

5.8. Aeronautical Services

Since the bulk of air travel is international in nature, most of the radio spectrum that is used by the aeronautical sector is planned internationally. The ITU Radio Regulations, the International Civil Aviation Organisation (ICAO)¹⁹, Eurocontrol²⁰ as well as national and European legislation all set down requirements applicable to the aeronautical services. Spectrum is allocated internationally for a variety of aeronautical applications, including air-ground voice and data communication, radars and automated landing systems. The safety critical nature of these services and the need to reach high altitudes over great distances means that even distant sources of interference present a major problem hence it is not generally feasible to use aeronautical radio spectrum for other radio services. This, in turn, means that demand for spectrum is determined internationally and there is little scope for individual countries to deviate from the internally agreed spectrum allocations. In Ireland, regulation of the aviation industry is the responsibility of the Irish Aviation Authority (IAA). ComReg's role in this area is limited to administering the issue of radio licences for on board aircraft, for ground based aeronautical transceivers, radar and radionavigation systems.

5.8.1. ComReg Strategy for Aeronautical Services

Aeronautical spectrum is allocated internationally on an exclusive basis and there is little scope for national flexibility. However,

- ComReg will continue to provide support to Ireland at international fora to ensure adequate spectrum is available for aeronautical services;
- ComReg will continue to prioritise and provide protection from interference to aeronautical safety of life services;
- ComReg will promote the use of spectrum efficient technologies in the aeronautical bands, thereby maximising the spectrum available for growth and new applications;
- ComReg will ensure spectrum is available for use by emerging systems, in line with international requirements;
- ComReg is planning to review the current fees attached to aircraft licences;
- ComReg will introduce a licensing regime for radar and radionavigation services. A once-off licence fee of €500 for new stations or modifications to existing stations will be charged to cover co-ordination and notification costs.

5.9. Satellite Services

Satellite radiocommunication networks provide a wide range of applications from mobile and fixed telecommunications, Direct To Home (DTH) multichannel television, broadband services, satellite news gathering (SNG) and outside broadcast (OB) links to meteorological and Earth exploration service applications. Additionally, satellites play a crucial role in aeronautical and maritime safety by providing services such as navigation, radar and the Global Positioning System (GPS).

Satellite services include Broadcasting Satellite Service (BSS), Fixed Satellite Service (FSS), Mobile Satellite Service (MSS), Radionavigation Satellite Services (RNSS).

¹⁹ <http://www.icao.int/>

²⁰ http://www.eurocontrol.int/corporate/public/subsite_homepage/index.html

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Strategy for Managing the Radio Spectrum and Specific Services Continued

5.9.1. ComReg Strategy for Satellite Services

To encourage the development of the satellite services ComReg will:

- review current satellite legislation with a view to adapting it to cover future licensable services such as HDFSS. The review will ensure that the spectrum efficiencies offered by HDFSS are reflected in a new fee structure and is proportionate to the existing fee structure;
- where possible, exempt most low interference risk terminals which are typified by operating in harmonised spectrum to harmonised standards;
- maintain an awareness of international developments.

5.10. The Defence Forces Use of Spectrum

The Defence Forces have actively utilised radiocommunications from the earliest days and the use of radio spectrum is considered critical to national security. There are no specific service allocations for defence applications in the ITU Radio Regulations as defence communications are recognised as the prerogative of each Sovereign State.

In Europe there is increasing pressure on all elements of spectrum use including civil and military spectrum and consequently there is a need for greater sharing between civil and military applications. Additionally, the increased involvement of national defence forces in combined international aid operations requires compatibility of communications between units.

The Irish Defence Forces, comprising the army, naval services and air corps, uses radio in a variety of ways, most notably in relation to maritime and aeronautical applications.

5.10.1. ComReg Strategy for Spectrum Utilised by The Defence Forces

In the past, ComReg's strategy has been to encourage the use of non-commercial frequency bands and the use of agile radio technologies by the defence forces on a non interference non protected basis, to avoid interference to other users. In continuing this approach ComReg will:

- maintain an awareness of international civil/military developments;
- liaise with the Defence Forces as required to resolve spectrum issues.

