

Technical Frequency Assignment Criteria for Programme Making and Special Events (PMSE)

OfW 275

Introduction

This document outlines the technical frequency assignment criteria and assignment principles that will be employed by Ofcom in the selection of frequencies for those engaged in Programme Making and Special Events (PMSE). Details of the various programme-making applications and the frequency bands available for these services can be found here.

This document is not intended as a comprehensive description of the complex engineering processes employed by Ofcom when assigning frequencies for PMSE, but rather as an overview of the general processes and criteria used. Queries on the assignment criteria employed by Ofcom should be directed to the contact point set out at the end of this document.

Technical Frequency Assignment Criteria

Technical Frequency Assignment Criteria describe the technical principles and guidelines used by Ofcom to identify which particular radio frequency or radio frequency channel(s) are available for authorisation at any particular location, and under what technical conditions, from the bands specified for the relevant PMSE application.

Technical Frequency Assignment Criteria vary considerably between different types of PMSE assignments and PMSE frequency bands, but are all designed to ensure efficient use of the radio spectrum and the avoidance of interference to other radio users. Technical Frequency Assignment Criteria may limit (or prevent) the availability of a licence, and/or grants of rights under a licence, at a particular location if this is necessary to prevent interference to existing services.

Characterisations of PMSE Assignments

There are particular requirements for PMSE assignments that differ from assignments in other radio sectors. Most assignments are of a temporary nature, to run for the duration of a programme or event. Typically the application for the assignment will be made a matter of days before it is required.

PMSE applications cover a wide range of radio systems. These include wireless microphones, continuous talkback systems, high-quality audio links, remote control, vision links and portable wireless cameras. Their use may be within buildings as well as outside and airborne.

Frequency bands have been allotted for these applications. Some are exclusive to PMSE; others are shared with other radio services, with assignments made according to agreed sharing arrangements. Applications can be received for spectrum with which no formal sharing arrangements have been agreed. While there are many different types of PMSE assignment, as a general rule, a unique frequency assignment will be limited to one user:

- at a particular geographical location;

- using a particular radio frequency or radio frequency channel;
- transmitting in a particular direction;
- at a particular time; and
- using a particular antenna polarisation.

Assignment Criteria for PMSE Applications

The assignment criteria that are applied to an application will depend on the nature of the application and the spectrum in which it is to be accommodated. PMSE assignments cover a wide variety of radio applications in a large number of frequency bands. This document is not exhaustive in its attempt to characterise the many scenarios that are considered on a daily basis by Ofcom, but it aims to highlight the main areas of consideration.

Before any assignment is made the applicant must supply sufficient technical, location and time information.

The criteria relate to the particular spectrum within which assignments are made:

1. Exclusive Spectrum

In exclusive spectrum, the main criteria applied are whether a proposed PMSE assignment will interfere with, or suffer interference from, other PMSE assignments. Ofcom applies formulated assignment algorithms, complex engineering tools and defined protection criteria, in concert with the expertise and judgement of assignment staff. To determine the compatibility of the proposed assignment with others using the same frequency or nearby frequencies, the factors considered include in-building use, topography, geographical separation, man-made features and the characteristics of the applications.

2. Shared Spectrum

Secondary sharing arrangements have been agreed for PMSE assignments in a number of bands. Some take the form of geographical exclusion zones within which assignments must not be made, to protect other radio services. These zones are pre-calculated, based on agreed sharing arrangements and the parameters of the specific PMSE application. Additionally topography, environmental and man-made features may modify the decision on whether an assignment can be made.

Once the assignment has been demonstrated to be compatible with the shared service, it must also be confirmed to be compatible with other coincident PMSE assignments, as would be the case in exclusive spectrum.

3. Other Spectrum

Some applications request assignments in spectrum that is not formally allocated to PMSE in the UK. These include requests from foreign applicants from countries where that spectrum may be available routinely for PMSE purposes.

There are also occasions when demand for channels for a particular application exceeds supply. Access to additional channels outside traditional PMSE bands is then sought. An application is made to Ofcom for the use of the channel at the specified location for the duration of the event. If the application is successful, an assignment can be made (subject to non-interference to and from other PMSE assignments). Ofcom's Clearance Procedure protects the other users of the band from the PMSE assignment.

Further Information

For further information on assignment processes or any other matter regarding PMSE please e-mail the Programme Making and Special Events Section at vaughan.john@ofcom.org.uk or by writing to:

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