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DIRECTORATE GENERAL FOR INFORMATION SOCIETY & MEDIA,
Directorate B: Electronic Communications Policy, Policy Development.
Attention: Mr. Peter Scott, Head of Unit

Commission of the European Communities,
B-1049 Brussels.

31st August 2007

Advisory Note Concerning RTÉ's Approach to Digital Switchover in Ireland

Dear Sirs,

1. DIGITAL SWITCHOVER IN IRELAND

In April 2007, in line with EU policy of switching-off analogue television transmission and switching-over to the transmission of digital television services (by circa 2012), the Irish Government enacted the *Broadcasting (Amendment) Act 2007*.

Amongst other matters, this Act provides that at least one national digital television multiplex (MUX) (a broadcasting system using a specific section of dedicated radio spectrum) be established, maintained and operated by RTÉ as a Free-To-Air (FTA) Digital Terrestrial Television (DTT) service.

When national analogue television transmission is eventually switched-off, it is envisaged that sufficient spectrum will be freed up such that a total of eight national digital MUXES will then become available for use. RTÉ understands that current government thinking is that six of these MUXES will be assigned to broadcasting and a further two MUXES may be utilised for DVB-H (i.e. mobile television - digital video broadcasting handheld) or similar services.

The first RTÉ MUX referred to above is intended to provide for at least the broadcasting by digital means of the existing national public service analogue Irish terrestrial channels: RTÉ 1, RTÉ 2 and TG 4 and also of TV3 (a national television programme provider), if so directed by the Minister. The advent of 'High Definition' (HD) television will likely require the usage of a second national MUX to accommodate this purpose.

Under the Act, the Commission for Communications Regulation (ComReg) has also been authorised to separately issue licences for the establishment, maintenance and operation of four further MUXES (in addition to the first RTÉ MUX) to Multiplex Contractors who will apply for, and be awarded, Multiplex Contracts on foot of a competitive process to be undertaken by the Broadcasting Commission of Ireland (BCI).

2. NOTICES IN THE OFFICIAL JOURNAL OF THE EUROPEAN UNION

Public Service Broadcasting has been recognised by the Commission as being a service of general economic interest and the Commission has acknowledged that broadcasting is not comparable to any other sector because of the pivotal role it plays in modern democratic societies. In particular it has been recognised by the Commission that it is important to ensure the continuing availability of a variety of television services without discrimination to all parts of the population.

RTÉ is legally obliged to ensure that its services are available universally on a FTA basis. Discharging this obligation in a satisfactory manner is potentially more complicated in a digital environment. RTÉ is, therefore, anxious to support and facilitate the introduction of a successful DTT platform in Ireland.

The Commission has already recognised that a likelihood of market failure is linked to the complexity of the environment in which analogue switchover takes place. It has been further recognised by the Commission that “*co-ordinated action from the main stakeholders*”, rather than “*confrontation of individual strategies*” is likely to lead to the collective optimum of a “*a swift and efficient switch-off*”.

RTÉ is keen to optimise the alignment of the legitimate interests of the various stakeholders in an Irish DTT platform. Accordingly various notices have been posted in the *Official Journal of the European Union* by RTÉ (including its wholly owned subsidiary company, RTÉNL) concerning the implementation of DTT in Ireland. These consist of notices:

- relating to the procurement of specific DTT transmission network equipment; &
- seeking expressions of interest from interested parties who may wish to participate with RTÉ, and with other parties, in the provision of some or all of the wide range of the essential services (e.g. Multiplex Switching, Platform Operations, Connection Services, Customer Relationship Services, Marketing, DTT Platform Project Management) required to support the establishment of a successful national DTT platform in Ireland either directly or indirectly (through a joint-venture or other collaboration) and possibly also including the provision of investment finance whether via a Public-Private Partnership (PPP) or through some other means.

RTÉ's approach in placing these notices has been informed by a diverse range of matters. The salient aspects are outlined at Section 3 to 13 of this letter. These focus on some of the particular dynamics and characteristics of the Irish market place that will likely influence the design and implementation of a successful DTT platform.