5.11. Business Radio Services

Despite the continued rapid growth of cellular telephony, business or private mobile radio (PMR) is still a popular communication system for applications where most traffic is between a control point and one or more mobile terminals, or where groups of mobile terminals need to communicate on a "one to all" basis. Business radio is also attractive where the user requires complete control over network operation and costs. The main uses of business radio are for public safety and security (e.g., the Garda Síochána, fire and ambulance emergency services), public utilities (power, water, transport etc.), industrial and commercial users (taxis, couriers, warehouses etc) as well as various voluntary organisations, all of whom need reliable means of communicating with personnel and groups of personnel on the move.

5.11.1. ComReg Strategy for Business Radio

5.11.1.1. Business Radio

ComReg recognises the importance of business radio services and will continue to work closely with the Business Radio industry and users to ensure that the needs of the sector are met. In particular, ComReg will:

- continue to support the requirements of industry and users to ensure that spectrum is available to accommodate new business radio technologies;
- encourage the development and use of new technologies, such as the new ETSI standard for digital business radio (TS 102 361);
- review frequency bands with a view to ensuring there is adequate spectrum for the introduction of new and emerging digital technologies;
- consult on proposals to introduce a new national business radio licence scheme for the provision of services to third parties;
- continue to monitor Business Radio installations to ensure compliance with licence conditions.

5.11.1.2. Wideband PAMR systems

Further to a recent consultation in document 05/31, ComReg plans to proceed with a licensing scheme for wideband systems in the 410 – 430 MHz and 872 – 876 / 917 – 921 MHz bands.

5.11.1.3. Paging

ComReg intends to introduce a licensing regime for paging systems. This would mean that all existing and future paging systems would be licensed and will be subject to a licence fee. The proposed licence fee, at the time of writing is €100 per base station per channel or €3000 per national channel for 3 years.

5.11.1.4. GSM-R

The ECC Decision (02)05²¹ designates the band 876 – 880 MHz paired with 921 – 925 MHz for international and national railway operations (GSM-R). GSM-R systems would provide the radio communications to facilitate the managing and operation of railway traffic and increase its safety. Ireland has yet to adopt this Decision but as these bands are currently unassigned ComReg foresees no difficulty in doing so if there is a request for the provision of GSM-R in Ireland and subject to demand, ComReg may consider appropriate licensing options for the GSM-R service.

²¹ ECC/DEC (02)05 of 5 July 2002 on the designations and availability of frequency bands for railway purposes in the 876 – 880 and 921 – 925 MHz bands. [Available for download from "http://www.ero.dk"

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Strategy for Managing the Radio Spectrum and Specific Services Continued

5.11.1.5. Public Safety Services

ComReg will ensure spectrum is available to meet the future needs of the emergency and law enforcement services and that such spectrum is kept free from harmful interference.

To support the Public Safety services ComReg will:

- ensure spectrum is available to meet the future needs of the emergency and law enforcement services;
- ensure spectrum is free from harmful interference.

5.12. Radio Experimenters (Amateur Service)²²

The Amateur Service is specifically recognised by the ITU with a formal service definition in the Radio Regulations and specific spectrum allocated to it within the International Table of Frequency Allocations. Radio Amateurs in Ireland are referred to as Experimenters and are licensed under the Wireless Telegraphy (Experimenter's Licence) Regulations 2002, S.I. 450 of 2002.

5.12.1. ComReg Strategy for Radio Experimenters

In addition to the current radio frequency bands allocated to radio Experimenters, ComReg has allocated a number of bands in the Table of Frequency Allocations and will make these available for use on application. These bands are:

- 76 – 81 GHz;
- 122.25 – 123 GHz;
- 134 – 136 GHz;
- 136 – 141 GHz;
- 241 – 248 GHz;
- 248 – 250 GHz.

