



Commission for
Communications Regulation

Consultation Paper

Review of fees applicable to Rights of Use for Radio Frequencies

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All responses to this consultation should be clearly marked:-
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and sent by post, facsimile, e-mail or on-line at www.comreg.ie
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Please note ComReg will publish all respondents submissions
with the Response to this Consultation, subject to the provisions
of ComReg’s guidelines on the treatment of confidential
information – ComReg 05/24

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Foreword

ComReg is the national regulatory authority responsible for authorising the civil use of radio frequencies in Ireland. Individual rights of use for radio frequencies are issued for various types of radio service in the form of licences under the Wireless Telegraphy Act. ComReg is empowered under European and national legislation to levy fees for these rights of use, which ensures the optimal use of the licensed frequencies. Most of the licence fees currently applied were set many years ago and may not therefore fully reflect this objective.

Over time, increasing demand for radio frequencies in particular frequency bands and at particular locations has led to congestion, prompting ComReg to introduce higher fees that reflect the scarcity value of the spectrum for some licence types. In 2003, ComReg reviewed the fees for radio fixed links in the Dublin area and proposed the concept of congestion charging for certain fixed link bands in the congested area of Dublin.

This consultation reviews the licence fees and fee structures for a broad range of radio services, including all radio links, and proposes simple and transparent fees that will reduce bureaucracy and promote the optimal use of spectrum. Revised fees and fee structures are proposed for all fixed radio links, business radio, paging, ships' radio, aircraft radio, and experimenters' licences. I believe these proposals will encourage broader and more efficient use of radio and will bring benefits to licensees, communications operators and consumers.

I welcome your views on each of these proposals.

Isolde Goggin

Chairperson

Commission for Communications Regulation

1 Introduction

Under the Communications Regulation Act of 2002, ComReg is the National Regulatory Authority (NRA) responsible for granting rights of use for radio frequencies in Ireland. These rights are issued in the form of licences granted under section 5 of the Wireless Telegraphy Act, 1926 (WT Act). Under national and EU law, ComReg may impose fees for a WT Act Licence which reflect the need to ensure the optimal use of the radio spectrum. Such fees must be objectively justified, non-discriminatory and proportionate and must take into account the objectives of ComReg as defined in the 2002 Act. These include a requirement, in so far as the promotion of competition is concerned, to encourage *“efficient use and ensure the effective management of radio frequencies”*¹.

In 2002 and 2003 as part of ComReg’s preparation for the new EU Framework, we conducted a series of consultations on fees (02/102, 03/46, 03/78, 03/98, 03/124 refer). In these earlier consultations ComReg indicated that it intended to proceed with a phased review of the fees for using radio spectrum and in this regard, ComReg developed revised fee structures for fixed links in congested areas (due to come into affect from 1st July 2005, ComReg 03/124) and for broadcast spectrum (ComReg 03/98). This document follows from these earlier reviews.

Most of the fees currently applied by ComReg for the right to use radio frequencies were determined prior to the adoption of the Communications Regulation Act of 2002 and the new EU Framework and in some cases may not be fully consistent with the need to ensure optimal use of spectrum. The purpose of this document is to review the current fees applied to specific radio communications services and to seek views on proposed amendments to bring the fee structures more into line with ComReg’s objectives of efficient spectrum use and effective spectrum management. In particular, this consultation makes proposals relating to licence fees and fee structures for business radio, paging, maritime,

¹ Section 12(2)(a)(iv)

aeronautical and experimenters and also proposes further revisions in respect of fees for fixed links. These proposals will not positively impact on ComReg revenue but have been designed to encourage the efficient use of spectrum by communications operators, industry and other radio users. It is anticipated that the proposals will have a beneficial impact both on these sectors and on consumers and in the broader context will benefit the Irish economy.

2 Submitting Comments

All comments are welcome; however it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.

The consultation period will run from 28 July 2005 to 9 September 2005 during which the Commission welcomes written comments on any of the issues raised in this paper.

In order to promote further openness and transparency, ComReg will publish all respondents' submissions to this consultation, subject to the provisions of ComReg's guidelines on the treatment of confidential information – ComReg 05/24

Please note

ComReg appreciates that many of the issues raised in this paper may require respondents to provide confidential information if their comments are to be meaningful.

As it is ComReg's policy to make all responses available on its web-site and for inspection generally, respondents to consultations are requested to clearly identify confidential material and place confidential material in a separate annex to their response.

Such Information will be treated subject to the provisions of ComReg's guidelines on the treatment of confidential information – ComReg 05/24.