The factors set out have directly informed RTÉ's preliminary views on and general aspirations for a successful DTT platform in Ireland. Those aspirations are set out in the final section of this letter.

3. ADDRESSABLE TV HOUSEHOLD & POPULATION PROFILE

Based on the most recent *Census of Population in Ireland* (carried out by the Central Statistics Office (CSO) on Sunday April 26th 2006) we have extracted the following summary profile of the number of permanent private households and of the population in the state and for whom we estimate that access to national television services is required.

	Households		People	
URBAN (Cities / Towns > 5,000 People)	822,230	56%	2,242,183	54%
RURAL / SMALL TOWNS (< 5,000 People)	647,291	44%	1,881,135	46%
Total Private Households	1,469,521	100%	4,123,318	100%
Less: Temporary Private Households	-7,225			
Permanent Private Households	1,462,296			

The CSO estimate that **99%** of permanent private households possess at least one television. In addition to the number of permanent private (i.e. domestic) households set out above, at the date of the Census there were a further **266,000** Vacant Houses / Holiday Homes (**15%** of the national housing stock). Estimates of the number of these properties, which contain a television set, vary considerably.

We also estimate that, in the state, there are an additional **175,000** + non-domestic institutional, industrial and general business premises which are not included in the above number. It should be noted that we have not been able to source any conclusive estimates of the overall number of these premises (e.g. schools, hospitals, hotels, offices, factories) which have television receiving apparatus installed.

4. SPILL-OVER FROM THE UK

Spill-over reception of, and consequential reliance on, same-language (UK terrestrial) television channels has been a key feature of the development of television viewing in the Republic of Ireland for over 50 years and pre-dated the foundation of RTE in 1960.

Based on the most recent *Census of Population* (April 26th 2006) the significance of this factor can be illustrated by reference to the gross population footprint in the areas most likely to be able to receive such transmissions:

	Households		People	
East Coast / NI Border Counties	638,567	43%	1,773,987	43%
Remainder of Country	830,954	57%	2,349,331	57%
Total	1,469,521	100%	4,123,318	100%

A combination of greater spectrum usage & clutter; developments in transmission technology; deployment of sophisticated spectrum planning tools and, in particular, increasing audience demand for improved viewing quality have combined to gradually lessen the dependence on the UK terrestrial network in Ireland but it remains substantial.

RTÉNL's network planning computations suggest that as much as **15%** of all permanent private households in the state can still receive acceptable quality UK analogue terrestrial channels using readily available reception antennae.

The *Nielsen Television Reception Establishment Survey* data (May 2007) estimates that **197,000** television viewing households in the state rely on FTA UK analogue terrestrial television transmission, together with Irish FTA analogue terrestrial television transmission, as their only source of viewing. This is equivalent to circa **13%** of all permanent private households in the state. Secondary (second or more television) viewing is likely to add to this share considerably. However the rollout of a revised DTT transmission network in the UK (including Northern Ireland) will alter and largely reduce or deny this capability to viewers in Ireland over the course of the next three to four years.

Freesat digital satellite spill-over (which now includes all of the BBC Channels and ITV 1, 2, 3 and 4) is available, unencrypted and FTA in Ireland to those who have installed satellite receiving equipment. Based on extracts from the *Annual Report of British SKY Broadcasting Group Plc* for the year ended 30th June 2006 together with information from the *Nielsen Television Reception Establishment Survey* (May 2007) we estimate that as much as **38,000** private permanent households may be receiving many of the FTA UK channels through this means. This amounts to a further circa **2.5%** of all permanent private households in the state.

Accordingly the traditional reliance, by a substantial number of Irish households, on FTA, spill-over, multi-channel reception of mainstream UK national analogue television channels (in addition to FTA Irish national terrestrial analogue television channels) together with the switch-off of the UK analogue television transmission network poses a very significant challenge for Ireland and for any digital platform which seeks to replace the current analogue television transmission system in this state.

5. PHYSICAL CO-ORDINATION OF MUX ROLL-OUT

Installation of the transmission infrastructure necessary for national DTT MUXES will cause major disruption to existing analogue television and radio services. Similarly the rollout of DTT MUXES, if done on an un-coordinated individual basis, would result in costly disruption to each existing operational DTT MUX as additional MUXES are commissioned.