5.13. Science Services

The science services use the radio spectrum for a range of applications, for example, observations of the natural environment made by sensors that function at frequencies set aside for the purpose. Earth exploration-satellites and the meteorological-satellite services are defined as science services, using passive or active sensors carried by satellites in Earth orbit. A special case is the radio astronomy service, which observes emissions of natural origin arriving from beyond the Earth's atmosphere. All radio astronomy allocations are used passively (i.e. there are no man-made transmissions involved).

There are three other science-related radio services. The meteorological aids service, which is used for links to platforms, airborne or seaborne, which gather meteorological data. The standard frequency and time signal service and the corresponding standard frequency and time signal-satellite service which is used for comparison of time and frequency standards and the dissemination of these standards.

²² Within this document reference to the Amateur Service should, unless indicated otherwise, be regarded as including the Amateur Satellite Service.

5.13.1. ComReg Strategy for Science Services

In general for the Science Services ComReg will:

- liaise with Met Éireann and other scientific organisations to ensure that current and future spectrum requirements of the Science Services are fully understood and, wherever possible, incorporated into national plans for future spectrum planning conferences;
- remain apprised of possible means of reducing unwanted emissions to protect Radio astronomy, Frequency and Time Services and other passive services.

Regarding the Meteorological Services ComReg will:

- continue to offer a high degree of protection to the meteorological services, in view of their use in the safeguarding of human life and property;
- continue to offer a high degree of protection to Earth-exploration services, in view of the potential impact of interference on passive and active sensors which could severely disrupt scientific research programmes.
- ComReg will introduce a licensing regime for meteorological radars. A once-off licence fee of €500 for new stations or modifications to existing stations will be charged to cover co-ordination and notification costs.

Regarding Radio Astronomy, ComReg is aware of plans to establish a radio astronomy observatory in Ireland and will endeavour to protect such a site using internationally accepted procedures and techniques to mitigate and prevent interference in the frequency bands of interest.

5.14. Miscellaneous Services

5.14.1. Wireless Public Address Systems

ComReg intends to permit wireless public address systems the band 27.6 – 27.99 MHz to meet the needs of religious and other community organisations. This is intended to provide a public address system to facilitate the social inclusion of and meet the needs of the housebound be they sick, disabled and/or elderly, using wireless technology.

Following consultation with the Broadcasting Commission of Ireland (BCI), ComReg has established that the proposed service is not a broadcasting service and does not therefore fall under the BCI regulatory regime. This is reflected in four key characteristics which define wireless public address systems and place it outside the broadcasting space. These characteristics are:

- Spectrum will be allocated on a non-exclusive and non-interference basis in a frequency band not used by BCI Sound Broadcasting Contractors.
- The system is to be used for unabridged wireless retransmission of audio from a public address system that is associated with a public event.
- The service will only be available on a non commercial basis (for local community users).
- The service will not be available for reception on standard domestic broadcast receivers.

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Strategy for Managing the Radio Spectrum and Specific Services Continued

Only equipment in the band 27.6 – 27.99 MHz that meets the requirements of the Radio and Telecommunications Terminal Equipment Directive (1999/5/EC) will be permitted for use on the available 35 channels within that band.

5.14.2. ECC Decision on Temporary Introduction of Automotive Short Range Radar²³ (SRR)

A recent CEPT ECC Decision opened the 24 GHz band for short range radar (SRR) in vehicles for anti-collision related applications on a non-interference, non-protected and temporary basis (until 30 June 2013 or sooner if the penetration of equipped vehicles in any European market reaches 7%).

In Ireland a process is underway to collect and report on the penetration vehicles fitted with 24 GHz SRR. This will be done via the vehicle registration process. The procedures which have been put in place at the European level will allow for regulators to stop the placing of 24 GHz SRR on the market if either the 7% penetration level is exceeded or undue interference is caused to other services, and in any case by 30 June 2013.

²³ ECC/DEC/[04]10 - ECC Decision of 12 November 2004 on the frequency bands to be designated for the temporary introduction of Automotive Short Range Radars (SRR).