Company's option, ownership of the support structure shall transfer to the Telephone Company.
E.	Costs incurred by the Telephone Company to conduct a review for wind or ice loadings (etc.) for antennas over eighteen inches in diameter, or for any multiple antenna installations, and any changes which may be required thereto in order to insure that such loadings meet generally accepted engineering criteria for radio tower structures, will be billed to the CLEC.

4.4.3	Cable Rack
A.	A rate will be developed on an individual case basis which will cover the total length of the coaxial cable or waveguide cable between the multiplexing node and the microwave antenna and/or transmitter receiver space.

4.4.4	Conduit and Space
A.	Conduit and space fees apply from the serving wire center manhole to the collocated customer cage for the conduit and/or rack space. Charges apply monthly, per foot/per duct and per foot/per half duct.

4.4.5	Emergency Power and/or Environmental Support
A.	In the event special work must be done by the Telephone Company to provide emergency power or environmental support to the transmitter/receiver equipment or antenna, the CLEC will be billed time and materials charges which will be developed on an individual case basis for the costs incurred.

4. Microwave Collocation
4.4 Application of Rates and Charges

4.4.6	Escort Service
A.	When a CLEC is escorted by a qualified Telephone Company employee for access to the roof space, transmitter/receiver space, or cable risers and racking for maintenance, NRCs will apply.

4.4.7	Building Penetration
A.	When building penetration is performed by the Telephone Company, charges will be assessed on an individual case basis. Costs for building penetration will be paid by the CLEC.