



Office of the Director of
**Telecommunications
Regulation**

Delivery of Licensed Programme Services

Consultation Paper

Document No. ODTR 00/51

28th July 2000

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1. INTRODUCTION

The Director of Telecommunications Regulation (the 'Director') is responsible for the regulation of both telecommunications services and broadcast transmission. Given the breakneck speed at which both of these sectors move, it is important that the Director has a clear view on the issues contained in this paper in order to continue to capitalise on the benefits of a liberalised communications market and create a world class electronic communications sector.

The Director believes that a regulatory regime should, whenever possible, utilise competition as a means to provide what the consumer wants. Regulation should also promote consistency and coherence in the rules and their application and ensure transparent and accountable procedures. Against this background the possibility of providing digital television by means of the Asymmetric Digital Subscriber Line ("ADSL") technology has been raised. The Director wishes to explore and open up for discussion the issues arising and there surrounding, in particular the delivery of a category of services known as "licensed programme services".

Before engaging on a major analysis as to whether a licensing regime should be put together for the delivery of digital television over ADSL, the Director wishes to gauge whether such would be appropriate, the level of interest in providing such services and the terms upon which they might be provided. Accordingly, the Director has decided to consult and seek views on the implications that convergence and, in particular, the use of ADSL technology will have for the legal and regulatory frameworks covering telecommunications and broadcasting and their development during the next 3-4 years. The Director wishes to invite comments from interested parties in relation to any of the questions raised in this paper. The closing date for receipt of comments is **8th of September 2000**. Please see Section 8 for details on submitting comments on this paper.

This consultation paper does not constitute legal, commercial or technical advice. The Director is not bound by it. This consultation is without prejudice to the legal position of the Director or her rights and duties under legislation.

2. GENERAL BACKGROUND

Due to recent technological developments the traditional distinction between telecommunications and broadcasting is becoming increasingly obsolete. Telecommunications services are deliverable via wireless telegraphy "radio" based apparatus, and the technology exists to enable data and audio-visual material to be 'broadcast' over traditional 'copper' wire and fibre optic telecommunications networks. This phenomenon has become known as "convergence" and is a prime characteristic of the development of the "Information Society". However, convergence is not just about technology, it is about services and about new ways of doing business and interacting with society. The emergence of new services and the further enhancement of existing services are likely to increase the overall market for 'Information Society' services. Such services include online business information services, distance learning (telematics), home shopping, home banking (e-business), television on demand, interactive games, remote health care (telemedicine) and teleworking.

Already digital voice, data and audio-visual content can be delivered across many distribution platforms: individual messages are routed across both wired and wireless transmission media (whether via terrestrial broadcast), mobile radio, satellite, cable, fibre, copper or a combination of these media. Increasingly, the alternative delivery platforms will be substitutes for each other while, simultaneously, being dependent on each other. More and more, consumers will actively engage with the services offered and the unique selling point will be the content rather than the delivery platform.

3. LEGAL BACKGROUND

The domestic legislation covering telecommunications licensing, the Postal and Telecommunications Services Act, 1983, as amended (the '1983 Act'), defines "telecommunication network" or "telecommunications service" in a way that could cover virtually any system that conveys messages, including the broadcast transmission networks and those run by cable telecommunications operators which offer both telecommunications and broadcasting services. In addition, the Commission of the European Communities has recently presented a proposal for a

Directive on a common regulatory framework¹ that expands definitions even further, providing for the regulation of "electronic communications network"² and "electronic communications service"³.

At present, separate regimes exist for the licensing of telecommunications and broadcasting. Separate regimes apply because different circumstances obtained in both sectors at the time of legislative update in 1998 and 1999, respectively. The power to regulate both of these sectors was transferred to the Director pursuant to the Telecommunications (Miscellaneous Provisions) Act, 1996.

The distinction drawn between telecommunications and broadcasting in the regulatory and licensing regime has its origins in the legislative framework established by the Wireless Telegraphy Act, 1926, as amended (the '1926 Act'), and in the development of technology over time. This distinction remains a feature of both the legislative and regulatory landscape today. The 1926 Act provides for the licensing of wireless telegraphy apparatus, which was traditionally used for the purpose of broadcast transmission, in contrast to wire based point to point communication.

