RECOMMENDATION ITU-R BS.215-2*

Maximum transmitter powers for broadcasting in the Tropical Zone**

(1956-1978-1982)

The ITU Radiocommunication Assembly,

considering

a) that the prolonged observations and studies which have been carried out confirm the existence of high noise levels in the Tropical Zone;

b) that good quality service presupposes the maintenance of a satisfactory value of signal-to-noise ratio in the entire coverage area;

c) that the high value of noise level observed in tropical regions during certain hours of the day and certain periods of the year, together with the need for signal-to-noise ratios such as to ensure a satisfactory service for practically all listeners within the specified coverage area, tends to suggest the use of high transmitter-power for sound-broadcasting services in the Tropical Zone. It is therefore advisable, when evaluating the powers to be used, to assume reasonable values for the average noise level and signal-to-noise ratio to reach practical values of transmitter powers, ensuring acceptable conditions of reception for a suitable percentage of transmission time at the limit of the coverage area;

d) that, when the coverage area is limited to 400 km, vertical incidence antennas may be used effectively to concentrate the energy in the coverage area and to reduce radiation beyond this zone;

e) that, for greater distances, it appears necessary to use types of antenna with low gain, such as a simple dipole, to obtain the required field strength at a distance of 800 km. Nevertheless, this type of antenna radiates at low angles of elevation and may give rise to interference at great distances;

f) that it is advisable to make a judicious choice of transmitting frequencies which, for a sound-broadcasting programme in the Tropical Zone may be located in the shared bands the upper limit of which is 5 060 kHz and in band 7 (HF) at frequencies above 5 060 kHz,

recommends

1 that the upper carrier power limit for short-distance high frequency sound-broadcasting transmitters employing double-sideband (AM) emission, operating in the Tropical Zone in frequency bands below 5 060 kHz but with the exception of the band 3 900-4 000 kHz, should be determined as follows:

1.1 for a coverage area limited to 400 km, the carrier power of the transmitter should not exceed 10 kW;

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* Radiocommunication Study Group 6 made editorial amendments to this Recommendation in 2002 in accordance with Resolution ITU-R 44.

** See Article 23 of the Radio Regulations.

1.2 for a coverage area limited to 800 km, the carrier power of the transmitter should not exceed 50 kW;

1.3 for frequencies above 5 060 kHz, where sound-broadcasting services in the Tropical Zone use the same frequency bands as the HF broadcasting services, no carrier power limit, as in the case of the exclusive HF bands, shall apply;

2 that, within the above limits, Administrations should use, as far as possible, lower powers, if these will ensure satisfactory service throughout the reception area;

3 that the frequency used should always be as near as possible to the optimum working frequency (provided that the frequency employed is within one of the permissible sound broadcasting bands), to provide as good a received signal-to-noise ratio as possible;

4 that, in conformity with the provisions of Recommendation ITU-R BS.139, and to make the best possible use of the frequency bands which have been allocated, Administrations should use appropriate antennas, so that radiations at low angles will be reduced to a minimum, to avoid all harmful interference outside the coverage area.