



Office of the Director of
**Telecommunications
Regulation**

Review of Licensing of Trunked On-Site and Local Area Business Radio in the 410-430 MHz Frequency Band

Response to the Consultation

Document No. ODTR 01/50

July 2001

**Oifig an Stiúirthóra Rialála Teileachumarsáide
Office of the Director of Telecommunications Regulation**

Abbey Court Irish Life Centre Lower Abbey Street, Dublin

Telephone +353-1-804 9600 Fax +353-1-804 9680

Web www.odtr.ie

Table of contents

<i>Foreword</i>	3
1 <i>Introduction</i>	4
2 <i>Content of the response document</i>	4
3 <i>List of respondents</i>	4
4 <i>Main Themes</i>	5
4.1 Licensing (questions 1 and 2)	5
4.1.1 Summary of the Consultation Topic	5
4.1.2 Views of Respondents	5
4.1.3 Position of the Director.....	5
4.2 Frequency Plan for Trunked Radio Systems (questions 3 and 4)	6
4.2.1 Summary of Consultation Topic.....	6
4.2.2 Views of respondents.....	6
4.2.3 Position of the Director.....	7
4.3 Channel Loading Requirements for Trunked Mobile Radio Systems and Community Repeater Systems (question 5)	7
4.3.1 Summary of Consultation topic	7
4.3.2 Views of respondents.....	8
4.3.3 Position of the Director.....	8
4.4 Licence Fees for Analogue Trunked Mobile Radio (question 6)	8
4.4.1 Summary of Consultation topic	8
4.4.2 Views of respondents.....	9
4.4.3 Position of the Director.....	9
4.5 Future demand for analogue and digital trunked mobile radio systems for public or private applications in Ireland (question 7)	9
4.5.1 Summary of Consultation topic	9
4.5.2 Views of respondents.....	9
4.5.3 Position of the Director.....	10
5 CONCLUSIONS	10

Foreword

Thank you to all those who responded to the consultation on a Review of Licensing of Trunked On-site and Local Area Business Radio in the 410 - 430 MHz Band. My Office received ten responses representing the views of current and potential private and public access mobile radio operators and suppliers. The responses were broadly supportive of the main proposals in the Consultation Document and put forward a number of helpful suggestions that will be taken into consideration in developing the new, consolidated licensing regime for these services.

This paper summarises the responses to each of the issues and proposals raised in the Consultation and outlines the actions we now propose to take.

Etain Doyle

Director of Telecommunications Regulation

1 INTRODUCTION

This paper is the ODTR's response to the consultation document addressing a Review of Licensing of Trunked On-site and Local Area Business Radio in the 410 - 430 MHz Band (ODTR document 01/25 of April 2001).

The purpose of the consultation was to gauge the demand for trunked private and public access mobile radio (PMR and PAMR) in the 410 - 430 MHz band, and to seek views on the introduction of a consolidated licensing regime for trunked radio systems to cater for both PMR and PAMR applications. New regulations were proposed to cover both trunked PMR and PAMR radio systems and provide greater flexibility in the number of radio channels that may be assigned to trunked radio systems.

2 CONTENT OF THE RESPONSE DOCUMENT

This response document contains the following further sections:

- a list of respondents to the consultation
- background to the consultation
- summaries of the consultation topics, the views of respondents and the Director's position for each of the main themes addressed in the consultation paper;
- Conclusions and summary of proposed actions following the consultation.

3 LIST OF RESPONDENTS

The ten respondents to the consultation were:

- Aer Rianta
- BP Multipage
- Dublin Bus
- Dublin Light Rail Transit Project (LRT)
- Esat Group
- Network Repeater Services
- ntl Radio Communications (Ireland)
- Pocketfones Ltd
- Southern Electronics Ltd
- Sigma Wireless Communications Ltd

The Director wishes to express her thanks to everyone who contributed to the consultation. With the exception of material marked confidential, the written comments of respondents are available for inspection at the ODTR's office in Dublin.