4. THE CURRENT LICENSING REGIME

Following extensive analysis and consultation, the Director introduced new licensing frameworks for both telecommunications⁴ and for television⁵ (Cable and MMDS) transmission late in 1998 and early 1999 respectively. Currently in Ireland, on the telecommunications side, the Director regulates telecommunications services and networks provided to the public. On the broadcast transmission side, there are three non-satellite transmission platforms for consumers to receive television signals - cable, MMDS and terrestrial (free-to-air), which are also regulated by the Director.

¹ Proposal for a Directive of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services presented by the Commission on 12th July 2000. See http://europa.eu.int/comm/information_society/policy/framework/index_en.htm

² 'electronic communications network' means transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks, networks used for radio and television broadcasting, and cable TV networks, irrespective of the type of information conveyed;

³ 'electronic communications service' means services provided for remuneration which consist wholly or mainly in the transmission and routing of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but excluding services providing, or exercising editorial control over, content transmitted using electronic communications networks and services;

⁴ "Telecommunications Licence Applications - Report on the Consultation Process" - ODTR Document No 98/43

⁵ "Television Transmission Licensing For Cable and MMDS Systems - Report on the Consultation" ODTR Document 98/63

In addition to the domestic consideration of these issues, as noted above an in depth review of these matters is currently taking place at European Union level⁶.

4.1 Telecommunications Licensing

The telecommunications regime permits full liberalisation for services provided in the telecommunications market. Telecommunications licences are granted under the 1983 Act, with the regime established in 1998 for licensing the provision of telecommunications services and variations thereof, to the public.

With the exception of mobile and fixed wireless access (wireless local loop) telecommunications, licences can be used to provide whatever range and geographic extent of telecommunications services the operator chooses. In order to ensure that Irish users get the benefit of the services enabled through the provision of frequency spectrum, requirements as to roll-out, in terms of services and geographic coverage, are included in licenses based on frequency spectrum.

eircom plc, as an organisation designated under European Communities (Voice Telephony and Universal Service) Regulations, 1999⁷, is required to ensure that within the geographic area identified, any request, in so far as the fixed operator considers it reasonable, by a person for connection to the fixed public telephone network at a fixed location and access to fixed public telephone services, directory and public payphone services, is met. In particular, such connection shall be capable of allowing users to make and receive national and international calls, enabling speech, facsimile and data communications. There are no comparable obligations on other licensed telecommunications operators. However, reimbursement for meeting universal service obligations may occur where the Director determines that in meeting

⁶ The Commission of the European Union is currently carrying out a review of communications licensing as part of the 1999 Telecommunications Review. This review has consisted of consultation and report by the Commission and the publication of several proposals for rationalising the regulation of communications⁶. The question of treating broadcasting networks in the same way as telecommunications networks have been raised in that context. However, any changes are unlikely to take effect for sometime. Arising out of this review several proposals for Directives in this regard were presented by the Commission on 12th July 2000. See http://europa.eu.int/comm/information_society/policy/framework/index_en.htm

⁷ SI 71 of 1999

the universal service obligation *eircom* experiences a “net cost”⁸ and such "net cost" represents an unfair burden⁹. Such reimbursement can come either from a fund administered by the Director and contributed to by licensed telecommunications operators or from a supplementary charge added to the charge for interconnection to the public telecommunications network. No such determination has yet been made by the Director.

4.2 Broadcast Transmission Licensing

The provision of licensed programme services is governed by the 1926 Act. In providing for the new regulatory environment for Cable and MMDS operations, a primary concern of the Director is to ensure the provision of digital services to consumers and to facilitate the longer-term development of the communications sector. In particular, Cable was seen as an important means of delivery of a wide range of services to consumers. The Director's key objectives in relation to broadcasting transmission platforms are:

- Universal provision of free-to-air national television services;
- Universal access to re-transmission of the main UK television services;
- Efficient use of the frequency spectrum;
- Promotion of consumer interests through the:
 - facilitation of consumer choice between broadcast transmission platforms;
 - competitive development of quality communications infrastructure and services;
 - promotion of low cost access to information/interactive services;
- Fair competition in the market;
- Interoperability of equipment and related services;
- Transparency of regulation;
- Transparency of commercial practice.

