



Friday, 29 May 2009

Mr. Mandla Mchunu  
Manager – Spectrum Management  
ICASA  
Private Bag X10002  
SANDTON  
2146

**Re: THE REVISION OF RADIO SPECTRUM FEE REGULATIONS**

Dear Mr. Mchunu,

Wireless Business Solutions (Pty) Ltd (WBS) would like to thank the Authority and the Spectrum Management Team for affording us an opportunity to comment on the Draft Spectrum Regulations.

WBS has been rolling out its iBurst and WiMAX networks which requires a massive backhaul and Transmission infrastructure. These are the key elements which determine the speed at which any Network may grow and based on our experience the current Spectrum Licence Fee structure has been instrumental on our Network growth.

WBS has on a number of occasions brought this to the Authority's attention and we are pleased that this is finally being addressed by the Authority. We are committed in assisting the Authority in whatever way we can to see this process being successfully finalised and implemented.

Further, should there be any additional information required in this regard by the Authority; we will be willing to make such available.

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Reg No. 1996/013739/07 VAT Reg No. 4600171906

Holding Company Directors: Thami Mtshali, Alan Knott-Craig, Martin Kuscus, Mputumi Damane, David Hilewitz, Brett Levy, Pieter Uys, Sidney Ellerine, Dr David Fraser



Yours truly,

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**Head – Regulatory Affairs**  
**Wireless Business Solutions (Pty) Ltd**

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## Introduction

Whereas the Authority has identified a number of challenges and shortcomings in the current Radio Frequency Spectrum Licence Fees including but not limited to;

- The fees have not been adjusted for many years and are clearly out of date;
- International comparisons show that the fees are generally lower than comparable fees in other countries;
- Some fees are so low that the cost of processing the annual fee is higher than the fee itself;
- There is no consistency on what is charged per unit if/of bandwidth;
- The system is manifestly unfair with wide differences between the fees paid by different users for comparable services;
- Some fee structures encourage spectrum hoarding and
- The fees do not give any incentive for efficient use of the spectrum at a time when there is increasing pressure on limited spectrum resources.

WBS is of the view that the Authority has highlighted some of the most critical areas which are currently hampering on growth of “new comers” like WBS and on investment towards the Telecommunications infrastructure hence leaving most operators reliant on incumbents infrastructure.

This is further worsened by the fact that the current fee structure is flat rated [Specifically in the Fixed Point to Point and Point to Multipoint spectrum used for Network backhaul] where operators pay typically R770.00 per MHz.



What are implications of these flat rated fees?

If an operator were to roll out hundred (100) Base Transceiver Stations (BTSS) in Gauteng for example, then;

100 BTS X 100 Links X 2

100 Links in the 18GHz @ 18MHz per Link

100 X 18 X R770 = R 1, 386, 000.00

Multiplied by 2 for redundancy = R 2, 772,000.00

If the same infrastructure were to be replicated throughout the remaining eight Provinces then the total per annum for spectrum fees will be R 24, 948,000.00 typically.

## **Role of Spectrum Pricing**

WBS supports the Authority in its views that Spectrum prices are intended to fulfil purposes including but not limited to;

- Cover the administrative costs of the studies and monitoring required to plan and manage the relevant part of the spectrum, and the amount of frequency that is used.
- Encourage efficient and effective utilization of spectrum and
- Reflect the economic value of the spectrum in terms of the potential price users are prepared to pay.

We strongly support the Authority that as these fees are considered, they SHOULD NOT be used to be a barrier to economic development, innovation specifically to

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historically disadvantaged groups and the dispersal of economic activity over the whole country.

Further, the Authority has realised that as more frequency is used mostly in the Urban areas, the greater the problems of monitoring and managing interference and the cost of spectrum management and monitoring rises over time accordingly.

It is thus recommended that the Authority should encouraging, on an incentive basis, migration to lesser populated and low-demand bands.

We strongly suggest that the Authority must encourage the use of higher frequencies in order to reduce the crowding at lower frequencies, **however the Authority MUST shorten the processing period of Spectrum Licences to a maximum of six (6) weeks at most.** It is unfortunate that in most instances WBS finds itself with applications pending since November 2006 despite all supporting documents having been furnished as requested.