4 MAIN THEMES

4.1 Licensing (questions 1 and 2)

4.1.1 Summary of the Consultation Topic

The consultation document sought views on a proposal for a new, consolidated licensing regime, by way of regulation under the Wireless Telegraphy Acts (1926-1988), for both private and public access trunked mobile radio systems in the 410 - 430 MHz bands. Existing private trunked radio licensees would be migrated to the new licensing regime without being adversely affected in any way. Views were also sought on a proposal to make provision for public switched telephone network (PSTN) access, both under the proposed new trunked radio licensing regime and under the existing Community Repeater Regulations.

4.1.2 Views of Respondents

There was broad agreement with both proposals, with the exception of one respondent who was concerned that private network operators might have difficulty sustaining the same fee levels as operators who provided services on a profit basis for third parties. Another operator suggested that the new regime should also permit the licensing of trunked systems in VHF high band to support services in rural areas. With regard to PSTN access, one respondent suggested that a call duration limit, or restriction to off-peak hours, might be appropriate where this facility is used as the higher traffic generated by PSTN access might lead to congestion on the radio network at peak times.

4.1.3 Position of the Director

The Director is encouraged by the broad support for the proposed licensing initiative and intends to proceed with development of the new regulations, consolidating the licensing regime for private and public access trunked mobile radio systems and allowing access to the PSTN within the new regime. She also intends to proceed with amendment of the Community Repeater regulations to permit access to the PSTN. It should be noted that, with the introduction of the new regulations and with the current telecommunications licensing regime, it is likely that PAMR operators will be required to hold a separate telecommunications licence issued under Section 111 of the Postal and Telecommunications Services Act, 1983, as amended.

Although the new trunked mobile radio regulations will not be restricted to specific frequency bands, it should be noted that only the UHF (410 - 430 MHz) band has been specifically allocated to analogue trunked radio systems and that it is likely to be difficult to accommodate such systems in other mobile radio bands due to the high level of usage by existing mobile systems. It should be noted that at some locations

channel availability for wide area trunked mobile radio systems may be constrained by the need to co-ordinate with the UK Administration.

The Director does not consider it necessary to impose limits on call duration, however, she expects licensees to manage their networks in a manner that ensures compliance with loading criteria whilst maintaining a satisfactory grade of service for users. In addition, it should be noted that where expansion of an existing licensed system is proposed, call durations cannot be used by a licensee to justify the need for additional radio channels. With regard to fees, these are comparable to the existing fee levels for business radio systems at the specified minimum loading levels. Hence with the higher loading levels that are feasible with trunked networks overall system licence fees may be significantly lower on a per-terminal basis than for non-trunked networks. The Director is keen to encourage wider customer choice by promoting availability of both private and public access trunked radio networks, and considers that a uniform approach to spectrum licence fees is consistent with this objective. However, it is likely that public access trunked radio operators will also be required to hold a telecommunications licence issued under Section 111 of the Postal and Telecommunications Services Act, 1983, as amended.

4.2 Frequency Plan for Trunked Radio Systems (questions 3 and 4)

4.2.1 Summary of Consultation Topic

The consultation document invited views on the minimum number of 12.5 kHz channels that should be licensable for a trunked radio system and on the minimum channel separation that should apply for co-sited trunked radio systems.

4.2.2 Views of respondents

Responses to question 3 addressed two separate issues, namely the minimum number of channels for new systems and the minimum number of incremental channels that should be licensed to enable expansion of existing systems. For new systems, two respondents suggested that blocks of two or three 12.5 kHz channels would be sufficient for smaller on-site networks. Two respondents favoured retaining blocks of five channels; one of these was concerned that smaller blocks might encourage low-usage wide area PMR systems that might be better catered for by PAMR services.

Four respondents supported the licensing of smaller blocks for expansion of existing systems. Of these, three respondents explicitly suggested that single channels should be licensed to cater for expansion.

