

PUBLIC UTILITY DISTRICT 3
OF MASON COUNTY, WASHINGTON

COMMUNICATION FACILITIES – RULES, REGULATIONS AND RATES

The following rules and regulations establish the expectations of, and procedures for, prospective applicants who wish to locate transmitting equipment at communication facilities that are owned and operated by Mason County PUD No. 3 ("PUD 3"). It is not meant to be all inclusive, as activities occurring and applicants locating equipment at the communication facilities are subject to the PUD's Telecommunications Service Rules and Regulations as well as any other applicable PUD 3 policies and procedures, which may be modified from time to time.

PUD 3 is a wholesale provider of telecommunications services and provides these services, including its communication facilities, on a nondiscriminatory and open access basis.

1. APPLICATION PROCESS

Individuals or entities wishing to locate equipment at the communication facilities shall contact the PUD 3 telecommunications department and complete a "Site License Application" for each radio unit to be considered by PUD 3 for placement at site.

Upon receipt of the "Technical Data Sheet," PUD 3 telecommunications staff will evaluate the space requirements of the applicant based upon the availability at the communication facility, equipment requirements and the compatibility with existing uses.

Once the proposal for location has been approved, the PUD 3 telecommunications department will determine the rates to be charged based upon those noted in Exhibit A of this document as they exist now or as they may be modified by action of the PUD 3 commission, as well as any other rates noted in the Telecommunication Service Rules and Regulations that may be applicable to the proposed use of the facilities.

2. REQUIREMENTS

Applicants will be required to provide proof of general liability insurance coverage in the amount of \$1,000,000, naming PUD 3 as an additional insured.

Signing of a "License Agreement," or in the case of public entities a "License and Interlocal Agreement," will be required to formalize the locating of equipment at the communication facilities.

3. SITE STANDARDS

Applicants approved for location at the communication facilities will be required to operate

their equipment as outlined in these site standards. These standards are meant to manage future frequency congestion and interference issues.

1. Mason County PUD No. 3 retains the right to inspect Licensee's equipment with 21 calendar days advance written notice to ensure compliance with site standards presently in effect or as may be amended. This clause shall not be construed as a duty to inspect.
2. Each transmitter at the site will be identified with the PUD 3 document number, name of a person or service agency responsible for repairs, their telephone number, equipment receive frequency, and equipment transmit/receive tone frequencies.
3. All communications fixed transmitter installations shall employ isolators or alternative techniques meeting the same criteria, to minimize spurious radiation and intermodulation products. Additional filtering may be required according to frequency and interconnect devices as listed below. As the industry progresses, superior devices may be available and installed only with the written approval of PUD 3.
 - a. Transmitters in the 29.8 to 54 MHz range shall have a low pass filter, band pass filter or cavity providing a minimum of 30 dB of attenuation removed 1.0 MHz from the operating frequency.
 - b. Transmitters in the 66 to 88 MHz range shall have at least 25 dB of isolation followed by a band pass cavity providing at least 20 dB of attenuation 1.0 MHz removed from the operating frequency.
 - c. Transmitters in the 88 to 108 MHz range operating at a power level of 350 watts or less shall have at least 25 dB of isolation followed by a band pass cavity providing at least 35 dB of attenuation 1.0 MHz from the operating frequency.
 - d. Transmitters in the 88 to 108 MHz range operating at a power level above 350 watts shall have a band pass cavity providing at least 25 dB of attenuation 1.4 MHz from the operating frequency.
 - e. Transmitters in the 130 to 225 MHz range shall have at least 50 dB of isolation followed by a low pass filter and a band pass cavity with a minimum of 15 dB of attenuation 1.0 MHz removed from the operating frequency.
 - f. Transmitters in the 400 to 470 MHz range shall have at least 50 dB of isolation followed by a low pass filter and a band pass cavity with a minimum of 15 dB of attenuation 2.0 MHz removed from the operating frequency.
 - g. Transmitters in the 806 to 990 MHz range shall have at least 50 dB of isolation followed by a low pass filter or a band pass filter with a minimum of 15 dB of attenuation 10 MHz removed from the operating frequency and 40 dB of attenuation at 20 MHz. Where mixed services share a common site, series cavities

need be incorporated.