In 1998 the Director carried out extensive analysis into the future of television delivery in Ireland. That analysis involved an examination of all forms of television

⁸ “net cost” means the cost, if any, having regard to the direct and indirect costs and revenues associated with the provision of universal service including, in particular, any market benefits accruing to a person arising from its obligation to provide universal service”.

transmission, including, Digital Terrestrial Television, Cable/MMDS and Deflectors¹⁰.

4.2.1 Digital Terrestrial Television ('DTT')

In addition to the then existing television transmission platforms, the Director also examined the issue of DTT. DTT is attractive from the standpoint that digital technology makes more efficient use of the available spectrum, by enabling several programme services to be compressed into the space currently required to transmit one analogue service, all with the possibility of high quality sound and vision. DTT also has the unique feature, that extensive population coverage (98%) can be provided with a moderate capital expenditure. This would have provided welcome competition in the market for the delivery of digital television and in turn helped to lower the prices charged to the consumer and increase the customer focus of the incumbents. Accordingly, it was intended that digital broadcasting would, in 2000, commence as a nation-wide alternative to the Cable/MMDS network. During the Cable and MMDS licensing process it was envisaged that the Broadcasting Bill, the enabling legislation, would have been enacted by now and that DTT would begin offering its services in September of 2000. However, DTT has been somewhat delayed and is now estimated to be available from 2001.

4.2.2 Cable and MMDS

Following on from the Smith/NERA report¹¹ the Director issued a report entitled "The Future of TV Transmission in Ireland - The Way Forward"¹², wherein she set out the proposals regarding a licensing regime for Cable and MMDS operations. This regime was deliberately directed at achieving the objectives set out in that consultation. Such a regime duly followed in the form of the Wireless Telegraphy (Programme Services Distribution) Regulations, 1999¹³. These regulations provide for the licensing of the provision of licensed programme services.

⁹ SI 71 of 1999.

¹⁰ "The Future Delivery of Television Services - Smith/NERA Report" - ODTR Document 98/06

¹¹ ODTR Document 98/06

¹² ODTR Document 98/20

¹³ SI 73 of 1999

For the purposes of Cable and MMDS licences "licensed programme services" are defined at regulation 2 as any of the following:

- "(a) television broadcasts (within the meaning of the Wireless Telegraphy (Television Programme Retransmission and Relay) Regulations, 1991 (S.I. No. 252 of 1991)) that originate in another Member State of the European Communities and that fall within the fields coordinated by Council Directive 89/552/EEC of 3 October 1989 as amended by Council Directive 97/36/EEC of 30 June 1997;*
- (b) a television programme service (within the meaning of the Regulations referred to in paragraph (a)) that originates in a state (other than a Member State of the European Communities) being a party to the European Convention on Transfrontier Television done at Strasbourg on the 5th day of May, 1989 and that complies with the terms of the Convention;*
- (c) a programme service, other than a programme service to which paragraphs (a), (b) or (d) relate, approved of, for the time being, by the Director;*
- (d) a programme service that originates in the State, other than a programme service to which (a), (b) or (c) relate, authorised, for the time being, by law";*

4.2.3 Roll-out of Digital Cable and MMDS

As the networks for both services were seriously underdeveloped at the time of the establishment of these regimes and in order to meet the objectives set out above, the Cable and MMDS licences provided for substantial roll-out requirements. As part of their licence, the current Cable and MMDS Licensees are required to roll out digital services within their licensed areas and appropriate milestones to be met during the period are specified in the licences. More particularly, condition 9 of both the Cable and MMDS licences ('condition 9') requires roll out of digital services in accordance with the Digital Roll Out Plan. The Digital Roll Out Plan, which is a Part V of the licences, specifies the milestones to be met in that regard. The quantifiable result in this respect is network build out and service provision (i.e. number of homes passed), and these are based on targets set out in the business plans submitted by the licensees. In particular, condition 9 provides:

- "(1) The licensee shall, by the dates specified in the digital roll-out plan, design, construct, install, work and put into use a digital transmission network.*
- (2) The licensee shall be responsible for obtaining all approvals, consents, licences, permissions and authorities required by law to design, construct, install, work and put into use such a network.*
- (3) If, within a period of 6 months after the dates specified in the digital roll-out plan, the licensee does not comply with the requirements specified in the plan, the Director may, without prejudice to any other powers or remedies he or she may have under the Wireless Telegraphy (Programme Services Distribution) Regulations, 1999, reduce the period of exclusivity granted to the licensee under paragraph 2 (1) for part or all of the area described in Part III by such period as the Director considers appropriate".*

In order to ensure this roll out of Digital Cable and MMDS and encourage investment therein, the Director determined that a period of limited exclusivity for the licensees within platforms was appropriate¹⁴. Thus, according to the terms of the Cable/MMDS licences, the Director may not licence any other person or organisation to deliver licensed programme services within a licensed area by Cable or MMDS, as applicable or any equivalent system until April 2004. The importance of the development of cable as a digital transmission platform, while requiring a substantial investment in order to exploit its full potential, was thus underlined. The Director considered this period appropriate as a shorter period would be unlikely to attract financing while a longer period might discourage innovation.

As can be seen above, condition 9 allows for the withdrawal of exclusivity with respect to relevant areas where there is failure to reach relevant targets within six months of the roll out dates specified in the plan. In the event of default by the Cable/MMDS operators leading to a loss of exclusivity, the Director believes it would be desirable to have alternatives ready to provide digital services in the shortest possible term.

¹⁴ "Television Transmission Licensing For Cable and MMDS Systems -Report on the Consultation" - ODTR Document 98/63

5. NEW TECHNOLOGY –

5.1 Asymmetric Digital Subscriber Line ('ADSL')

One of the current technological developments that may blur the distinction between broadcasting and telecommunications is ADSL, which is one of the standards within the xDSL (Digital Subscriber Line - Generic) family of technology. ADSL uses the Discrete Multi-Tone (DMT) modulation scheme, which allows the carriage of data in the frequency spectrum above that used by the Plain Old Telephony Service (POTS). ADSL is asymmetric and can offer forward path speeds of up to 8 Mbs⁻¹ to the user and return path speeds of 1 Mbs⁻¹ back from the user to the local exchange. ADSL is highly suited to, the delivery of interactive data such as Internet services where the request for data takes up less space than the delivery of the requested data.

xDSL technologies are currently being used internationally, principally as a substitute for leased lines, providing services in the main to business customers. However, the service offered by ADSL and its transparency to the data carried, make it technically feasible for an operator who holds a telecommunications licence to provide digital television services. However, there are certain practical limitations on such a service. Firstly, a high speed optical or 'radio' backbone needs to be in place which can handle multiple video signals, each of which will occupy at least 4.5Mbs⁻¹ of backbone capacity. Secondly, if a cable equivalent service is assumed, then the maximum number of users that can be fed from each DSL Access Multiplexer (DSLAM) is around 28 users. As compression has already been performed on the video and given the nature of viewing habits, as can be seen from the channel 'ratings figures', then there may be little scope for concentration. It may be possible that limited concentration i.e. 2-3:1 could be used. However, this could lead either to increased user complaints or to an increase in buffer size within the Set Top Box and hence an increase in the operators capital expenditure. It should be noted that as more users are concentrated onto the same DSLAM, then the access speeds decrease if users use the system simultaneously. Thirdly, ADSL's speed is limited by loop length, i.e. the length of the 'copper' line from the exchange to the user. For full rate ADSL, realistically the furthest user can only be 4km away from the exchange.

The provision of television over an ADSL network would work as follows; the signal is carried over an optical backbone, with local exchanges, which convert the optical signal into the electrical domain and it is then delivered by a cable to the home. Such a network operates in a similar manner to a cable network and both are capable of delivering the same services to the subscriber, i.e. Internet and programme services.