At a minimum each transmission site will require installation of an antenna system and in a number of locations new masts are also required. As well as the usual health and safety constraints while working on a construction site, working on masts and antennae systems adjacent to, or close to live television and radio transmission antennae, will require the power levels of the live antennae to be substantially reduced and, in many cases, switched off. At some locations it will also be necessary to erect one or more temporary antenna systems to minimise disruption to viewers and listeners.

Accordingly, a co-ordinated approach to the physical rollout of the infrastructure supporting each MUX is critical to ensure that the level of disruption to television viewers and radio listeners is minimised. Existing broadcasters will also be very concerned to protect their revenue generating capability during this period.

Similarly new DTT MUX contractors would not wish to disrupt existing analogue television viewers to such extent that it may encourage such viewers onto another platform in advance of DTT becoming fully available.

6. CURRENT TELEVISION RECEPTION MECHANISMS IN IRELAND

Based mainly on extracts from the *Nielsen Television Reception Establishment Survey* (May 2007) and on various reports we set out below an estimated share of TV reception in Ireland by each form of distribution.

RECEPTION – TV HOUSEHOLD UNIVERSE

(Coded in order of the highest form of reception irrespective of the number of televisions or of the different other means of reception in each household)

TERRESTRIAL – Analogue, FTA

Irish National TV Channels Only	19%	
Irish & UK National TV Channels	13%	32%

SATELLITE – Digital

Subscription	28%	
FTA	2%	30%

CABLE – Subscription

Analogue	19%	
Digital	11%	30%

IPTV / WEB TV

0%

MMDS – Subscription

Analogue	3%	
Digital	5%	8%

Analogue Transmission

100%

Digital Transmission

54%

46%

100%

FTA

34%

Subscription

66%

Total

100%

Three overall key characteristics are evident:

- the current television distribution market in Ireland ensures that a competitive choice of at least two reception mechanisms is available to virtually every household in the state.
- while digital penetration is growing, analogue transmission remains the largest single means of television reception in Ireland.
- in the population as a whole, some 1/3rd of all households do not pay for television services other than the basic obligation to purchase a Television Licence (currently €158 p.a.) which all parties, who have one or more television receiving apparatus in a household / premises, are legally obliged to pay.

We also set out below some observations pertinent to each individual mode of distribution:

- **FTA Analogue Terrestrial** has the largest individual share of television reception in Ireland and is supplied FTA via RTÉNL together with UK FTA 'spill-over' from the Macquarie UK controlled ARQIVA / National Grid Wireless, the dominant terrestrial television transmission provider in the UK.

RTÉNL at present makes coverage of the Irish FTA national public service analogue terrestrial channels available to **98% +** of all private households in the state.

- **Digital Satellite** has grown rapidly over the past five years. The UK regulated British SKY Broadcasting Group Plc who has become the dominant provider in this market segment has largely driven this growth. The Irish FTA terrestrial channels (RTÉ 1, RTÉ 2, TV 3 and TG 4) are all carried on this subscription platform.

SKY benefits financially from the carriage of the four Irish FTA terrestrial channels as they comprise circa **43%+** of all television viewing in '**multi**' homes (i.e. **80%+** of all households) in the state but no payment is required to be made to the broadcasters by SKY in this regard.

Digital Satellite is viewed as having a good spread of reception and theoretically is capable of being received across most of the country (circa **98%**). We estimate that various factors, including the number of apartments (circa **180,000+** per CSO) especially in urban areas, in practice limit potential satellite penetration to circa **85% +**. Satellite is thus not viewed as being capable of providing full national coverage on its own.

Based on information derived from the *Annual Report of British SKY Broadcasting Group Plc*, year ended June 2006, the basic Sky Digital package costs Irish consumers circa **€366** annually.

It is believed that sizeable numbers of households who subscribe to SKY satellite also have 2nd and more televisions that receive analogue terrestrial and some may also subscribe to cable.