## Methods of Spectrum Pricing

The Authority has identified a number of methods of spectrum pricing employed worldwide. We are of the view that Spectrum pricing is a generic term which is used as a tool to manage spectrum.

We fully support the Authority that these should cover;

- the administrative pricing, where the price is set according to a predetermined formula intended to mimic the effect of market forces;
- Administrative incentive pricing, where fees are set with the intention of promoting efficient spectrum use and
- Regulatory pricing, where fees are set unrelated to market considerations, for example, to recover spectrum management costs.

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We however strongly object that Spectrum Fees should be used to raise extra revenue for national treasury. The general principle should be that the application and annual fees in total should at least cover the cost of spectrum management and monitoring activities.

Our general observation is that revenue collected from licensees far outweighs the cost or budget of the regulator. This is viewed by WBS as another form of taxation as the Authority's budget has not improved in many years.

## Application fees

The Application Fees (E3 in the radio regulations) are levied on applicants for radio frequency spectrum licences. The level of the fees is set to recover the costs to the Authority of making an assignment and issuing the licence.

The Application fees were imposed in 2002 and there are no current plans to change the application fee structure.

However, the Application fees may be adjusted periodically to reflect significant changes in the cost of processing applications or in response to expected changes in the cost of processing applications or in response to expected changes in nominal costs reflected in the Consumer Price Index.

WBS is amicable to the Authority's view and rationale for imposing application fees, however this must be reflected in the turnaround time taken for processing all application. As indicated earlier WBS still has pending application dating back as far as November 2006.

## Annual Radio Spectrum Licence Fees

The annual Radio Frequency Spectrum Licence Fees (E1 in the radio regulations) are levied on an annual basis and the level of the fees has not been changed for some years.

The present Radio Frequency Spectrum Licence Fees are stated according to the service being offered and are based on a range of criteria:

- For services below 1 GHz the fees are largely based on the stations / equipment.
  - For commercial services such as Alarms and Community Repeaters, the licence fees are based on a minimum number of stations in a system.
- For services above 1 GHz, charges are mainly based on the bandwidth used, notably for microwave.
  - Bulk users (SADF, SAPS, Telkom, Transnet and Eskom) have been charged on the basis of R1,540 per MHz, and these users are not charged for any reuse of the spectrum.
- Other users are charged on the basis of R770 per link and are charged for every link, whether they occur in the same frequency band or not.
  - GSM licensees, (including 1800) are charged R20,000 per kHz paired (i.e. R100,000 per paired MHz) for a nationwide assignment. These are essentially spectrum assignments. GSM licensees are also charged a fixed fee which is set at R5 million for national operators.
  - In E1 – the GSM operators are also subject to “A further annual licence fee of 5% of the net operational income of the licensee”.
- Satellite Operators are charged R50,000 for a ground station, with a charge of R2,500 being levied on subordinate VSAT stations other than the controlling hub.
- Some service categories in the existing E1 of the Radio Regulations are redundant.
- Problems with the Present Licence Fee Structure
- The fees have not been adjusted for many years and are clearly out of date.

- International comparisons show that the fees are generally lower than comparable fees in other countries.
- Some fees are so low that the cost of processing the annual fee is higher than the fee itself.
- There is no consistency on what is charged per unit of bandwidth even where bandwidth is the basis of the charges.
- The system is manifestly unfair with wide differences between the fees paid by different users for comparable services.
- Some fee structures encourage spectrum hoarding.
- The fees do not give any incentive for efficient use of the spectrum at a time when there is increasing pressure on limited spectrum resources.
- The present E1 is not compatible with the ECA as it includes elements (such as levies on net income) that should be part of the Electronic Communications Service or Electronic Communications Network Services Licences.

WBS fully supports the Authority's intention to revise the structure of the annual Radio Frequency Spectrum Licence Fees in order to encourage efficient and effective utilization of spectrum. This should however be done to only enable the Authority to at least cover the costs for;

- processing,
- administration,
- monitoring,
- interference investigations,
- international coordination,
- ITU membership and policy development.