4. Licensee shall comply with General Engineering Standards, including but not limited to the following:
 - a. A band pass cavity/filter or crystal filter is recommended at the input of all receivers. Its purpose is to protect against RF energy "off frequency" from mixing in a non-linear device such the first RF amplifier in a receiver, which can re-radiate causing interference.
 - b. The band reject duplexer (cross notch duplexer) may not be used without the use of cavities or isolators.
 - c. Single braid coax cable is prohibited. Double shielded cable must have over 98.5% shield coverage. Single braid cable with resistive terminations is acceptable ONLY as a fixed method for relative signal strength measurements.
 - d. Jacketed coaxial cable is required. Unjacketed transmission line of any type is prohibited.
 - e. Use of N, TNC, DIN or other types of constant impedance connector is preferred over a non-constant impedance type. Effort should be made to prevent the use of coax adaptors.
 - f. All equipment is to be grounded. Grounding is to be done with low impedance conductor to the station ground grid, preferably with flat copper or heavy braid. The "green wire" of the AC power plug is not an acceptable grounding point. All cables are to be grounded to the tower at the point where the cables leave the tower for the building entry.
 - g. Transmitting systems must be checked periodically, which includes the isolator, VSWR on the load port of the isolator and overall system insertion loss.
 - h. Bare metallic ties are prohibited for securing transmission lines to towers. In the case of large lines, use of stainless steel or galvanized hangers is permitted. Hardware capable of rusting and dissimilar metals is prohibited. Transmission lines are to be insulated from metallic structures and objects. It is the duty of the installation personnel to prevent "diode junctions" from taking place.
 - i. All loose wire or metal objects are to be removed from the tower and site. Metal fencing should be vinyl coated.
 - j. All equipment shall be licensed and operated in full accordance with all applicable rules and regulations of the regulating agency (FCC, NTIA). There shall be no modifications that violate "FCC Type Acceptance."
 - k. Every effort should be made to protect the equipment from lightning damage. Feed- through lightning protectors shall be used on all coaxial cable connections to equipment enclosures. Gas, gap and MOV and Silicone

Avalanche Diode (SAD) protectors shall be used in control, audio, telephone and power connections.

- I. Radios, equipment and batteries installed shall use support equipment that is braced, anchored and/or secured in a manner that prevents or reduces possible damage due to an earthquake.

5. Interference Policy Statement:

- a. In the event radio interference (RI) or physical interference occurs, all users of the site are required to participate in solving the problem by providing technical personnel and test equipment to locate the source of the specific problem. All equipment must be maintained in good working order and meet original manufacturers and FCC specification for reduction of transmitter spurious radiation. In the event radio interference (RI) occurs, and these standards are complied with, additional isolators, filters, cavities, etc., may be required to correct specific problems.
 - b. Involved systems not in full compliance with these standards shall be required to comply immediately at their own expense.
 - c. PUD 3 has the right to require the offending transmitter owner/operator to finance the required corrections or equipment necessary to correct the problem. PUD 3 at its option may allow the affected receiver owner/operator to provide the necessary equipment (if one so chooses) for installation by the offender without surrendering ownership of the equipment and expect its use to be uninterrupted, i.e., not taken out of service without notifying the owner.
 - d. The 2.0 GHz band is being developed. It is unknown at this time what interference may be expected or caused and what products will be available for interference mitigation. Policies and standards will be developed as needed.
6. These are minimum standards of good engineering practice in the operation and maintenance of communication sites. These standards will be revised as deemed necessary by PUD 3.
7. These Communication Site Facility Standards are developed in conjunction with the Western Washington Regional Interference Committee (WWRIC) and the Department of Natural Resources, Radio Program.

4. OPERATING SAFETY GUIDELINES

These guidelines establish operating safety guidelines for Mason County PUD No. Communications Facilities that ensure worker safety and compliance to Occupational Safety and Health Administration (OSHA) and Federal Communications Commission (FCC) compliance with

Code of Federal Regulations (CFR) for fall protection and radio frequency (RF) exposure.