3 Current Spectrum Fees

Current spectrum fees are generally charged on a “per licence” or “per equipment” basis, depending on the licence category, as summarised in the following table:

Service	Legislative basis of fees	Current fee(s)
Business Radio	S.I. No. 320 of 1949	€22 per annum per station plus €22 p.a.
Community Repeaters	S.I. No. 83 of 1988.	€625 for first year, €1,000 p.a. thereafter.
Mobile Radio Systems	S.I. No. 435 of 2002	€25 per channel, per base station in first year. €1,000 per channel, per base station p.a. thereafter
Fixed Links (Point to point)	S.I. No. 319 of 1992	€12 application fee €571.38 (b/w < 50kHz) per link p.a. €761.84 (b/w <= 3.5 MHz) per link p.a. €952.30 (b/w >3.5 MHz) per link p.a.
Fixed Links (Point to multi-point)	S.I. No. 319 of 1992	€1,142.76 (b/w < 50kHz) per link p.a. €1,523.69 (b/w <= 3.5 MHz) per link p.a. €1,904.61 (b/w >3.5 MHz) per link p.a.
Experimenters	No.450 of 2002	€12 on issue, €10 for each subsequent renewal
Aircraft Radio	1926 Act	€3.80 (once off)
Ships Radio	1926 Act	€3.80 p.a.

4 Promoting the Optimal Use of Radio Spectrum

ComReg's role as a spectrum manager is to ensure as far as possible the optimal use of spectrum resources. Under National and EU law, ComReg may charge a fee for spectrum which ensures the optimal use of the spectrum. Optimal use depends on many parameters, the current most important of which ComReg has identified as follows:

1. **Economic:** For spectrum used by services with an intrinsically high value e.g. mobile telephony, this factor is very important. This factor will tend to increase the spectrum worth.
2. **Socio-Economic:** Spectrum used for services where there is a benefit to society that may not be fully reflected by the purely economic value of the spectrum – e.g. in business radio. Business radio is used by the emergency services, as a vital safety aid to many organisations, as an aid to business (e.g. taxis, couriers) or is used to provide services to third parties.
3. **Societal:** The use of spectrum can benefit society, for example, the availability of spectrum for test purposes and for applications which have not yet been commercialised can stimulate innovation. This “societal benefit” needs to be considered when deciding the optimal use of the spectrum and the corresponding fee level e.g. use of spectrum by experimenters, for test and trial purposes etc.
4. **Policy:** spectrum fees may be used to influence the use of spectrum in a way which fulfils public policy objectives by, for example, encouraging spectrum use in certain bands and discouraging it in others, or encouraging the use of spectrum to assist in the rollout of broadband or the development of alternative infrastructure in competition to fixed line infrastructure.
5. **Spectrum Management:** In addition to the policy factor, spectrum use may give rise to specific spectrum management considerations aimed at amongst other things, encouraging efficient use, ensuring that the spectrum is available to as many users as possible, meeting international agreements, developing new band plans or recovering spectrum from obsolete services.

6. **Technological:** Factors such as the availability of equipment and the propagation characteristics of the spectrum will impact on how the spectrum may be used and on the corresponding fee.
7. **Compliance with international obligations:** some spectrum has been agreed internationally for use by certain services – e.g. marine or aeronautical and cannot be used for other purposes.
8. **The opportunity cost of the spectrum:** some spectrum is intrinsically more valuable than others but, for historical reasons, may not be used by the service which optimises economic benefit. Consequently there is an opportunity cost associated with the denial of the spectrum to the more economically attractive service and it may be appropriate to reflect this in the fee charged.

Question 1. Are there other factors, not mentioned above, that ComReg should take into account when considering the optimal use of radio spectrum and the setting of spectrum fees?

5 ComReg Spectrum Fee Proposals for Specific Services

5.1 Business Radio

Business radio is used mainly by the emergency services, local authorities, public utilities and a wide range of small to medium enterprises (SMEs) in sectors such as transport, logistics, construction, security or manufacturing where communications between vehicles or personnel on the move is required. Although some low traffic users have converted to mobile phones, this service is still important for companies requiring low cost, effective communications as an aid to safety, security or business efficiency. Maritime coastal stations and aeronautical ground stations are also licensed as business radio systems.

The current annual fee applied to Business Radio services is €22 per station (mobile terminal or base station) plus a further €22 administrative charge. These fees apply to all business radio systems, regardless of the coverage area or the number of frequency channels that are licensed. Hence an on-site system with a coverage area of less than 3 km is charged on the same basis as a hilltop repeater with a coverage area of over 50 km, and a national system using many radio frequencies is charged on the same basis as a system operating on a single frequency. Whilst this fee calculation approach is relatively straightforward, ComReg is concerned that it does not sufficiently encourage efficient use of business radio spectrum.

In addition, ComReg currently has a separate fee structure for Community Repeaters, which provide business radio services to third parties, and for Trunked Radio systems, which utilise a pool of channels to cater for high capacity business radio traffic. These systems are currently charged on a per-base station, per-frequency basis, the current fee being €1,000 p.a.

As part of this fee review, ComReg intends to revise the fees and fee structures for all business radio systems and to apply a common fee structure for business radio services, including community repeaters and trunked radio systems.

