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12th March 2002

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Dear Jane and Catherine

DIGITAL TELEVISION : THE PRINCIPLES FOR SPECTRUM PLANNING

- a. **Digital Television Project : Spectrum Planning Consultation.**
- b. **Independent Review of Spectrum Management by Professor Martin Cave.**

In view of the current difficulties with Digital Terrestrial Television and the urgency of taking early action the FEI has decided not to delay the response to the Spectrum Planning Consultation (Ref. a.). Comments on Professor Cave's Review will be forwarded separately.

The take-up of digital television in the UK has been a success for Pay-TV and particularly Satellite Pay-TV. However, the coverage and quality of Digital Terrestrial Television (DTT) have serious shortcomings and there is an urgent need to address the barriers to the take-up of Free-To-View services.

There is an urgent need to get DTT back on track.

The following are our key priorities:

- European digital television markets are a little behind UK but have embraced common open standards, which will provide more attractive options for all consumers.
- The quality and coverage of the Public Service Broadcasting (PSB) channels must be the primary concerns when planning DTT transmissions.

- Options for achieving switchover (with efficient use of Spectrum) which are considered in the Genesis Project (see ITC Press Release 25/00 dated 28th March 2000 on <http://www/itc.org.uk>) remain valid and should be revisited.
- Adopt the option of establishing one multiplex which is transmitted at high power carrying the present analogue Free-To-View services, on a Single Frequency Network.
- If the Government wishes to consider the use of Digital Satellite Television to supplement DTT coverage to achieve universal coverage for the PSBs, then the receiver equipment must be available to consumers in an open non-proprietary market.

The FEI recognises the urgency of improving the quality and coverage of DTT; the issue of how the released Spectrum could be used needs to be considered sooner rather than later. There are other innovative digital services not necessarily broadcast in nature that are interested in accessing the released Spectrum.

Yours sincerely

Hugh

H Peltor
DIRECTOR, CONSUMER ELECTRONICS BUSINESS AREA

Enclosures: 1. FEI Response.
2. Annex A to FEI Response.

FEI RESPONSE TO THE DIGITAL TELEVISION PROJECT CONSULTATION

THE PRINCIPLES FOR SPECTRUM PLANNING

KEY POINTS

The following Key Points should first be considered:-

- The UK must adopt a strategy which leads to convergence with the rest of Europe in a reasonable time scale. The adoption of Multimedia Home Platform (MHP) and Single Frequency Networks raise legacy issues which must and can be overcome; and should be seen in the context of a long-term strategy.
- The quality and coverage of the Public Service Broadcasting (PSB) channels must be the primary concerns when planning Digital Terrestrial Television transmissions. We therefore believe all possible solutions must be seriously considered.
- The Genesis Project sponsored by the Independent Television Commission carried out very thorough studies of a wide range of options for achieving switchover. These options should be revisited and developed as part of the process for identifying the strategy for switchover.
- The option of establishing one multiplex which is transmitted at high power, carrying the present analogue Free-To-View service on a Single Frequency Network (SFN) should be adopted. This would meet the PSB requirements so essential to achieving switchover criteria and should not be ignored because of legacy issues (currently this might affect 1.4 million homes).
- As long as an Analogue Terrestrial Television Switch-Off date is not announced the market for analogue devices will continue to grow and sales will be sustained; and manufacturers will be unable to plan mass production of digital receiver equipment. Each year we procrastinate, the barriers to switchover become greater.

The Spectrum Management Advisory Group (SMAG) have recommended “a Ministerial commitment to a specific date for switchover” (page 24) in their “Third Annual Review” published in November 2000.

- If the Government wishes to consider the use of Digital Satellite Television to supplement Digital Terrestrial Television to achieve universal coverage for the Public Service Broadcasters, then the receiver equipment must be available to consumers in an open non-proprietary market.

QUESTIONS AND ANSWERS

Q1 *Our working assumption is that planning will continue for six multiplexes, as today. However we would also be interested in views on the costs and benefits of a more radical re-planning. This could be either reducing or increasing the number of multiplexes by one. Do you have views on this?*

Response to Question 1

FEI is very concerned about the very poor levels of coverage and quality of service that are currently being received across the country. It is felt that adding an extra multiplex to the transmission, or taking one away, is not going to have a significant impact on the core problems of how we use the multiplexes we already have. The key issues is how all the multiplexes are used.

Q2 *What do you see as the costs and the benefits of maintaining the current basis for network configuration compared with those for adopting a configuration using fewer frequency channels?*

Response to Question 2

FEI believe that radical revision of policy and criteria is required in order to solve the issues of poor DTT coverage and capacity of available Spectrum.