Tenants of the PUD's Communications Facilities shall follow all posted guidelines and procedures to ensure worker safety and compliance with FCC 47 CFR 1.1310 for RF exposure, and OSHA 29 CFR sec. 1926 for fall protection.

Mason County PUD No. 3 reserves the right to restrict individuals or entities from its Communications Facilities that do not comply with the identified site standards.

Guidelines for working in the secured area of the PUD's Communications Facility or on the tower include:

- All personnel should have electromagnetic energy (EME) awareness training.
- All personnel entering site must be individually authorized by a tenant.
- All personnel shall obey all posted signs.
- All personnel should assume all antennas are active.
- Use personal RF monitors while working on the tower or near any RF equipment.
- Do not step in front of antennas.
- Do not operate transmitters without shields or personal protective equipment (PPE)
- Do not operate base station or microwave antennas in equipment room.
- Before performing any work on the tower, the "Qualified Contractors Evaluation Checklist" must be submitted two (2) business days prior climb date for review and approval.
- Before working on antennas, notify owners and disable appropriate transmitters when required.

A. RF Exposure

Mason County PUD No. 3 requires all tenants operating base station transmitters with antennas, abide by site requirements to reduce power levels or shut down transmitters when requested for site maintenance or emergency response.

All tenants will provide contact information for use in the event of an emergency requiring reduction of power to the transmitters or to perform an emergency shutdown.

Tenants will provide Mason County PUD No. 3 control procedures for required personnel to enter into the RF exposure zone in the event of an emergency.

B. Use of Controls

Prior to commencing work on the Communication Tower, a competent person shall assess potential RF hazards of areas which may be accessed by employees in the course of their work, and post temporary signage to indicate areas where the RF hazard exceeds the

general population/uncontrolled maximum Permissible Exposure (MPE) limits for exposure set forth in FCC 47 CFR 1.1310. Temporary signage shall remain in place while work is performed and the hazard exists.

Any hazardous area will need suitable safety measures which might include a fixed measurement system. Depending on the extent of the hazard, this can also involve locks, shielding or enclosures to ensure proper distance is maintained. Warning signs are required.

For persons who must enter hazardous areas (for maintenance work), there are different possibilities depending on the relevant standard of operating instructions.

- Selection of time frames with lower system utilization (lower RF transmissions).
- Techniques for approaching the field source.
- Possible reduction in power levels.
- Complete system shut down.

Persons who enter such hazardous areas should have protective gear as well as suitable measuring devices (or a personal monitor) and access plans. During work on broadcast facilities, protective suits are required by many system operators.

C. Protection from RF Exposure

1. Employees shall not enter areas where RF exposure levels are above the general population/uncontrolled MPE's described in FCC 47 CFR 1.1310 unless they understand the potential for exposure and can exercise control over the exposure.
2. Prior to employees performing work in areas on a communication tower where RF exposure levels exceed the occupational/controlled MPE values stated in FCC 47 CFR 1.1310, the employer shall enact and enforce written control procedures that provide for the reduction, elimination, avoidance or protection from such RF levels. These written control procedures shall include the following:
 - a. Reducing the transmitter power to a level that ensures RF exposure levels in areas where employees are working do not exceed the occupational/controlled MPE values stated in FCC 47 CFR 1.1310, and that the transmitter power level is not increased until all employees have ceased working in those areas. If this method is chosen, the transmitter power shall be locked out and tagged out at the reduced level by a competent person in accordance with OSHA 29 CFR 1910.147. Prior to removing lock out/tag out devices and restoring the original transmitter power level, all employees shall be notified and the work area shall be checked to ensure that all employees have been safely positioned and removed;
 - b. If the transmitter power level in areas where employees are working cannot be reduced and maintained at a level that ensures RF exposure levels do not exceed the occupational/controlled MPE values stated in FCC 47 CFR 1.1310, the transmitter power shall be locked out and tagged out by a competent person in accordance with OSHA 29 CFR 1910.147. Prior to removing lock out/tag out devices and restoring the transmitter power level, all employees shall be notified and the work area shall be checked to ensure that all employees have been safely positioned and removed;
 - c. If the transmitter power level cannot be reduced or eliminated, an employer may permit its employees to access areas where the occupational/controlled MPE values stated in FCC 47 CFR 1.1310 are exceeded if it implements engineering or administrative controls that comply with the FCC's regulations concerning such exposure, including limiting the duration of the exposure and utilizing monitoring equipment, RF protective clothing and other related PPE; or
 - d. If an employer cannot ensure that the conditions in Parts (A), (B) or (C), of this subparagraph, are met, employees shall not be permitted to access areas where RF exposure levels exceed the occupational/controlled MPE values stated in FCC 47 CFR 1.1310.