Only three respondents expressed a view on the minimum channel separation for analogue trunked networks. Of these, two supported retention of the 300 kHz separation, to minimise the risk of intermodulation and interference to other systems. The third respondent expressed concern that future demand might be constrained

unless a smaller channel spacing (e.g. 200 kHz) was adopted, as only nine traffic channels could currently be supported per site. One respondent suggested remaining fixed links in the 410 - 430 MHz band should be migrated to higher frequencies to create more room for analogue trunked services.

4.2.3 Position of the Director

Having considered the responses, the Director proposes to retain the five 12.5 kHz channel requirement for new wide area analogue trunked radio systems in the 410 - 430 MHz band for the time being, to gain maximum benefit from trunking efficiency. In the case of on-site analogue systems, the Director proposes that the required minimum number of trunked radio channels be reduced to two to allow for the introduction of smaller systems. The rationale for this decision is based on the fact that there is likely to be greater demand for on-site systems and there is also a greater opportunity to re-use the spectrum within a geographic region. Where an existing licensed trunked radio system requires additional channels, the Director proposes to permit the licensing of additional single 12.5 kHz channels, however this will be dependent on the local availability of spectrum.

The Director is considering the options for licensing digital trunked radio systems in the light of this consultation (see section 4.5.3), and is currently minded to permit the licensing of single 25 kHz channels where TDMA technology (e.g. TETRA) is deployed.

The Director proposes to retain the existing channel plan for analogue trunked radio systems, based on 300 kHz channel separation, to minimise the risk of interference and facilitate compatibility with existing systems. Operators should pay careful attention to site engineering including adherence to the guidelines in ETSI Technical Report TR 100 053, "Radio Site Engineering for Radio Equipment and Systems in the Mobile Service", to minimise the risk of interference between co-sited systems.

4.3 Channel Loading Requirements for Trunked Mobile Radio Systems and Community Repeater Systems (question 5)

4.3.1 Summary of Consultation topic

Views were sought on whether the existing community repeater loading requirements (50 mobile terminals per channel per site) should be applied to analogue trunked mobile radio systems. It was proposed that this loading requirement would take effect two years after licence issue and that where they are not met the ODTR may decline to re-license the operator for one or more channels if there is other unsatisfied local demand for channels. Licensees would need to meet the minimum loading requirement for existing channels before they could apply for any additional channels.

4.3.2 Views of respondents

This proposal was broadly supported by seven of the eight respondents who expressed a view. Two of these suggested that control channels should be excluded from the loading criteria (e.g. in the case of a five channel system the loading requirement should be 200 rather than 250 mobiles). One respondent, whilst generally supporting the proposal, noted that there may be occasions when additional channels were required before loading criteria had been met, to cater for a planned "step increase" in overall system loading.

One respondent suggested that application of different loading criteria to different applications may be a better approach than a single, blanket loading criterion. In particular, it was suggested that the loading requirement should take account of safety related and emergency use where reliability and availability needs to be guaranteed, and that different criteria may be required for data applications than for traditional voice services.

4.3.3 Position of the Director

For conventional voice based services, the Director favours consistency with existing community repeater services and therefore intends to apply the existing minimum loading criterion of 50 mobiles per licensed channel to analogue trunked services. Whilst the Director recognises that control channels cannot be used to convey traffic, she believes this is offset by the additional efficiency gains which result from trunking where four or more channels are available. For such systems, the loading requirement will therefore be based on the sum of all licensed channels. For on-site systems deploying three channels or less, the loading criterion will not be applied to the control channel.

Requests for expansion channels will also be subject to justification in terms of traffic levels, as well as compliance with the minimum loading criteria. Minimum loading and traffic occupancy criteria specific to the licensed system will be specified in the licence.

The Director will review the appropriateness of the loading criteria for digital and data systems in the future, as demand for these systems develop.