The Administrative Incentive Prices that reflect the relative value of the spectrum in view of the growing scarcity of the spectrum resource in certain frequencies and geographical areas should however also be properly investigated and maybe implemented by the Authority.



Where there is perceived to be competition for a given frequency and the demand is greater than the supply, the Authority may choose to assign the frequency on a competitive basis where the annual Radio Frequency Spectrum Licence Fee is determined in an Auction process.

WBS is of the view that this may be an ideal avenue to pursue and as it may have been successfully implemented in the UK during the 3G Spectrum Auctioning which raised more that £22b for five Licences, the Authority should consider the following:

The process should be well planned to avoid delays and Legal processes:

- Potential to improve Underserved and Under serviced areas;
- Involvement of HDI and SMMEs as this may not be used as a barrier to entry;
- Revenues raised not to be ceded to Treasury thus not benefiting the Authority;
- Effective used and monitoring thereafter so as not to be used for what that was not intended to achieve.

## **Proposals for Revised Radio Frequency Spectrum Licence Fees**

The Radio Frequency Spectrum Licence Fees will move from a pricing system based on both apparatus and spectrum to one centred around spectrum, and more specifically on the extent of spectrum denied to others by a given licensee.

While most of the radio frequency spectrum will be priced according to spectrum, a large proportion of smaller individual licensees will be charged the minimum fee.

**“(The new system also intends that all users of spectrum should in principle pay for spectrum on an equitable basis and (amongst other things) this will result in the difference between bulk and other users being removed)”.**



WBS would like to commend the Authority on its intentions to treat all Radio Frequency Spectrum users equally. It is however recommended that the Authority should encourage the “Bulk Users” principal for Network operators as this will encourage Network operators to invest on infrastructure

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## DRAFT REGULATION



WBS has studied the Draft Regulation and commends the Authority for the effort and time committed in this regard. We however are of the view that the newly proposed method which involves Formulae is too complex and may lead to unforeseen mishaps in calculating one's Licence fees. A typical example in terms of calculating a Point to Point Link Licence fee:

### Point-to-point formula

Applied to all fixed links whether below or above 1GHz. The formula is as follows:

$$\text{Fee} = (\text{UNIT} * \text{FREQ} * \text{BW} * \text{CG} * \text{GEO} * \text{SHR} * \text{HOPMINI} * \text{UNIBI})$$

The fee is the multiplication of the unit price (UNIT) by the frequency factor (FREQ), the bandwidth (BW) in MHz, the congestion factor (CG), the Geographic factor (GEO), the sharing factor (SHR), the minimum hop length (HOPMINI) and the unidirectional factor (UNIBI).

### 1. Factors and Look Up Tables

#### (a) Bandwidth (BW)

The Bandwidth factor is expressed per MHz paired.

#### (b) Frequency factor (FREQ)

It is not very clear how the two above mentioned elements are represented in the Formula, however these will surely influence either negatively or positively the final calculation(s)

WBS recommends that these Formulae be automated and placed on the Authorities website for ease of use. Further, these will have to be linked to different tables in the background to ensure avoidance of any discrepancies.

The web link should also be printable for verification purposes as well as to be used as an attachment to any spectrum application as proof of the required spectrum by the relevant applicant.

Annexure “A”

- A. The Unit Price per MHz paired is R2,000
- B The Minimum Fee is R 120
- C The Minimum fee for a Satellite Hub Station is R 50,000
- D The GEO Areas are
  - High Density includes Gauteng province, and the municipal areas of Cape Town, Durban and Port Elizabeth.
  - Medium Density – other urban areas as may be determined from time to time.

Low Density – includes all parts of South Africa that does not fall under high density or medium de

Our observations are that the Authority is proposing an increase of about thirty percent (30%) to the current Spectrum fees “Unit Price” from R770.00p/MHz to R1000.00p/MHz

It is however unclear and not justified by the Authority the reasons for the increase.

WBS would like to thank the Authority once more for affording us an opportunity to submit our response and we hope that some of our inputs will be taken into consideration in the Authority’s deliberations.