- All **cable distribution** in Ireland is on a subscription basis and this market segment is dominated by Liberty Global Inc's UPC subsidiary (and using its NTL and Chorus brand names). The cable operators are subject to a '**must-carry obligation**' in relation to the Irish national analogue terrestrial channels and thus RTÉ 1, RTÉ 2, TV3 and TG4 are all carried on the various cable platforms.

The (subscription) cable operators gain financially from the carriage of these four Irish FTA terrestrial channels as they comprise circa **43%+** of all television viewing in '**multi**' homes (i.e. **80%+** of all households) in the state but no payment is required to be made to the broadcasters by the cable operators in respect of this.

Based on the Nielsen data it appears that circa **2/3rd** of all cable subscriptions are for analogue services. It would also appear that major capital investment is required by cable operators to enable them to provide a fully digital offering. The main cable operator, Liberty Global's UPC, have expressed a desire to offer a "Triple-Play" (TV / Broadband / Telephony) option. Initiatives such as this, by cable operators, may provide an additional incentive to them and help improve the investment case for upgrading the various cable networks.

Nationally over **44%+** of permanent private households are located in Rural Areas & Small Towns (i.e. those of **less than 5,000** people) where cable provision is not considered viable. Realistically, cable platforms are therefore not viewed as being capable of providing an overall national service in their own right.

Based on UPC's published tariffs the annual year-on-year cost to an ongoing subscriber of a basic analogue cable service from UPC is understood to be **€257.88** annually. Where available the ongoing year-on-year cost of a single room viewing, basic digital package (*Go Digital Select*), is understood to amount to circa **€311.88** annually.

As with satellite, it is believed that sizeable numbers of households who subscribe to cable also have 2nd and more televisions which receive analogue terrestrial and some may also subscribe to SKY Satellite.

- **MMDS distribution** in Ireland is carried on a subscription only basis, and is dominated by Liberty Global Inc's UPC subsidiary (and using its NTL and Chorus brand names). In recent years MMDS utilisation appears to have been constrained by strong competition from the SKY Satellite platform.

Based on recent calls to UPC's call-centre the ongoing year-on-year cost to a subscriber of a basic analogue cable service from UPC (Chorus) is estimated to be in excess of **€323.88** annually. Where available, the ongoing year-on-year cost of a single room, basic digital package from UPC (NTL) is estimated to amount to circa **€257.88** annually.

MMDS technology enables the provision of a limited, line-of-sight only digital service to those areas within the country, which have a suitable topography. Apart from these factors, RTÉNL's coverage analysis would suggest that the number of base stations required to even approach providing a truly national coverage using MMDS technology is prohibitively large. In practice therefore MMDS is not considered to be capable of providing a viable national digital television transmission service in its own right.

Analogue MMDS carries TV3 but its subscribers rely on RTÉNL's terrestrial network for the Irish National Public Service Channels.

- While there is strong interest in the long-term potential of **IPTV TV / WEB TV** from broadcasters, fixed and mobile telecommunication companies and others, there are no national channels that are fully distributed online over the Internet whether on a Video-on-Demand basis or using Live Streaming.

Based on the most recent Census, **57%** of all permanent private households had a PC. However, only **20%** of them have the necessary broadband connection which is an essential pre-requisite for WEB TV / IPTV purposes.

Further, many of the existing current broadband connections appear to be in the lower bandwidth ranges, between **1 MB and 2 MB**, and so are unlikely to be suitable for sustained TV viewing purposes where bandwidth requirements are very substantial. A standard definition TV signal requires a minimum sustained connection of at least 2 MB at all times whilst HD TV would likely require a sustained connection of up to **8 MB**.

Accordingly an online Internet based network for the reliable provision of acceptable quality standard definition television services on a fully national basis to all households in the state is not currently considered to be practical in the short to medium term.

7. TELEVISION AUDIENCE SHARE IN IRELAND

A summary of the latest audience research statistics, independently compiled by Nielsen, is set out in the following table. This research forms an integral part of the system used to compute advertising ratings and costs and is relied upon by advertisers and by broadcasters.