DTT has not been widely taken up by the viewing public. Only 1.4 million DTT receiving devices are in use to date. Whilst there is a legacy issue of this order, it is small enough to be addressed in the framework of a long-term switchover programme. We must not allow any comparatively small legacy issues to compromise our decisions when designing National DTT coverage for the long-term.

There are possibilities of new transmissions using single frequency 8K OFDM networks that could solve many of our coverage and Spectrum deficiencies. We must ask our experts within the JPP and TDN to be as radical as is necessary to solve the problems of providing quality transmissions on the DTT Platform with full national coverage.

Our principle views with regard to DTT receiver installations are:-

- Many new domestic installations require aerial work and so a change Of transmitter location, should it be required, would easily be accommodated.
- Some consideration should be given to other options as described in the Genesis Report. One high power DTT multiplex network may need to be added to carry all PSB services currently provided by analogue means in order to achieve switchover. The other additional Free and Pay services

could have their coverage issues addressed after analogue terrestrial switch-off.

Q3 *Do you agree that we should continue to plan on an interleaved basis to support regional services?*

Response to Question 3

No.

There is little doubt that Regional TV services are essential and should be maintained. There are alternatives to interleaved services such as Single Frequency Networks (SFN). There is no barrier to Regional Services using SFN : the system is operating in the Netherlands.

Q4 *To what extent should the future planning of this spectrum take account of the provision of local services?*

Response to Question 4.

Local broadcasts have a good level of appeal to the viewing public and so be included in planning of the network wherever practicable. This can be achieved via a Single Frequency Network.

Q5 *What factors would have to be taken into account in order to plan to support mobile broadcasting services?*

Response to Question 5

We strongly support the development of new mobile services and look forward with enthusiasm to their introduction. We need Single Frequency Networks in order to exploit the opportunities such as mobile devices integration with UMTS/DAB. Combined devices are currently being developed for other EU Member States and are being installed in Germany and the Netherlands. DTT Mobile Services are already in operation in Singapore. This is a sharp reminder that the UK is by no means a world leader in all aspects of digital broadcasting.

Q6 *Does this analysis of coverage potential and associated costs adequately inform those taking decisions about the level of coverage by terrestrial means that should be required for public service broadcasters?*

Response to Question 6

No.

We have recommended radical revisions to the network and so many of the figures do not match the new proposals.

We feel it is unreasonable to assume that large sections of the viewing public would be willing to convert from receiving analogue TV signal with rooftop and portable aerials to Free-To-Air satellite dishes with all the necessary set-top-boxes.

- Q7** *Our working assumption is that the public service broadcasters should be required to reach a certain minimum percentage of households by the terrestrial platform. However, we would like your views on whether it is right to require a minimum, what that might be and the associated costs and benefits?*

Response to Question 7

Yes.

DTT reception must reach 99.4% of all UK homes. This criteria must include a minimum of channels that are currently being received by analogue means.

- Q8** *Do you agree that the level of coverage provided by the networks supporting the four multiplexes carrying predominantly Pay-TV services should be left to the commercial judgement of the operators?*

Response to Question 8.

Consumers should have the option to upgrade to DTT Pay-TV Services in all possible areas and so full national coverage must be encouraged.

It would undoubtedly be helpful to iDTV sales to have the option to upgrade to DTT Pay TV services in all possible areas and so full national coverage must be encouraged. However this coverage must not be made at the cost of the PSB services.

- Q9** *Which channels are cleared will depend on the costs and benefits of different re-planning options. For example clearing 5 channels at the top and bottom of the frequency range is less disruptive to consumers and has lower switching costs than clearing ten at the top end. The benefits, though, will depend on the use to which such freed up Spectrum can be put. We would like your views on the costs and benefits of different options.*

Response to Question 9.

Until the manner and the amount of released Spectrum will be determined, it is not possible to consider what uses the freed-up Spectrum can be put.

However, part of the analogue spectrum band (806-854 MHz) is in the band listed as a potential 3G expansion band at WRC 2000.

Q10. Which frequency channels should we clear?

Response to Question 10.

Enough Spectrum is needed to provide a good quality PSB Service and a Pay TV service that will attract and retain subscribers. It is too early to determine which frequency channels should be cleared at this stage. Serious analysis should be given to ensuring that the released Spectrum is useable.

