§ 90.245 Fixed relay stations.

Except where specifically provided for, fixed relay stations shall be authorized to operate only on frequencies available for use by operational fixed stations.

§ 90.247 Mobile repeater stations.

A mobile station authorized to operate on a mobile service frequency above 25 MHz may be used as a mobile repeater to extend the communications range of hand-carried units subject to the following:

(a) Mobile repeaters and/or associated hand-carried transmitters may be assigned separate base/mobile frequencies for this use in addition to the number of frequencies normally assignable to the licensee.

(b)–(c) [Reserved]

(d) In the Industrial/Business Pool, on frequencies designated with an “LR” in the coordinator column of the frequency table in §90.35(b)(3), use of mobile repeaters is on a secondary basis to the stations of any other licensee. Hand carried units used in connection with mobile repeaters on frequencies designated with an “LR” in the coordinator column of the frequency table in §90.35(b)(3) may operate only above 150 MHz and are limited to a maximum output power of six watts. The frequency and maximum power shall be specified in the station authorization.

(f) When automatically retransmitting messages originated by or destined for hand-carried units, each mobile station shall activate the mobile transmitter only with a continuous access signal, the absence of which will de-activate the mobile transmitter. The continuous access signal is not required when the mobile unit is equipped with a switch that activates the automatic mode of the mobile unit and an automatic time-delay device that de-activates the transmitter after any uninterrupted transmission period in excess of 3 minutes. For the purposes of this rule section the continuous access signal can be achieved by use of digital or analog methods.

§ 90.248 Wildlife and ocean buoy tracking.

(a) The frequency bands 40.66–40.70 MHz and 216–220 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife.

(b) Transmitters operating under the provisions of this section are not subject to the technical standards contained in §§90.205–90.217. In lieu thereof,
the transmitters shall comply with the provisions in this section.

(c) Classes of emission are limited to NON, A1A, A2A, A2B, F1B, J2B, F2A, F2B, and/or F8E.

(d) The authorized bandwidth shall not exceed 1 kHz.

(e) Frequency stability. (1) For transmitters operating in the 40.66–40.70 MHz frequency band, the frequency stability shall be sufficient to ensure that, at the carrier frequency employed, the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(2) In the 216–220 MHz frequency band, transmitters shall employ a minimum frequency stability of 0.005 percent (50 parts per million). The carrier frequency shall be selected to ensure that the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(3) The frequency stability standards shall be met over a temperature range of \(-30^\circ\) to \(+50^\circ\) centigrade at normal supply voltage and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of +20 °C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) The maximum peak transmitter output (carrier) power shall not exceed 1 milliwatt for airborne wildlife applications, 10 milliwatts for terrestrial wildlife applications, 10 milliwatts for terrestrial wildlife applications or 100 milliwatts for ocean buoys.

(g) Emissions appearing outside of the authorized bandwidth shall be attenuated below the carrier power by at least 26 dB, following the procedures specified in §90.210(m).

§ 90.249 Control stations. Control stations associated with land mobile stations under this part shall be authorized to operate subject to the following:

(a) Frequencies for control stations. (1) Control stations may be authorized to operate on frequencies available for use by operational fixed stations.

(2) A control station associated with mobile relay station(s) may, at the option of the applicant, be assigned the frequency of the associated mobile station. In the Industrial/Business Pool, on frequencies designated with an “LR” in the coordinator column of the frequency table in §90.35(b)(3), such a control station may be assigned any mobile service station frequency available for assignment to mobile stations. Such operation is on a secondary basis to use of the frequency for regular mobile service communications.

(3) Control and fixed stations in the Public Safety Pool may be authorized on a temporary basis to operate on frequencies available for base and mobile stations between 152 and 450 MHz, where there is an adequate showing that such operations cannot be conducted on frequencies allocated for assignment to operational fixed stations. Such operation will not be authorized initially or renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to stations in the mobile service, or if the particular frequency is required for mobile service operations in the area concerned.

(b) [Reserved]

(c) A base station which is used intermittently as a control station for one or more associated mobile relay stations of the same licensee shall operate only on the mobile service frequency assigned to the associated mobile relay station when operating as a control station. Authority for such dual classification and use must be shown on the station authorization. When operating as a control station, the licensee must meet all control station requirements. In the Industrial/Business Pool, on frequencies designated with an “LR” in the coordinator column of the frequency table in §90.35(b)(3), base stations used intermittently as control stations shall operate only on a mobile service frequency which is available for assignment to base stations.