IRISH TELEVISION HOUSEHOLD AUDIENCE SHARE - 1st Six Months 2007 ALL DAY VIEWING - INDIVIDUALS AGED 4+

	ALL	"MULTI"
		(Excl. those households who rely only on Irish Terrestrial)
IRISH TERRESTRIAL NATIONAL CHANNELS		
RTE 1	25%	21%
RTE 2	12%	10%
	37%	31%
TV 3	12%	10%
TG 4	3%	2%
	52%	43%
UK TERRESTRIAL NATIONAL CHANNELS		
BBC 1	6%	7%
BBC 2	3%	4%
	9%	11%
ITV / UTV	5%	6%
Channel 4	4%	4%
	9%	10%
	18%	21%
IRISH & UK TERRESTRIAL	70%	64%
SIGNIFICANT SATELLITE CHANNELS		
SKY 1	2%	2%
SKY News	1%	2%
	3%	4%
Remainder	27%	32%
	100%	100%

The Irish terrestrial channels account for **52%** of all television viewing in all households in the state while the traditional UK terrestrial channels are a vital feature of the broadcasting landscape and account for **18%** of all television viewing in the state.

In those homes where sizable numbers of channels are available on satellite, cable or MMDS the Irish terrestrial channels still account for over **43%** of all television viewed (and circa **50%** of peak-time viewing). Combined, the mainstream Irish and UK terrestrial channels make up roughly **2/3rd** of all television viewed in these homes in Ireland.

Clearly these components of viewer demand have material ramifications for the nature of the television services and channels that an Irish audience is likely to require as a replacement for the existing national analogue television transmission network.

However arranging for any one of the mainstream traditional UK terrestrial channels be made available (either on FTA or on a subscription basis) on competitive terms to a new/replacement DTT platform in Ireland is not necessarily a straight forward task.

The nature of any pre-existing distribution agreements between any of the traditional UK terrestrial broadcasters and any one of the current television distribution platforms in Ireland (e.g. Liberty Global's UPC or SKY) in practical terms will influence the potential of a DTT platform to provide these channels on a FTA basis in the state.

In this context any clause which might seek to limit a UK channel's ability to supply its content to, say, only Subscription channels in Ireland could preclude or hinder the ability of an Irish multi-channel DTT platform to acquire rights to broadcast these channels on a FTA basis in the state.

8. IRISH TELEVISION SET OWNERSHIP

Set out below is a table summarising television ownership within the state:

NUMBER OF TELEVISIONS PER HOUSEHOLD
(Nielsen Extract, May 2007 - Coded in order of the highest form of reception irrespective of the number of televisions or of the different other means of reception in each household)

	Satellite, Cable & MMDS '000	Irish & UK Terrestrial '000	Total Television '000
1 TV	444	276	720
2 TVs	379	140	519
3 TVs	199	53	252
Total	1,022	469	1,491

Given that the UK has already begun its programme of switch-off of analogue terrestrial television transmissions (starting at Whitehaven, Cumbria) and given that the Irish analogue television transmission network will also be eventually switched-off, there are potentially some **469,000** homes who will require a new (digital) primary television source in the not too distant future.

In addition a secondary market of up to **578,000** secondary televisions (379,000 + 199,000) in homes which are likely continue to use subscription satellite, cable or MMDS as the primary viewing source in their homes, will also potentially become available.

On this basis a realistic addressable market for a FTA multi-channel digital replacement (e.g. DTT) for the current analogue television transmission system would be equivalent to circa **1,047,000** homes or circa **70%** of all TV households.

9. TELEVISION ADVERTISING IN IRELAND

The Irish market for television advertising is highly competitive. Currently we estimate that some 17 television channels sell television advertising ratings in respect of the Irish market.

The increasing numbers of channels selling television advertising is primarily driven by the greater number of UK based channels now sell marginal Irish 'opt-out advertising.

RTÉ ESTIMATE OF THE NET VALUE OF IRISH TELEVISION ADVERTISING SOLD IN 2006

	€ Million	%	Channels
IRISH TERRESTRIALS	193	79%	4
UK TERRESTRIALS	27	11%	3
OTHERS	25	10%	10
Total	245	100%	17

In the year ended 31st December 2006 RTÉ generated approximately **€140m** from the sale of advertising ratings on RTÉ 1 and RTÉ 2 which we estimate represents a total market share of approximately **57%**. The next largest share was earned by the Doughty Hanson Private Equity owned TV3, a national Irish terrestrial channel with a market share of approximately **20%**.