Proposals

The proposal is to develop a fee structure which caters for all business radio schemes and which keeps licence fees low except where there is a need to promote efficient spectrum use. Its aim is to ensure:

- i) that the fee charged should reflect the amount of spectrum resource assigned to the licensee, i.e. take account of the number of frequencies, geographical area over which the radio system operates, the amount of traffic generated by the licensee's system and the extent to which the user's system is able to share its assigned spectrum with other users.
- ii) that where the amount of spectrum resource assigned is low (for example in the case of on-site systems with limited coverage or systems with relatively few stations that can share with a number of other licensees), the fee will be set at a level that makes a contribution to ComReg's licensing and spectrum management costs.

To reflect the above objectives, ComReg proposes to define six categories of Business radio service, reflecting a spectrum charge which is based on coverage and channel occupancy. A longer licence term is also proposed. Under this proposal, fees for many licensees will be reduced, however fees for some licensees, in particular those who use more than 1 frequency channel, may increase. ComReg revenue is not expected to increase.

ComReg proposes renewable business radio licences for each of these six categories of 3 years duration, [with the exception of category 1C – Special event Licence which is a temporary licence that has a maximum duration of 3 months.] The full fees for all licences, irrespective of their duration, shall be payable in advance. Such an approach should reduce the administrative burden on both ComReg and Business Radio Licensees by eliminating the need for an annual renewal. For a 3 year renewable licences for which a per annum fee currently applies (Category 1A, 2, 3, 4, 5, 6) ComReg will apply a 10% discount.

Example 3 Year Renewable Licence: An existing on-site Business Radio Licensee (Category 1A) using one channel wishes to renew their licence and wants a 3 year renewable licence. The fee per annum for this category is €100 per channel. The fee payable in advance for this 3-year renewable licence is €270 (i.e. 3 x €100 less 10%).

Applicants wishing to apply for a business radio licence of less than 3 years shall be offered a temporary licence. A temporary licence is a once-off non-renewable licence, meaning that following the expiry of this Licence, an applicant must submit a new application to ComReg in order to get a further (temporary) business radio licence. In processing this new application, there is no guarantee that frequencies previously allocated will be assigned with the new application. The full fee for the temporary licence shall be payable in advance, applied pro-rata to the annual fee, but subject to a minimum of €100.

Example: An existing on-site business radio licensee (Category 1A) using one channel wishes to renew their licence and wants a 2 year temporary licence. The fee per annum for this category is €100 per channel. The fee payable in advance for this 2-year temporary licence is €200 (i.e. 2 x €100).

Trunked radio systems will be charged either as on-site (cat. 1A) or high usage business radio systems (cat. 4A or 4B depending on coverage).

During the lifetime of a licence, the business radio system requirements of the Licensee may change and their existing Business Radio Licence may no longer be valid, e.g. a licensee moves from low usage to medium usage. In such instances, there is a responsibility on the Licensee to request an amendment to their licence.

Where an amendment results in an increased fee, (e.g. moving from category 2A to category 3A), ComReg will charge the higher category fee applied pro rata to the amount of time remaining on the licence, but subject to a minimum fee of €100. Where an amendment results in a reduced fee, (e.g. moving from category 3A to category 2A), no charge will be applied or monies refunded.

The proposed fees for the different categories of business radio system and the associated definitions of the terms used are presented below.

Category	Description	Fee p.a. per system
1A	On-site system	€ 100 per channel
1B	Coastal / aeronautical ground station using marine/aeronautical frequency (per 3 years)	€100/ 3 years
1C	Special event licence (see definition below)	€100 first event location for first channel, €20 per each additional channel, €20 per each additional location
2A	Local area system with low usage	€100/channel
2B	Wide area system with low usage	€200/channel
3A	Local area system with medium usage	€200/channel
3B	Wide area system with medium usage	€400/channel
4A	Local area system with high usage	€400/channel
4B	Wide area system with high usage, and Community Repeaters	€800/channel
5	National channel	€3,000/channel
6	Crane Control	€200/channel

Definitions:

A business radio channel has a bandwidth of 12.5 kHz.

Sharing: Channel sharing means that frequencies are shared between more than one user in the same coverage area. The ability to share a channel depends on the traffic loading of the channel and on the type of user(s) on the channel. Occasional radio users with few radios will be able to share with a number of other similar users.

Low usage refers to a user with relatively few mobiles (typically less than 10) who uses the channel on an occasional basis. Typically this user will expect to share the channel with up to 5 other users.

Medium usage refers to a user with less than 30 mobiles or who use the channel on a frequent basis. This user may typically expect to share with up to 3 other users.

High usage refers to a user with a large number of mobiles (30 or more) or who uses the channel on a very frequent basis. Typically this channel may be unshared, except in congested areas.

Coastal stations: are land based radio stations operating in the marine frequency bands which are used for communicating with ships/marine vessels.

Aeronautical ground stations: are land stations using aeronautical frequencies for the purpose of contacting aircraft.