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ANNEX TO FEI RESPONSE

DIGITAL TELEVISION : THE PRINCIPLES FOR SPECTRUM PLANNING

INTRODUCTION

1. The Federation of the Electronics Industry welcome the consultation document as a timely reminder and recognition of the importance of Digital Terrestrial Television(DTT) and the need for a thorough review of spectrum policy. Such a review is urgently needed to identify measures to stimulate the Free-To-View market in digital television; and to prepare the UK's negotiating position for international spectrum negotiations.
2. As representatives of a wide range of industry sectors with competing uses for the spectrum, FEI are of course aware that a major benefit of digital television is increased efficiency in spectrum usage. It should be the objective to utilise a smaller proportion of the current analogue allocation of terrestrial spectrum for broadcast entertainment in the future, and more to be allocated for other non-broadcast services.
3. However, before some portion of the analogue terrestrial spectrum can be released for non-broadcast services, it is necessary to achieve universal coverage of the digital Free-To-View services, so that analogue terrestrial television can be switched off. The criteria for meeting the Government's timetable of switch-off by 2010 are:
 - a. The analogue Free-To-View services to be available to 99.4% of UK homes by any digital platform.
 - b. 95% of UK homes must have digital receiver equipment capable of receiving the Free-To-View services.

CURRENT SITUATION

4. Currently, analogue terrestrial television can be received by 99.4% of UK homes.

5. By December 2001 8.5 to 9 million UK homes were connected to digital television. However, the great majority of these homes are subscribing to Pay-TV as follows:-

BSKYB	-	Digital Satellite	5.7 million
NTL/ Telewest	-	Digital Cable	1.5 million
(ITV Digital)	-	Digital Terrestrial	1.26 million

THE FREE-TO- VIEW MINORITY

6. It is unlikely that more than 60% of UK homes will subscribe to digital Pay-TV. The Viewers' Panel in their report to the Secretary of State, DCMS (Digital Decisions, Viewer Choice and Digital Television) state that:-

"The Viewers' Panel agrees with the Davies review that Pay-TV services are likely to attract just over half of households to digital television, but that the rest of the population will only be attracted by high quality Free-To-View digital services".

7. Assuming a slightly higher figure of 60% of UK homes taking digital Pay-TV leaves a very significant minority who will have to be persuaded to migrate to digital Free-To-View services provided by the BBC, ITV, Channel 4, S4C and Channel 5.

8. Given that migrating from analogue to digital television is purely voluntary, the following are some of the key factors:-

a., Minimum inconvenience

Having to change from analogue terrestrial to digital satellite may put many people off.

b. Minimum cost

Low cost digital converters are essential for second and Third TV sets and VCRs.

c. Retaining the use of Set-Top Aerials.

d. Integrated digital television (idTV) receivers should be seen as the logical replacement for the analogue television set.

e. The TV set replacement cycle of 8 years must be exploited to increase the take-up of digital television.

DIGITAL TERRESTRIAL TELEVISION (DTT)

9. The viewers Panel in their report to DCMS concluded that:

“The Panel would prefer all viewers to have a choice of platforms. In practice, this choice is likely to be between digital satellite and digital terrestrial for most, while around 60% of viewers would also have the option of digital cable. This means that the 99.4% coverage target should arguably relate to digital terrestrial alone, thus ensuring that all viewers have access to a basic Free-To-Air terrestrial service, including public service broadcasting. However, the Panel notes that unless spectrum availability is increased, near universal coverage can not be achieved prior to switchover.”

(Digital Decisions: Viewer Choice and Digital Television.

Report to DCMS, December 2001).

10. The currently envisaged coverage of DTT once equalisation is achieved, should provide digital Free-To-View services to 80% of households, with coverage for the Pay-TV multiplexes of around 75% (para 3.1 of the Reference). This is quite inadequate as an incentive to meet the coverage and take-up criteria (see paras 3 and 9 above).
11. It is also widely recognised that the reception performance of DTT within the current coverage area varies widely due to a number of reasons. These include inadequate aerial installations, insufficient transmission power and the anomalies of radio waves. The consequence is an unacceptable rate of returns from dissatisfied customers leading to a lowering of confidence in industry (retailers and manufacturers) and disbelief amongst consumers.
12. These difficulties stem from a flawed strategy which were in part caused by a laudable desire for UK to take the lead in launching Digital Terrestrial Television. The launch of Channel 5 Television has been an added constraint on the availability of terrestrial Spectrum.
13. The spectacular growth in the take-up of digital television has been almost entirely a success for Pay-TV. Digital Free-To-View has failed to take off primarily due to the constraints of Digital Terrestrial Television and also, to date, the very limited Free-To-View services available. The Spring 2002 launch of the BBCs digital television services should overcome this latter problem.
14. However, the authorities have to recognise that platform neutrality is not an option until switchover is achieved. A policy of achieving 99.4% DTT coverage is essential given that (at least) 40% of households only want Free-To-View Services; and they will wish to migrate from analogue to digital television in what they perceive as a seamless manner.