With the advent of analogue switch-off an issue of considerable concern for RTÉ will be to ensure that its ability, as a dual-funded, FTA terrestrial Irish national Public Service Broadcaster, to compete for a share of television advertising revenue will not be unfairly constrained in future either directly or indirectly (e.g. as a result of the characteristics of the design of any new platform that ultimately emerges).

10. RECIPROCAL ARRANGEMENTS WITH NORTHERN IRELAND

An important feature of television viewing in Northern Ireland (NI) is the opportunity to receive terrestrial television channels from the Republic of Ireland. We estimate that currently circa **60%** of all households in NI has the capacity to receive the Irish analogue terrestrial television channels broadcast from the Republic using a standard antenna. However this will not be possible to the same degree from the time that analogue switch-over commences either in this state or in NI leaving significant numbers of people living in NI effectively disenfranchised.

Both the satellite and cable operators in NI do offer limited versions of RTÉ 1 and RTÉ 2 with certain acquired programmes and sports events 'blacked-out'. The Irish terrestrial channels are currently not carried on (DTT) Freeview. Nonetheless, based on data from BARB, despite the current distribution constraints RTÉ 1 and RTÉ 2 had a viewing share of just under **5%** of all-day viewing in all homes in NI in the 1st six months of 2007. For specific programme content of overall interest throughout the island of Ireland (e.g. many sporting events) the RTÉ 1 and RTÉ 2 audience share regularly runs to many multiples of the daily average level.

The political and religious landscape of NI, and the ongoing peace process, allied to the traditional reliance on the analogue terrestrial television transmission network based in the

Republic of Ireland state by some people in NI, and especially for certain forms of programme content, poses a key challenge for DTT in Ireland – North and South. In particular it may be both necessary and opportune to arrive at some form of reciprocal cross-border arrangement, politically or otherwise, which would allow a degree of synchronisation between DTT in both parts of the island of Ireland.

Such co-operation might perhaps be achieved by ensuring that the primary Public Service Broadcasters on both sides of the Border are carried on a reciprocal, even-handed basis in each territory such that RTÉ 1 and RTÉ 2 are carried on Freeview in NI with BBC 1 and BBC 2 being carried on a (nil or matching cost) reciprocal basis on DTT in the Republic of Ireland. As part of such an overall package increased co-operation in the use of transmission sites, especially in border areas, will facilitate greater overall transmission efficiency, which would be of particular benefit to DTT audiences in NI.

11. RTÉ

RTÉ is Ireland's National Public Service Broadcaster and was established as a statutory corporation without shareholders in 1962. In addition to operating two national analogue terrestrial television channels RTÉ also provides extensive national radio, teletext and online services as well as operating Ireland's National Symphony and Concert Orchestras. RTÉ's wholly owned subsidiary company, RTÉNL, manages an extensive national analogue television transmission network and a national analogue radio transmission network covering the state.

In 2006 RTÉ generated a modest Annual Net Surplus of **€10m** before the impact of the FRS 17 Pensions Reporting Standard and based on a total turnover of **€405m**.

RTÉ is dual-funded: it generates commercial revenue (principally from the sale of advertising) and receives Government grants from the Department of Communications, Energy and Natural Resources (DCENR). Grants received are based on the number of Television Licences sold by An POST (the Minister's Agent for this purpose) and on the amount of monies collected by DCENR from the Department of Community and Family Affairs in respect of 'free' Television Licences provided to members of the public under various social welfare schemes.

In 2006 RTÉ received total TV Licence Revenue of **€183m**, which was **89%** of the total of **€206m** collected by DCENR. Approximately **€58m** of the amount received by RTÉ (approx. $\frac{1}{3}^{\text{rd}}$) was used to subvent the costs of: operating the National Orchestras, operating non-commercial special purpose national radio channels, contributing towards certain radio public services and the provision of Irish language programming free to TG4. The balance of **€125m** (approx. $\frac{2}{3}^{\text{rd}}$ of the total) was used to contribute towards the cost of producing indigenous television programming, in-house and commissioned.