Special Events: A special event typically lasts between one day and a few weeks and includes entertainment, sporting or other public events such as music, religious, agricultural and other festivals or shows. An application for a special event licence can be for one event at one location or for multiple events at multiple locations. The maximum duration of a special event licence is 3 months.

On-Site systems are systems that operate in a limited area, up to 3 km in radius, from a specified location. On-site channels can be expected to be shared between many users.

Local Area systems are systems that are intended to operate up to a 25 km radius from a specified location.

Wide Area systems are systems that operate on high sites, for extended coverage.

A Community Repeater is a radio system controlled by a service provider for the purpose of providing business radio services to third parties.

National channels: Nationwide use is rare but some national channels are used by, for example, state organisations or public utilities e.g. Gardai, ESB.

Crane control refers to a business radio system used for communication with crane operators.

Question 2. What are your views on the three year renewable licence with fees payable upfront with 10% discount?

Question 2. What are your views on a temporary licence for licence duration shorter than 3 years?

Question 3. What are your views on the proposed new fee structure and fees for business radio services?

Question 4. What are your views on the proposed low, medium and high usage categories and how ComReg could give more guidance to applicants on the definition of usage?

Question 5. Are there any alternative approaches that you think should be considered?

Question 7. Do you consider that a phase in period should be applied to this new fee structure? If so, what period would be appropriate?

5.2 Paging Systems

Paging systems are not currently subject to licence fees, although they use similar radio frequencies to other business radio systems. As per the response to consultation on a Strategy for Management of the Radio Spectrum (ComReg Document 05/36), ComReg is proceeding with the introduction of a licensing scheme for paging systems. In the interests of consistency and equitable treatment, ComReg proposes a licensing scheme for paging systems which will be broadly similar to that applied to business radio. However, in view of the lower potential for interference arising from paging systems (since transmission is unidirectional and individual paging receivers do not require licensing), ComReg proposes that the charging period for paging licences is three years.

Proposal

The proposal is to charge for paging transmitter stations as follows:

- €100 per paging base station per channel (up to 25 kHz) for a 3 year licence.
- National paging channels will be charged at the rate of €3,000 per channel (up to 25 kHz) for a 3 year.

Temporary Licences may be obtained for shorter licence durations. The fee for the temporary licence shall be payable in advance, applied pro-rata to the annual fee, but subject to a minimum of €100.

Question 8. What are your views on the proposed licensing scheme and fees for paging systems?

Question 9. Are there any alternative approaches that you think should be considered?

5.3 Fixed Links

Fixed links are used for communications between fixed points. They provide an economic alternative to leased lines and optical fibre and are popular with many users including fixed and mobile communications operators, broadcasters, public utilities and the emergency services.

Current Situation

Currently fees for point to point fixed links are based on bandwidth as follows:

- €12 application fee
- €571.38 per link per annum for links with a bandwidth of 50 kHz or less.
- €761.84 for links of 3.5 MHz or less bandwidth.
- €952.30 for links of more than 3.5 MHz bandwidth.
- Fees for point to multipoint links are charged at twice these rates.

As the majority of links now licensed have bandwidths greater than 3.5 MHz, the current fee structure provides little incentive for operators to minimise the

bandwidth occupied, for example by investing in more spectrally efficient equipment.

In 2003, ComReg (Document ComReg 03/124) proposed changes to fees for point to point links in congested areas around Dublin in the 18 GHz and 23 GHz bands, to encourage more efficient use of the spectrum in these areas. Fees in other bands and geographical areas would remain unchanged. The proposed congestion rate fees are highlighted below (Fig. 1 and Table 1) and were due to take affect in July. However, since these proposals were developed ComReg has undertaken a further review of its spectrum fee policy and has concluded that the 03/124 proposal may not fully address the overall strategic objectives for fixed links. ComReg 05/52 has deferred the introduction of this proposal in light of this review of fees. In particular, the current proposal does not address links fees outside the 18 GHz and 23 GHz bands or outside the congested areas. The tables below show the links fees proposals as outlined in ComReg 03/124.

Figure 1: Location of the congested area as defined in ComReg 03/124

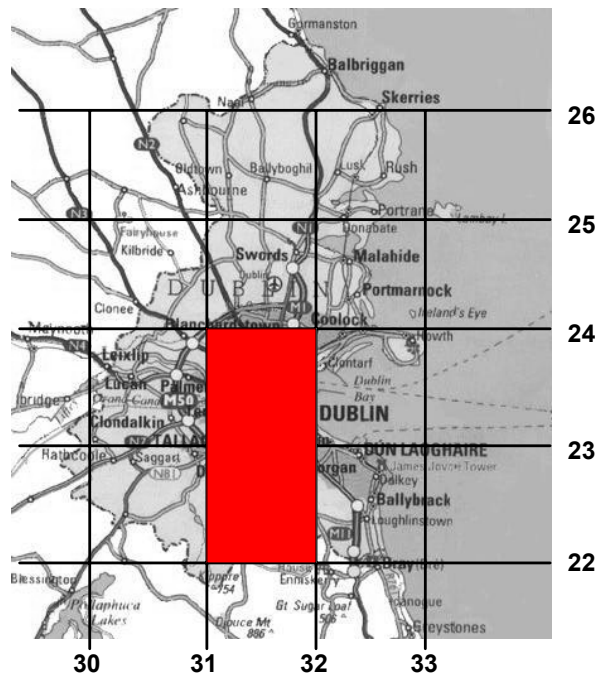


Table 1: Annual Fee proposed in ComReg 03/124 for 18 GHz and 23 GHz bands in the Congested Dublin area