D. Fall Prevention

Mason County PUD No. 3 requires all workers who climb the tower to perform

construction and maintenance activities are protected from falls.

OSHA 29 CFR sec. 1926 outlines safety guidelines for employers /contractor on qualifications and safe practice of climbing and working on communications structures. Employees whose occupational duties involve climbing on telecommunications structures are required to be trained and competent in all safety practices, supplied with the required fall protection gear.

- Workers will use ladder safety devices meeting the criteria of OSHA 29 CFR 1926.1053(a) (22) or personal fall arrest systems (PFAS) meeting the criteria of OSHA 29 CFR 1926.502(d). PFAS is used to arrest a worker in a fall from a working level.
- Train workers to safely erect, use, maintain and disassemble the ladder safety device (OSHA 29 CFR 19.26.1060) or the PFAS (OSHA 29 CFR 1926.503).
- Never use defective equipment. Inspection ladder safety equipment safety devices and PFAS per (OSHA 29 CFR 1926.502(d)(21)) for visible defects or damage.
- Remove from service fall protection equipment activated during a fall and make sure it is inspected by a competent person (OSHA 29 CFR 1926.32(f)).
- Do not exceed the manufacturer load rating for the ladder safety device and its components. Overloading the device can cause it to fail. Include the weight of the work and any tools or equipment he or she may be carrying in the load calculation. Fixed ladder safety devices and related support systems must be capable of withstanding a drop test consisting of an 18 inch drop of a 5000 pound weight (OSHA 29 CFR 1926.1053(a)(22)(i)).

Exhibit A

Communication Facilities Rate Schedule

Transmitter/ Antenna Type	Zone ⁽¹⁾	Monthly Recurring Charge ⁽⁵⁾
<u>UHF/VHF:</u>	A	\$125.00
	C, D	\$200.00
	E	\$225.00
<u>Carrier/LTE:</u>	D, E	Call for Quote
<u>Microwave/Dish:</u>		
1 Foot	A,B	\$50.00
2 Foot	A,B	\$100.00
4 Foot	A,B	\$200.00
6 Foot	A,C	\$300.00
8 Foot	A,C	\$400.00

Rack space is subject to available collocation space.

Flooring and power rates: Based on submittal information from Exhibit A

Transmitter and ½ Rack of Space ^(2,4,5)	\$125.00/mo
Transmitter and Full rack of Space ^(2,4,5)	\$225.00/mo
Each Additional Radio Unit ^(4,5)	\$ 25.00/mo
Power Charge for additional 20 Amps (per 20 Amp Block) ⁽³⁾	\$ 75.00/mo
RF Site Study (if required) ⁽⁶⁾	Actual Cost

Notes:

- ⁽¹⁾ Please reference the zone diagram for each individual communication facility's site plan to determine zone specs.
- ⁽²⁾ Racks are 7 feet in height and provide 48 U of rack space. ½ Rack of space equals 24 U of usable space. A rack unit equals a 19-inch rack. One rack unit is 44.45 mm (1.75 in) high.
- ⁽³⁾ PUD 3 allocates power charges in blocks of 20 amps per rack or for radio transmitters.
- ⁽⁴⁾ Transmitter only is 100 percent of the radio unit. Receiver only is 50 percent of the radio unit.
- ⁽⁵⁾ Monthly rates are subject to adjustment based on the annual Consumer Price Index Inflation (Seattle/Tacoma).
- ⁽⁶⁾ All new equipment installed on PUD 3's communication facilities may require a RF site survey. If required, the Licensee will be responsible for the actual cost of that survey. This will appear on the monthly billing following the survey completion.

Tax Clause: In accordance with the laws of Washington State, PUD 3 reserves the right to add all applicable taxes.