



Recommendation WG 9.85.001

LONG TERM/SHORT TERM OBJECTIVES
for
TERRESTRIAL MICROWAVE COORDINATION

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RECOMMENDATION WG 9.85.001

Subject Area: Interference Analysis

Title: Long-Term/Short-Term Objectives for Terrestrial Microwave Coordination

The carrier-to-interference (C/I) objectives stated for analysis purposes have always been considered long-term values although in some cases these values may have been derived by applying a stated fade margin to a minimum acceptable interfering power level. The general practice has been to consider these C/I objectives to be met in all cases if the interfering power does not exceed the maximum permissible level considering free space loss and appropriate antenna discrimination and relative power levels.

The practice concerning long- and short-term objectives has been based on the fact that the long-term objectives for FM systems were developed assuming a 4000-mile route. Considering the low probability that all paths in such a system would be simultaneously exposed to the maximum allowable interference, it has been deemed appropriate in some cases to reduce the C/I objective by 10 dB for the short term, taken to be 0.01 percent of the time.

In order to meet the objectives stated above consideration can be taken of additional loss above free space in these cases where the interfering path is obstructed under the appropriate propagation conditions. This is a matter of concern and the following is proposed for application of these objectives.

1. Long-term objectives will always be used for 80 percent of the time, regardless of path length or obstruction on the interfering path.
2. Short-term objectives (0.01 percent of the time) will be 10 dB less than long-term in all cases. Further study may be needed to determine whether 10 dB is the appropriate adjustment to long-term objectives. This value will be used until a different one is shown to be better.
3. Appropriate over-the-horizon (O-H loss) may be applied to meet the stated objectives. That is, loss above free space that is predicted to be exceeded with a probability of 0.95 for 80 percent of the time may be used for long-term and a similar loss predicted to be exceeded for 99.99 percent of the time may be used for short-term.

These guidelines are considered valid and conservative enough to prevent any serious direct interference if judiciously applied.

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