The 2006 cost of production of indigenous television programmes (i.e. excluding acquisitions) on RTÉ 1 and RTÉ 2 amounted to a total of **€202m**, which exceeded the €125m subvention received in the form of TV Licence Income by **€77m** - demonstrating the critical reliance that RTÉ has on a dual-funding model to enable it to sustain its activities as a Public Service Broadcaster.

This short-fall in the funding required for the production of indigenous television programmes as well as the remainder of all of RTÉ's other costs and activities are financed entirely by commercial revenue which in 2006 totalled **€222m**.

For this reason RTÉ Television's ability to generate commercial revenue on a replacement DTT platform is of vital importance to the maintenance of the current level of public service broadcasting in Ireland.

Any diminution in RTÉ's ability to generate commercial revenue would require either some reduction in Public Service activities or alternatively would entail some additional state funding for public service broadcasting in Ireland.

12. RTÉNL

Since 2004 RTÉNL houses all of the Organisation's transmission assets, sites and business.

Operated on an arms length commercial basis, ComReg has designated RTÉNL as having significant market power (SMP) in a national wholesale analogue market for the transmission of radio and television signals. RTÉNL also generates revenues from the rental of space on its network of masts and towers. All parties, including RTÉ, are supplied with and charged for all services on an objectively justified commercial basis. In 2006 RTÉNL generated a net profit of **€6m** based on a turnover of **€24m** reflecting the substantial capital commitments that RTÉNL has to enter into to maintain its capability in a long-term capital intensive business.

RTÉNL has been fully engaged for several years in the preparation of detailed plans for a potential DTT network in Ireland. Engineering drawings, plans and specifications have been drawn up and RTÉNL participated fully in Ireland's representation at last year's RRC – 06 lead by DCENR. Amongst a wide range of matters this conference agreed the relevant DTT frequencies, site co-ordination issues and other technical matters associated with the establishment of DTT in Ireland.

The switch-off of analogue television transmission in Ireland will remove a very large part of RTÉNL's current revenue generating capability but it will still retain the responsibility to maintain a substantial amount of infrastructure and sites to enable it to assist the RTÉ group as a whole to discharge its statutory obligations in respect of both 1 / 2 DTT MUXES and also RTÉ's ongoing national radio coverage.

However RTÉNL could not afford to continue in operation in its present form after analogue switch-off without substantial restructuring of its operating and cost base and without finding alternative sources of revenue. RTÉNL therefore needs to identify and implement a viable replacement long-term strategy and business to ensure both its survival and its ability to discharge its obligations to RTÉ.

To that end, and having assessed the commercial opportunities available, RTÉNL, in its own right, is keen to deploy its sites, assets, skills, experience and financial resources towards the implementation of a DTT network in Ireland. This is seen as an effective way of eventually generating a replacement income stream to that which will be lost when the existing analogue television network is switched-off and also ensuring that an adequate return on assets employed is achieved.

13. TECHNICAL STANDARDS FOR DTT IN IRELAND

In RTÉ's view there are five key areas where the technical standards adopted are likely to have a crucial bearing on the ultimate success of an Irish national DTT Platform:

- **Spectrum Management**

Following on from the RRC – 06 conference, frequencies, radiated power levels, site co-ordination and restrictions have now been set for DTT in Ireland.

ComReg, BCI and DCENR are currently agreeing the interim arrangements required to protect analogue services during the period of switchover within Ireland. These parties are also engaged in negotiations with the relevant UK Authorities, where appropriate.

- **MPEG-4 (Moving Pictures Expert Group - 4)**

The MPEG-4 group of standards, first introduced in 1998, absorbed many of the features of MPEG-2 and other related standards, along with many new features. MPEG-4 has since been adapted by the majority of countries for DTT and is in use on other broadcast platforms, including satellite.

The standard yields substantial improvements in the efficient use of spectrum, which is paramount for HD broadcasting.