Link Bandwidth (B)	Link Data Rate (R)	Current fee(€)	ComReg 03/124 fee (€)	Basis
$B \leq 3.5$ MHz	Any	762	762	No change
$3.5 < B \leq 20$ MHz	Any	952	952	No change
$20 < B \leq 30$ MHz	$R \leq 2B$ Mbit/s	952	1,714	952 + 1 x 762
	$2B < R \leq 4B$ Mbit/s	952	1,285	1,714 – 25%
	$R > 4B$ Mbit/s	952	952	No change
$30 < B \leq 40$ MHz	$R \leq 2B$ Mbit/s	952	2,476	952 + 2 x 762
	$2B < R \leq 4B$ Mbit/s	952	1,857	2,476 – 25%
	$R > 4B$ Mbit/s	952	1,238	2,476 – 50%
$40 < B \leq 50$ MHz	$R \leq 2B$ Mbit/s	952	3,238	952 + 3 x 762
	$2B < R \leq 4B$ Mbit/s	952	2,428	3,238 – 25%
	$R > 4B$ Mbit/s	952	1,619	3,238 – 50%
$50 < B \leq 60$ MHz	$R \leq 2B$ Mbit/s	952	4,000	952 + 4 x 762
	$2B < R \leq 4B$ Mbit/s	952	3,000	4,000 – 25%
	$R > 4B$ Mbit/s	952	2,000	4,000 – 50%

Proposal

ComReg's primary strategic objective for radio fixed links is to promote radio fixed links as a means of facilitating market entry and the rollout of alternative infrastructure.

Additionally, in high usage areas, established operators whose capacity requirements have grown to the extent that fibre would provide an effective alternative should be encouraged to make this migration where practicable in order to release spectrum for new entrants. One method of providing such encouragement is via the fee structure applied to fixed links.

A further objective is to encourage the use of the most spectrum-efficient equipment in the fixed link bands. This is of particular importance in congested areas and in the bands used for high capacity, long haul links, where demand can be particularly high at certain key nodal sites.

Question 10. What are your views on ComReg's stated objectives for fixed links spectrum, namely:

to facilitate market entry and facilitate the rollout of alternative infrastructure;

to encourage the use of fibre by established operators where capacity requirements have grown to the extent that fibre is a viable alternative; and

to encourage the use of the most spectrum-efficient equipment?

Question 11. What are your views on the use of spectrum fees to support these objectives?

Question 12. Are there any further objectives or considerations that you feel ComReg should take into account when setting fixed link fees?

In order to meet these objectives, ComReg has developed the following proposal for fixed link spectrum fees:

1. The fee per radio link is based upon a tabular calculation model using the following formula:

$$\text{Annual Radio Link Fee (€)} = \text{Base Fee} \times \text{FBM} \times \text{CBM}$$

where:

- Base Fee is:
 - €125 for uncongested areas.
 - €150 for congested areas and high usage paths.
 - **Congested Area:** Currently the congested area applies to links in Grid 3122 and 3123 in the 18 GHz and 23 GHz bands as set out in ComReg 03/124 (S 5.3, Fig. 1). A link is considered to be in the congestion area when either end of the link path is within the defined congested geographical area. (i.e. in Grid 3122 or 3123).
 - **High Usage Path²:** A high usage path is defined as a link path where the Licensee has 5 or more licensed radio links. The high usage charge is to help encourage spectrum efficiency and to encourage a move to fibre, in the long term.
 - **FBM (Frequency Band Multiplier):** The FBM promotes optimal use of frequency bands. The FBM rate is set such that the lower frequency bands used for long haul links attract a higher rate than the higher frequency bands used for shorter links.
 - **CBM (Channel Bandwidth Multiplier):** The CBM promotes efficient use of spectrum. The CBM is set such that the higher channel bandwidth links attract a higher fee than the lower channel bandwidth links.
2. A single radio link fee will apply where a Licensee uses both Horizontal (H) and Vertical (V) Polarisation on the same path and on the same frequency.³ Currently this is charged as two radio link licences. This is intended to encourage the efficient use of spectrum

² In applying for a link Licence, the Licensee should be aware of how many licensed radio links they are currently licensed for on that path (irrespective of frequency band used) so that the correct fee is submitted with the application.