4.4 Licence Fees for Analogue Trunked Mobile Radio (question 6)

4.4.1 Summary of Consultation topic

Views were sought on the proposed fee levels for analogue trunked radio services, namely an annual charge of €625 per channel per base station in the first year, rising to €1,000 thereafter.

4.4.2 Views of respondents

A range of views were expressed on the proposed fees. Four of the eight respondents who expressed a view were supportive, although one of these suggested there may be merit in charging a higher fee for public access services than for private services, while another suggested that there should be scope for reserving channels for a limited period at a lower fee pending the introduction of services on those channels.

Three respondents argued that fees should take account of the geographic extent of the licensed services, so that a lower fee would apply to on-site services than to wide area services. Two of these respondents also suggested that the use of spectrally efficient techniques such as dynamic channel allocation should be reflected in lower fees. One respondent expressed concern that the proposed fees were high in relation to the likely revenue of the services and suggested that a lower figure (IR£500) would be more reasonable to preserve the market.

4.4.3 Position of the Director

The Director acknowledges that there may in some cases be justification for differential charging between different types of trunked radio service, for example wide area and on-site systems. This will be addressed in the future as part of a wider review of legislation and fees for the use of radio spectrum. In the meantime, the Director considers that the proposed fees are consistent with those applied to other licensed PMR and community repeater services and are a fair reflection of the licensing costs incurred by the ODTR and the value of the spectrum resource to the licensee. She therefore intends to proceed with the fee structure as proposed in the consultation document

4.5 Future demand for analogue and digital trunked mobile radio systems for public or private applications in Ireland (question 7)

4.5.1 Summary of Consultation topic

Views were sought on the likely future demand for analogue and digital trunked mobile radio systems for public or private applications in Ireland.

4.5.2 Views of respondents

Respondents were generally positive about the future prospects for the trunked mobile radio market in Ireland, with one putting forward an estimate of up to 40,000 users in the longer term. Most thought that short term growth would be mainly in the area of on-site and local area trunked systems. Although there was not felt to be a demand currently for a national trunked radio network, one respondent suggested this may arise in the future if digital technology costs fall and the application range increases. One respondent expressed interest in an on-site TETRA PAMR service for a specific requirement.

4.5.3 Position of the Director

The Director is encouraged by the positive approach of the Business Radio industry and is keen to facilitate future growth of both analogue and digital services. It is envisaged that the planned new licensing regime for analogue services will be in place by September. The new licensing regime will be supported by further initiatives relating to digital trunked radio as this segment of the market develops. In the interim, applications for on-site or local area digital trunked radio systems will be considered on a case-by-case basis and fees will be charged on the same basis as for analogue trunked radio systems, pro-rata to the amount of spectrum required. Minimum loading and traffic occupancy requirements will also be consistent with those applied to analogue trunked systems.

5 CONCLUSIONS

The Director is pleased to confirm her intention to proceed with a new, consolidated licensing regime for trunked mobile radio systems and to amend the community repeater regulations to permit PSTN access subject to the requirements of section 111 of the Telecommunications Act, 1983 (as amended), in line with the proposals in the consultation document. The minimum channel assignment will be retained as five 12.5 kHz channels for wide area systems but reduced to two for on-site systems. Minimum loading criteria will apply to trunked mobile radio systems as indicated in section 4.3.3 of this document. An annual charge of €625 per 2 x 12.5 kHz channel per base station will apply to all analogue trunked radio systems in the first year, rising to €1,000 thereafter. The new licensing regime is expected to be in place by September.

Further initiatives relating to digital trunked radio are planned. In the meantime, applications for digital systems will be considered on a case-by-case basis and will be subject to the fees specified above, scaled pro-rata to the amount of spectrum assigned. The Director is grateful for the responses received to this consultation and looks forward to further expansion in the provision of trunked mobile radio services in Ireland, leading to greater choice and competition in the mobile communications market.

<p>This response paper does not constitute legal, commercial, or technical advice. The Director is not bound by it. The response is without prejudice to the legal position of the Director or her rights and duties under relevant legislation.</p>
--