Accordingly RTÉ is of the view that MPEG-4 should be adopted for DTT in Ireland.

- **MHEG-5 (Multimedia & Hypermedia Expert Group - 5)**

To facilitate the achievement of analogue switch off, RTÉ believes that while DTT will need to replicate analogue television services and improve viewing quality generally it must also provide the opportunity to add content, flexibility and services.

Both digital teletext and interactive services (e.g. 'red button') require set top box middleware to provide these functions. There are two main standards for middleware MHEG-5 and Media Home Platform (MHP). MHEG-5 is an open standard and has been adapted by the majority of DTT systems currently operational.

RTÉ is of the view that MHEG-5 should be adopted for DTT in Ireland.

- **Modes of Modulation – QAM (Quadrature Amplitude Modulation)**

RTÉ is of the view that the overall DTT network in Ireland should adopt 64 QAM (Outer Coding Rc 2/3) as the primary modulation scheme as this is considered to be a more efficient method of modulation and it allows for the transmission of a greater number of channels at acceptable levels of quality and reliability than other alternatives considered.

However RTÉ is also of the view that the DTT network should utilise a 16 QAM (Outer Coding Rc 3/4) modulation scheme but only for use in those areas where the terrain is difficult to penetrate.

Discussions are currently underway with ComReg and others in relation to the use of Single Frequency Networks (SFNs) and other relevant issues.

- **Receiver – Set Top Box (STB)**

It is unlikely to be feasible to fully control the importation and sale of all STBs for use with DTT in Ireland but RTÉ believes that it is critical that a group of minimum national standards, together with a national certification and approval process, are put in place.

Whilst not an exhaustive list, RTÉ is of the view that all DTT STBs should have the following key basic capabilities; the ability to:

- receive and output all FTA television, audio and data channels broadcast on the DTT platform;
- receive standard definition and high definition and to output both in standard definition;
- receive and output digital teletext and broadcast data services;
- receive and output broadcasted DVB subtitles if required by the viewer;
- receive and output 16x9 and 4x3 video screen formats correctly for the connected display device;
- correctly interpret the broadcast Logical Channel Number (LCN) for direct use as Service Numbers on the STB;
- receive and output a complete list of available channels and an Electronic Programme Guide (EPG) containing event information for all multiplexes.

14. RTÉ'S ASPIRATIONS FOR AN IRISH DTT PLATFORM

RTÉ desires to see the implementation and rollout of an efficient DTT platform in Ireland to replace the current analogue television transmission service. RTÉ believes that this is the best means of facilitating analogue switch-off and of ensuring the continued delivery and viability of Public Service Broadcasting to the greatest number of people in Ireland in a digital era.

In line with that overall goal RTÉ would therefore like to see an Irish DTT platform emerge which has the following broad characteristics:

- majority of its capacity dedicated to FTA Channels;
- carries all of the existing Irish national terrestrial channels;
- carries most of the 'traditional' UK Terrestrial channels;
- facilitates the carriage of additional FTA national special interest channels;
- facilitates national pay / subscription TV channels;
- MUXES are rolled-out in accordance with a co-ordinated and synchronised plan;
- is an integrated and operationally efficient delivery mechanism;

- carries national radio channels and has text and interactive capability;
- is HD enabled;
- has initial coverage of 90% + of the population from 13 sites with subsequent expansion;
- facilitates synchronisation and reciprocity with DTT services in NI;
- the consumer offering is co-ordinated, promoted and marketed by a platform operator;
- facilitates the adoption of an agreed Irish regulated EPG;
- the DTT transmission and DTT multiplexing activities are regulated in Ireland;
- heavily promoted and marketed by Government and by all of the stakeholders.

We look forward to the emergence of various proposals, views and responses to the notices placed by us in the *Official Journal of the European Union* and we trust that this process will facilitate the implementation and launch of a successful DTT platform in Ireland leading to the timely completion of analogue switch-off and the switch-over to digital.

Finally we hope that this over-view of our aspirations and thinking about DTT will provide a useful insight to you.

Yours Sincerely



Conor Hayes
Chief Financial Officer, RTÉ