ComReg will assess the number of radio links on a path by analysing the transmitter and receiver site co-ordinates.

and provide an incentive to licensees who have multiple links on the same path to consider using both H and V Polarisation on the same frequency.

3. Point to multipoint links will be charged on the basis of 4 x the point to point fee, to reflect the greater area that is typically subjected to interference by such links, relative to point to point links.
4. As with the proposal in ComReg 03/124, the €12 processing fee will no longer be required.
5. Applications for links must be accompanied by the full fee⁴. This is to speed up the licensing process.

The point to point radio links fees proposals are detailed in Tables 2 and 3 below.

Table 2 details the fees which will apply in the uncongested areas and areas where the licensee has less than 5 licensed links on that path.

Table 2. Proposed annual point to point link fees (€) with a Base fee of €125.

	Bandwidth (BW) ->	BW ≤ 3.5 MHz	3.5 MHz < BW ≤ 20 MHz	20 MHz < BW ≤ 40 MHz	40 MHz < BW
Frequency Band (F)	CBM	2	2.2	2.4	3
	FBM				
F < 1 GHz	3	750	N/A	N/A	N/A
1 GHz ≤ F < 18 GHz	4	1000	1100	1200	1500
18 GHz ≤ F < 38 GHz	3	750	825	900	1125
F = 38 GHz	2.2	550	605	660	825
F > 38 GHz	0.4	100	110	120	150

³ Where both Horizontal (H) and Vertical (V) Polarisation are used on the same frequency and path, a licensee can effectively double the transmission capacity, while at the same time only use a single frequency.

⁴ Currently an invoice for radio link applications or modifications is raised once the radio link application has been technically approved by ComReg. Going forward, ComReg proposes that the full fee for a radio link must be submitted with the application, an application cannot be processed until ComReg has received the full fee.

Table 3 details the fees for point to point links in the congested areas⁵ and for links on paths where a licensee has 5 or more links on that path.

Table 3. Proposed annual point to point link fees (€) with a Base fee of €150.

	Bandwidth (BW) ->	BW ≤ 3.5 MHz	3.5 MHz < BW ≤ 20 MHz	20 MHz < BW ≤ 40 MHz	40 MHz < BW
Frequency Band (F)	CBM	2	2.2	2.4	3
	FBM				
F < 1 GHz	3	900	N/A	N/A	N/A
1 GHz ≤ F < 18 GHz	4	1200	1320	1440	1800
18 GHz ≤ F < 38 GHz	3	900	990	1080	1350
F = 38 GHz	2.2	660	726	792	990
F > 38 GHz	0.4	120	132	144	180

Table 4 details the current fees applicable to fixed links in a similar format to Table 2 and 3. By comparing Table 4 to Table 3 and 2, it can be seen that in some circumstances the proposed fees are less than those currently applicable, while in others, the fees increase in line with ComReg's objectives for fixed links.

Table 4. Current Point to point link fees (€)

Frequency Band (F)	Bandwidth (BW) ->	BW ≤ 50 kHz	BW ≤ 3.5 MHz	3.5 MHz < BW ≤ 20 MHz	20 MHz < BW ≤ 40 MHz	40 MHz < BW
F < 1 GHz		571.38	N/A	N/A	N/A	N/A
1GHz ≤ F < 18 GHz		571.38	761.84	952.30	952.30	952.30
18 GHz ≤ F < 38 GHz		N/A	761.84	952.30	952.30	952.30
F = 38 GHz		N/A	761.84	952.30	952.30	952.30
F > 38 GHz		N/A	761.84	952.30	952.30	952.30

⁵ Currently this applies to links in Grid 3122 and 3123 in the 18 GHz and 23 GHz bands.

It should be noted that in addition to the fee proposals, the existing ComReg radio link guidelines including the link length policy⁶ will continue to apply.

Additionally ComReg will review the usage of fixed links spectrum on a regular basis to develop a picture for how effectively the objectives for fixed radio links are being met. This may lead to adjustments in the congested area and bands from time to time.

In parallel with the new fee structure, it is proposed to review the usage of spectrum by established licensees with a view to further encouraging the efficient use of spectrum and the use of spectrally efficient equipment. It is intended that this would be initiated as a regulatory exercise but as necessary, may lead to further revisions to spectrum fees in order to further ComReg's objectives for fixed links spectrum as mentioned above.

Question 13. What are your views on the proposed radio link licensing process and associated fees?

Question 14. Do you support the proposal to apply a single fee where both H and V polarisation are deployed on the same path and the same frequency?

Question 15. Do you agree with the proposal to apply a fee for point to multipoint links of 4 x the point to point fee? If you do not agree, what alternative approach would you favour?

Question 16. Do you support the proposal to remove the €12 processing fee?

Question 17. Are there any alternative approaches that you think should be considered?

