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No 4

May 1997

## ***Wireless Telephony Bill***

The new Bill on spectrum management was introduced in Parliament today, 21 May 1997. The Bill is similar to that on which we have been working with the Radiocommunications Agency (RA) over the last year. The Bill breaks the old linkage between the cost of issuing a radio licence and fee charged, allowing the Government to charge above cost fees to reflect:

- The availability of spectrum;
- Current and likely future demands for spectrum;
- Promotion of spectrum efficient technologies and management;
- Economic benefits from the use of radio;
- Development of innovative services; and
- Competition in provision of radio services.

A much welcomed provision is to allow radio licences to give greater security of tenure. There is also provision for grants to promote more efficient use of the spectrum.

The only significant omission is the absence a high level Committee to advise RA and Ministers on spectrum management issues. We will pursue why this has not been included.

JRC Members currently pay about £500k for mobile radio licences. Current estimates are that these charges will increase to £1m over three years (July 1998-2001) (Negotiated down by JRC from the £1.76m originally intended). **However, the impact may not be even across the membership.** Those using spectrum in predominantly urban areas may see licence costs rise by up to eight fold, whereas those exclusively operating in rural areas will face smaller increases.

For microwave fixed links, JRC does not have a full database of its members' licences, but has already circulated a document (Letter by David Priestley to Telecom contacts dated 7 May 1997) to enable members to assess the impact of current proposals.

For scanning telemetry, this is currently **outside** the proposals for spectrum pricing. JRC fees at present total just over £100k. If spectrum pricing were applied to this service, these fees would rise to £500k, again with differing geographic impact.

For automatic meter reading, no fees have been agreed so the impact cannot be measured; but it is unlikely to affect investment appraisals.

A side effect of legislation may be that in future, JRC would have to purchase national radio channels from government and retail them out to members (as already

happens in the water industry). This would involve organisational change and some additional expense.

There should be another consultative document in June which will deal with these pricing issues in more detail. JRC has been active in influencing this document and is grateful for the information which members have provided to enable us to exert the maximum amount of influence over this document.

The financial impact is stated as an overall increase amounting to "about £75m a year after a three year phasing-in period". It indicates that "auctions could raise about £500m-£1,500m over the next few years".

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## **RA SPECTRUM STRATEGY SEMINAR**

Although overshadowed by the Spectrum Pricing Bill, the Radiocommunications Agency will again be holding an annual seminar to review its spectrum strategy. This year it is scheduled for **10 July** to coincide with the publication of their third spectrum strategy document. JRC has commented on the second strategy document and will look to developing detailed comments on the third draft through the JRC Strategy Advisory Group.

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## **3rd GENERATION CELLULAR SYSTEMS**

Members may have seen reference to consultation on the new Universal Mobile Telecommunications System (UMTS) sometimes known as FLMTS (Future Land Mobile Telecommunications System), or even IMT2000 (International Mobile Telecommunications for the year 2000). These systems are largely focused on the next generation of mobile communications which is targeted to offer flexible bandwidth capacity up to 2 megabits per second and seamless global cover by terrestrial and satellite systems. Apart from those who have ambitions to be telecommunications operators, the key issue for core operations and safety systems is whether third generation cellular systems will provide a public communications system fully satisfying our demanding requirements. JRC comments on the document are largely restricted to ensuring that a marker is put down that sufficient spectrum should be retained for private communication systems if members so wish. It must not be assumed that we will all migrate to these systems. We must retain choice. Copies of the response are on the JRC website or can be obtained from Paula Murphy.

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## FREQUENCY PLANNING AND YEAR 2000

JRC has invested some money (and a lot of time) updating its RFDesigner software to current releases of software and thereby ensure compatibility with Year 2000 requirements. This has proven a non-trivial exercise! We upgraded our SUN SPARCstation10 hardware and moved from SunOs to Solaris 2.5. [We are told that SPARCstation 10 is obsolete and spares stocks will be run down this summer!] We are also changing from the supplied Informix Version 5.0 database to the latest Version 7.0. This should improve database access times, but will necessitate modification to the hard-coded scripting in the Designer series of software. If any JRC members have first hand experience of this upgrade path, we would welcome a few words of advice; if as we suspect, most members have yet to make these upgrades, then we may have some useful experience to share. An alternative scenario may be to give up maintaining a separate frequency planning capability and use JRC for frequency planning. We are interested in your views.

## MICROWAVE FIXED LINKS

A number of members are having problems with their microwave fixed links stretching from obligations to relocate 1.5 GHz links to excessive fading on 22 GHz links. We are writing to telecommunications managers for an appraisal of any problems which are being experienced in the microwave fixed link business. We have obtained assurances that users will not have to unnecessarily move 1.5 GHz fixed links pending the introduction of terrestrial digital audio broadcasting services (T-DAB) in mainland Europe, and we suspect that some fixed links have been planned with insufficient fade margins to accommodate severe weather conditions. Please let us know if you have problems so that we can obtain a better overall picture with which to approach RA.

## FEATURE - RA Mobile Monitoring

JRC and its members in the South-East have recently been preoccupied with explaining use of JRC managed VHF Mid-band spectrum. This follows monitoring by RA to examine how JRC uses spectrum in London. In the remainder of the UK, members will be more familiar with RA monitoring teams for their work in tracking down tricky interference sources. Mobile Monitoring Section provides facilities for monitoring and EMC interference measurements. Until recently monitoring of PMR, telemetry and paging systems was achieved using two purpose built mobile monitoring vehicles. Routine monitoring is now handled by unattended monitoring systems.

Unattended monitoring systems cover frequency range 20MHz to 1.3GHz. Each system measures field strength and occupancy, decodes CTCSS and DCS tones and records audio. The prime purpose is to provide channel usage statistics, including occupancy for every 15 minutes on each channel. Tone decoding is used to profile channel use by business category.

Attended monitoring is still used where on-the-spot interpretation is required using in a purpose built vehicle, but the majority of monitoring the data is now collected by the 21 unattended monitoring systems.



These systems have been developed specifically for RA and have attracted interest from other countries, such as Holland, Cyprus and South Africa.

The unattended systems will provide data for 35 conurbations as well as London. London is covered by 7 dedicated systems which are used to provide data for auditing all PMR bands. The monitoring process is a rolling programme to provide up-to-date data for spectrum management, to assist with channel allocation for new licence applications and spectrum pricing.

Results for London VHF High Band and Mid Band have been published (Information sheets for RA Library:- High Band RA 267, Mid Band RA 285). The monitoring revealed that most High Band channels are used somewhere in London, but with proper planning, scope for further assignments exists. Mid Band results show less channel occupancy, but this was expected as there are fewer radio services operating in mid band.

At the **Baldock Monitoring Station** in Hertfordshire, the fixed monitoring facilities consist of two sections. The terrestrial monitoring facility investigates interference to international high frequency (HF) circuits and, in particular, safety of life services. These account for around 30% of the calls received by this section. Response to requests for monitoring information are also provided to overseas administrations and to UK organisations to assist in resolving interference problems.

The main task of the satellite facility is to monitor all visible geostationary satellites in order to protect UK fixed earth stations from interference. Particular emphasis is given to those satellites that have been identified as being inclined greater than one degree from their nominal location, since these have greater potential for causing interference. There has also been considerable growth over recent years in the use of transportable earth stations and random checks are carried out on satellite down links to ensure conformity to clearance applications.