A practical example of such a service would be in the city of Hull in the UK, where Kingston Communications' high-speed broadband ADSL is, at present providing advanced TV and Internet. Launched in the Hull region in January 2000 and available in 500+ homes in the Hull area, it combines Video On Demand and conventional television services, where the quality levels are not 'cable equivalent' but approach that of an S-VHS video, with 256Kb/s internet access. This project can give a good indication of one of the possible paths for the future of broadband services such as digital television services. With improvements in technology it can be expected that the application and efficiency of ADSL will become more adept at delivering digital television in future.

The question of ADSL providing an alternative to Cable, MMDS or DTT was raised at the time of the consultation into the future of television transmission. Analysis carried out at that time showed that the delivery of digital via ADSL was not feasible at that time, due to the requirements that each video signal would place on the telecommunications backbone. In addition, in financial terms the costs involved in funding the provision of digital video/television over ADSL were considerable and did not seem feasible for a small country such as Ireland. Accordingly, at that time it was not accepted as an alternative given the early stage of its development and the associated technical difficulties and it was felt that it could not be relied on to meet the objectives set out in that consultation. The interest in providing service over ADSL has been renewed, particularly in light of the range of services, covering telephony and Internet as well as digital television that the Cable and MMDS operators are due to provide shortly. Those factors together with the substantive upgrading of the national backbone network and the moves towards the unbundling of the local loop have changed the landscape considerably.

While some industry participants are confident that the technical difficulties have been or are being overcome in respect of television delivery by ADSL, this view is still contested in many quarters. DSL technology generally is seen as an excellent medium/platform for the carriage of enhanced data services, but not necessarily the high capacity required for television purposes.

eircom plc. has indicated its interest in the possibility using ADSL technology to provide a broad range of services including digital television services. In light of this, the Director considers it useful at this stage to consider the position of ADSL with respect to the delivery of digital television generally, including licensed programme services.

5.2 Roll-out of ADSL

Roll out requirements are a key aspect of the current broadcasting regime. With regard to telecommunications, condition 23 of the *eircom*'s General Telecommunications Licence prohibits it, as an operator with significant Market Power (SMP), from acting in an unfairly discriminatory or unduly preferential way as between its affiliates/downstream arms and licensed competitors. Accordingly, the roll out of ADSL and the unbundling of the local loop by *eircom* will enable all operators to offer services similar to those provided by *eircom*. This provision is aimed at ensuring that the *eircom* network, including the ADSL network, is available to all operators on a non-discriminatory basis. This is further articulated in section 6 of the Decision Notice D7/00¹⁵ and reflected in the introduction to *eircom*'s (Reference Interconnect Offer (RIO) of 27th June 2000.

In this regard, in Decision D6/00¹⁶ the Director welcomed *eircom*'s invitation to the other licensed operators ('OLOs') to participate in its ADSL trials and required that this is initiated without further delay. As yet, the Director understands that OLOs have not been permitted to join such trials. *eircom* is reminded of its obligations in

¹⁵ "Decision Notice D7/00 & Report on the Consultation *eircom*'s Reference Interconnect Offer" - ODTR Document 00/31

¹⁶ "Report on the ODTR consultation on local loop unbundling - Decision Notice D6/00" - Document ODTR 00/30.

this regard and the Director will deal with any substantiated complaint with *eircom* under the dispute resolution procedures.

Whilst, there is an obligation upon *eircom* in relation to the general universal service obligation with respect to access to the fixed public telecommunications network and access to fixed telecommunications service, there is no universal service obligation with respect to ADSL (or any other DSL technology) *per se*. It is difficult to see how an equivalent set of conditions to those applying to Cable/MMDS licensees could be developed. Accordingly, ADSL would be rolled out on the basis of *eircom*'s and other licensed operators business plans. In addition, as noted above, where the Director determines that the cost involved in the provision of universal service was an unfair burden, she can direct that *eircom* be reimbursed. This can be contrasted with roll-out and coverage obligations that attach to the Cable and MMDS operators licences and sanctions attached to default of roll out obligation, i.e. withdrawal of exclusivity.