5.4 Ships' radio

Radio equipment used on board ships uses spectrum which is internationally harmonised. Under the WT Act 1926, ComReg is required to comply with international obligations which in the case of ships' radio licensing include issuing call sign numbers and updating international registration databases. ComReg liaises closely with the Maritime Radio

⁶ ComReg document 98/14R3 refers

Affairs Unit (MRAU) of DCMNR to ensure that equipment is compliant from a safety perspective, prior to licence issue.

Currently an annual fee of €3.80 is charged for a ships radio licence and the licence must be renewed annually. In order to reduce the administration burden on ComReg and on the licensee, ComReg proposes to replace the current arrangement with a licence that will last for the lifetime of the vessel to which it relates and to apply a fee that better reflects the cost of issuing the licence.

Proposal

- Existing ships radio licences will be amended to a lifetime of vessel licence, at the time of next renewal, for a fee of €30.
- All new ships radio licences will be for the lifetime of the vessel and subject to a once-off fee of €100.
- In order for a Licensee to maintain their lifetime ships radio licence, the Licensee must confirm their licence details with ComReg every 5 years. Failure to do so will result in the expiry of the licence. The aim of this proposal is to ensure that ComReg maintains an accurate database of active ships radio licences.
- Licence amendments including transfer of licences between owners will be permitted provided that the call sign remains with the original vessel to which it was allocated and the other necessary requirements for a ships radio licence are met, e.g. Certificate of Competency. An amendment fee of €30 will apply.

Question 18. What are your views on the proposed licensing scheme for ships' radio licences and associated fees?

Question 19. : What are your views on the proposal to permit transfer of ships' radio licences between owners?

Question 20. Are there any alternative approaches that you think should be considered?

5.5 Aircraft radio

Similar to ships' radio licensing, aircraft radio licensing uses internationally harmonised spectrum. Under the WT Act 1926, ComReg is required to comply with international obligations. Prior to issuing a new licence ComReg liaises with the Irish Aviation Authority (IAA) to ensure that equipment is compliant from a safety perspective.

Currently, a once-off fee of €3.80 is charged for a lifetime of the aircraft licence. ComReg proposes to apply a fee that better reflects the cost of issuing a licence. Given the similarity of the Aircraft licensing process with Ships' radio licensing, ComReg proposes a similar fee structure.

Proposal

- All new aircraft radio licences will be subject to a once-off fee of €100.
- In order for a Licensee to maintain their lifetime aircraft radio licence, the Licensee must confirm their licence details with ComReg every 5 years. Failure to do so will result in the expiry of the licence. The aim of this proposal is to ensure that ComReg maintains an accurate database of active aircraft radio licences.
- Licence amendments including transfer of licences between owners will be charged a fee of €30. In transferring a licence the call signs remains with the original aircraft to which it was allocated.

Question 21. What are your views on the proposed licensing scheme for aircraft radio licences and associated fees?

Question 22. Are there any alternative approaches that you think should be considered?

5.6 Experimenters

Experimenter licences are issued to Individuals, Clubs and Repeater groups for the purpose of establishing a station and conducting experiments. On issuing an Experimenters' Licence, ComReg also issues an associated call-sign number. On occasions, ComReg also receives

requests for special event stations to be established with a special event call-sign.

Currently experimenters' licences are annually renewable and cost €12 on issue and €10 per annum thereafter. Spectrum management is minimal in the primary bands and licensing is mainly an administrative function. In order to reduce the current administrative burden on ComReg and licensees, ComReg proposes a lifetime licence.

Proposal

- Existing Experimenters' radio licences will be amended to a lifetime licence, at the time of next renewal, for a fee of €30. This fee will extend to all experimenters' Licences including Repeater Licences.
- All new Experimenters' radio licences, including Repeater Licences, will be lifetime licences and subject to a once-off fee of €100.
- Upon notification to ComReg and a payment of €30, Experimenters may make use of the extension bands and modes of emissions as outlined in the Experimenter's handbook. The use of these extensions is on a non-protected, non-interference basis. From time to time, ComReg may modify an extension band(s), and in these cases, experimenters may be required to stop using that extension band(s). Licensees found using an extension band or a mode of emission without a valid notification will have their Licence revoked.
- In order for a Licensee to maintain their lifetime Experimenters' radio licence, the Licensee must confirm their licence details with ComReg every 5 years. Failure to do so will result in the expiry of the licence. The aim of this proposal is to ensure that ComReg maintains an accurate database of active Experimenters' radio licences.

- Upgrading of an Experimenters' licence, e.g. from Class 2 to Class 1, and the establishment of special event stations shall be subject to a fee of €30.
- Short-term Experimenter Licences issued to visitors shall be subject to a once-off fee of €30. The maximum duration on these licences is 3 months.

Question 23. What are your views on the proposed licensing scheme for Experimenters' radio licences and associated fees?

Question 24. What are your views on the 3 month maximum duration of a short-term Experimenters' licence issued to visitors?

Question 25. Are there any alternative approaches that you think should be considered?