Accordingly, before engaging on a major analysis as to whether the delivery of digital television over ADSL technology should be accommodated, and if so how, the Director would wish to be fully informed as to the level of interest in providing such services and if there was sufficient interest, on what terms would or should such services be provided.

Questions

- 1. What are your views as to the technical capability of ADSL to deliver digital television services?**
- 2. What quality of service, in terms of picture quality and reliability, do you believe it is appropriate to offer customers?**
- 3. What would be the nature of digital television services you would see ADSL delivering, i.e. how many channels, what level of interactivity, what level of internet service do you consider ADSL capable of delivering?**
- 4. Do you see digital television services delivered over ADSL as a commercially viable product for the retail market?**
- 5. What are your views on the capacity of the public switched telephone network to cope with the transmission of digital television, including licensed programme services by ADSL? Is it likely there will be an adverse effect on the quality of other services either traditional voice telephony, or data transmission?**
- 6. Do you believe that ADSL would be an appropriate platform to provide 'licensed programme services' as envisaged by the current television transmission regime? If your answer is yes, please explain why.**
- 7. Do you believe that ADSL would be an appropriate platform to provide digital television, including 'licensed programme services', in circumstances where the Director withdraws exclusivity from a Cable or MMDS operator who is in default of their licence obligations?**
- 8. Do you believe that digital television, including 'licensed programme services', delivered via ADSL would provide for quick roll-out of digital services should the Director determine that Cable/MMDS operators are in default of their licences, and consequently withdraw the exclusivity they enjoy with respect to the areas of default?**
- 9. Is there a case for establishing a licensing regime for ASDL in non-cabled areas?**

- 10. Would you be interested in providing an ADSL based television service in MMDS franchises areas only?**
- 11. If you are a telecommunications operator, would you consider preparing for the provision of 'licensed programme services' in any of the circumstances outlined above? What would be your major decision points?**
- 12. Are there any other issues that you believe should be taken into consideration?**
- 13. What conditions would you envisage in regard to roll-out and what kind of programming/other services would you consider providing?**
- 14. What is the minimum take-up for viability of an offering?**
- 15. What level of fee would you propose to charge viewers?**

Please give reasons for all your answers.

7. SERVICES NOT COVERED BY THE 'LICENSED PROGRAMME SERVICES' LICENCES

In addition to "licensed programme services" such as those covered in the definitions in the Wireless Telegraphy (Programme Services Distribution) Regulations, 1999, which include pay per view services, the Director from time to time receives queries as to what type of services may be delivered on foot of a telecommunications licence as opposed to a licensed programme services licence. It has not been possible to be completely definitive in response to such queries, as technology and the range of services available changes. However, it may be useful to set out some of the most commonly available innovative services that are included in the telecommunications licence such as internet access and interactive services such as video-on-demand, and to ask if respondents are contemplating other services that they would wish to have considered at this time. It should be stressed that the inclusion of services in a list of innovative telecommunications licence services is not exhaustive. In case of doubt, the ODTR will be pleased to advise.

16. Are there other services that you are currently considering offering that you would wish to have included in a non-exhaustive list of telecommunications services?

If so, please provide full details.

8. OTHER ISSUES

Given the relative complexity of this matter, the questions raised may not be exhaustive. Respondents are therefore invited to submit additional relevant comments where they consider that such issues have not been addressed by the questions in this Paper.

9. CONSULTATION PROCEDURE, TIMETABLE AND CONTACT PERSONNEL

All comments are welcome, but it would make the task of analysing responses easier if comments reference the relevant question numbers from this document. In order to promote further openness and transparency the ODTR will publish responses received to this consultation paper, excluding commercially sensitive information. Where material that is commercially sensitive is included in a response, this should be clearly marked as such and included in an Annex to the response.

The consultation period will run from 28th of July 2000 to 8th of September 2000.

Comments should be submitted in writing before 5.00 p.m. on **8th September 2000** to:

Claire Nolan,
Office of the Director of Telecommunications Regulation,
Abbey Court,
Irish Life Centre,
Lower Abbey Street,
Dublin 1

OR

Comments may be submitted via email before 5pm on **8th September 2000** to: nolanc@odtr.ie