6 Benchmarking of ComReg Fees against other European countries

6.1 Introduction

As part of the review of spectrum fees, ComReg has undertaken a benchmarking exercise to compare the current fees and those proposed in this document with the fees charged elsewhere in Europe. In general, ComReg has found that in most cases both the current fees and the new proposals are substantially below the fees applied in a number of other EU countries. ComReg also found that the majority of the countries surveyed took factors such as bandwidth, frequency band and/or coverage into account when setting fees for services such as business radio or fixed links. The following sections provide comparisons of the fees applied in Europe for various representative radio systems.

6.2 Fixed Links

In most countries fees decrease with increases in frequency band and increase with increases in bandwidth, reflecting the fact that the link lengths are shorter in the higher frequency bands and the geographic area over which there is potential for interference is reduced. Fees based on bandwidth are likely to encourage users to purchase more efficient equipment.

6.3 Business Radio

For business radio, many countries make a distinction between on-site and wide area systems, with the break point between the two typically being based on a 3 km coverage radius and/or a 5W base station ERP limit. Where this is the case, a much lower fee is charged for on-site systems, reflecting the lower level of interference generated by these systems. Several countries, including Ireland, charge business radio fees that are based solely on the number of stations (base stations and mobiles). This can result in significant anomalies. For example, a user with a national network of high power base stations which require several channels but serve relatively few mobiles may pay less than a user with a large number

of on-site systems that all operate on the same frequency, despite the actual spectrum use being much higher.

Paging systems are typically charged on a similar basis to other business radio systems.

6.4 Maritime and Aeronautical

In general these services operate in bands that are reserved internationally for the services concerned and there is little scope for flexibility in how the spectrum is used. The most appropriate approach in these circumstances, and the one adopted in most countries, is cost-recovery. Comparing the Irish fee for ships and aeronautical licences shows that this is very much lower than the fees charged elsewhere and that an increase to levels similar to those charged in other EU countries (typically between €15 - €77 per annum) would be more appropriate. An alternative approach would be to issue a “lifetime licence” on payment of a single, once-off fee. Such an approach has recently been proposed by the UK, for example.

6.5 Experimenters

Typical amateur radio licence fees in Europe range from €16 to €54 per year. A number of countries around the World, including Japan and New Zealand now issue amateur radio licences for life and the UK has recently announced a proposal for lifetime licences.

7 Summary of Issues for Consultation

Views are sought on the following specific aspects of ComReg's proposals, as outlined in the previous sections:

Promoting optimal use of spectrum

Question 1. Are there other factors, not mentioned above, that ComReg should take into account when considering the optimal use of radio spectrum and the setting of spectrum fees?

Business Radio Licences

Question 2. What are your views on the three year renewable licence with fees payable upfront with 10% discount?

Question 3. What are your views on a temporary licence for licence duration shorter than 3 years?

Question 4. What are your views on the proposed new fee structure and fees for business radio services?

Question 5. What are your views on the proposed low, medium and high usage categories and how ComReg could give more guidance to applicants on the definition of usage?

Question 6. Are there any alternative approaches that you think should be considered?

Question 7. Do you consider that a phase in period should be applied to this new fee structure? If so, what period would be appropriate?

Paging Licences

Question 8. What are your views on the proposed licensing scheme and fees for paging systems?

Question 9. Are there any alternative approaches that you think should be considered?

Fixed Links Licences

Question 10. What are your views on ComReg's stated objectives for fixed links spectrum, namely:

to facilitate market entry and facilitate the rollout of alternative infrastructure;

to encourage the use of fibre by established operators where capacity requirements have grown to the extent that fibre is a viable alternative; and

to encourage the use of the most spectrum-efficient equipment?

Question 11. What are your views on the use of spectrum fees to support these objectives?

Question 12. Are there any further objectives or considerations that you feel ComReg should take into account when setting fixed link fees?

Question 13. What are your views on the proposed radio link licensing process and associated fees?

Question 14. Do you support the proposal to apply a single fee where both H and V polarisation are deployed on the same path and the same frequency?

Question 15. Do you agree with the proposal to apply a fee for point to multipoint links of 4 x the point to point fee? If you do not agree, what alternative approach would you favour?

Question 16. Do you support the proposal to remove the €12 processing fee?

Question 17. Are there any alternative approaches that you think should be considered?

Ships Licences

Question 18. What are your views on the proposed licensing scheme for ships' radio licences and associated fees?

Question 19. What are your views on the proposal to permit transfer of ships' radio licences between owners?

Question 20. Are there any alternative approaches that you think should be considered?

Aircraft Licences

Question 21. What are your views on the proposed licensing scheme for aircraft radio licences and associated fees?

Question 22. Are there any alternative approaches that you think should be considered?

Experimenters Licences

Question 23. What are your views on the proposed licensing scheme for Experimenters' radio licences and associated fees?

Question 24. What are your views on the 3 month maximum duration of a short-term Experimenters' licence issued to visitors?

Question 25. Are there any alternative approaches that you think should be considered?