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No. 19343

## GENERAL NOTICE

### NOTICE 2358 OF 1998

SOUTH AFRICAN TELECOMMUNICATIONS REGULATORY AUTHORITY



### Notice of Intention to Revise the band plan for 10.7 – 11.7 GHz

By virtue of the powers conferred upon the South Africa Telecommunications Regulatory Authority ("the Authority") in terms of section 29 of the Telecommunications Act, No 103 of 1996 ("the Act"), pursuant to General Notice No. 1871 of 1998, Government Gazette No. 19183, dated 24 August 1998, the Authority hereby announces a revision of the current spectrum band plan to allow for the introduction of Direct-to-Home broadcasting by Satellite in the KU band 10.7 – 11.7 GHz generally and more especially, the sub-bands 10.95 – 11.2 GHz and 11.45 – 11.7 GHz within that Ku band.

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## 1. INTRODUCTION

This document is published in accordance with the second South African Band Re-planning Exercise (SABRE-2) process that was publicly announced in the Government Gazette No 18883, Notice 740 of 1998, dated 30 April 1998. This document specifically deals with an urgent issue brought to the fore pursuant to the SABRE-2 process as defined in the Notice No. 1871 of 1998 published in Government Gazette No. 19183 on 24 August 1998, inviting oral representations to the intention to revise the band plan 10.7-11.7 GHz.

The overall process of SABRE-2, dealing for the most part with bands between 3 and 70 GHz, will be completed during the first quarter of the year 2000.

With regard to the specific priority issue being dealt with by this document the following should be noted:

- There is an increasing demand for Direct to Home Broadcasting by Satellite in South Africa in the Ku bands.
- Equally there is a strong demand for Fixed and Fixed Satellite services within the Ku band in order to achieve Universal Service.
- It is in this context that sharing of appropriate bands is being considered without prejudice to existing primary services within these bands.

### 1.1 Document

This document deals with band plans for future use of radio spectrum in South Africa in the following areas of the frequency spectrum as alluded to in the introduction:

- a) 10.7-11.7 GHz band in general
- b) 10.95-11.25 GHz and 11.45-11.7 GHz sub bands in particular

### 1.2 Project SABRE-2

The need for Project SABRE-2 emerged from requirement to establish a revitalised band plan, primarily in the area of 3 to 70 GHz, in preparation for various new technologies and services and a future more competitive environment. As a result of this requirement a new migration strategy for this area of the spectrum is also needed to move from the existing band plan to the proposed new band plan

A further principle aim of this project is to produce a band plan for the future use of the spectrum, which is agreed nationally and is consistent with international trends and will meet the future needs of the country.

### **1.3 Methodology**

The development of this document has taken account of inputs from a wide variety of sources, both in the written and oral form. This consultative approach has formed the basis of the SABRE-2 project.

### **1.4 Project Importance**

Project SABRE-2 as a whole, and in particular this Notice, is of vital importance in that it seeks to balance a number of key national requirements. These include requirements for:

- ❖ The urgent need for universal service in terms of telecommunications. Due to key propagation aspects within the Ku bands backbone/backhaul systems these bands may be attractive for both for the mainstream of PSTS and WLL.
- ❖ The growing demand for broadcasting and the convergence of these services with certain aspects of telecommunications.

## **2. FUTURE BAND PLAN**

Section 2.7 presents the band plan for the future use of FS/FSS/MS and DTH in the 10.7-11.7 GHz band. The section is divided into sub-sections, the usage of which is defined as follows:

### **2.1 Frequency Band**

The range of frequencies associated with the main allocations (in GHz). The frequency indicated in this sub-section is the edge of the band.

### **2.2 Main allocations**

This column indicates the main service to which each band is to be allocated. The service types are as defined by the ITU, and the allocations are in most cases consistent with the ITU Radio Regulations for Region 1. The allocations are all primary unless otherwise indicated, with different services delimited by oblique strokes. The service that will have most widespread use in the future is generally listed first.

### **2.3 Sub-Allocations**

This column gives details of any sub-allocations within a band, including proposed usage of the sub-band. Where no sub-bands are indicated, the column may in some cases provide further details of the proposed usage of band.

### **2.4 Notes and Comments**

The comments in the right hand column give further information concerning the band, in particular when changes to its usage are proposed. This may include details such as major utilisations, the nature of the usage, and implications for migration. Where additional explanation is required a reference is made to the supporting notes in section 3, which might, for example, explain the rationale behind the proposed changes or give an outline of the proposed migration strategy.

### **2.5 Primary and secondary usage**

In both the main and sub-allocations capitalisation of the service/sub-service indicates a primary allocation, whereas lower case indicates a secondary allocation. The definitions for primary and secondary are strictly in accordance with international norms adopted by the ITU-R.

### **2.6 Migration**

Only where migration is required are the specifics dealt with in this column.

**2.7 Table of Allocations**

Frequency Band (GHz)	Main Allocation	Sub Allocation	Notes and Comments	Migration
10.7 – 11.7	FIXED / FIXED SATELLITE SERVICES / MOBILE except Aeronautical Mobile	10.95 – 11.25 / 11.45 – 11.7 Sub-band sharing between FSS/FS and Direct to Home Broadcasting by Satellite.	FS/FSS/MS - see note 3.1  Direct to Home Broadcasting by Satellite (DTH) – see note 3.2	None.  Not applicable

**3. SUPPORTING NOTES****3.1 FS/FSS/MS**

These three services remain primary right throughout the band concerned (10.7-11.7 GHz). In short, all systems already in service within these categories may continue to operate with full protection from interference from each other and with full protection from interference by any system within a secondary service. These services may cause interference to any secondary service, which will have to be accepted by systems within any secondary service.

Future systems within these services will enjoy the same levels of protection from interference from each other and from any current or future systems within a secondary service.

In essence, these services may not be constrained in any way now or in the future by any current or future services within a secondary service.



### **3.2 Direct to Home Broadcasting by Satellite (DTH)**

This service is introduced in the sub-bands 10.95-11.25 GHz and 11.45-11.7 GHz only on a shared and secondary basis. This service may not impact now or in the future on FS/FSS/MS.

This service may claim no protection from interference by FS/FSS/MS.

The assigned / licensed operator within this service shall bear all responsibility in resolving interference to its clients.

The logistics and costs of interference mitigation shall be the responsibility of the operator within the secondary service unless they can make an alternative contractual arrangement with their clients.

- The onus will lie jointly on any co-secondary users in the event that interference occurs between them.
- It is noted that the operation of DTH services in the bands 10.95 to 11.2 GHz and 11.45 to 11.7 GHz will require the operation of associated feeder links in the band 13.75 to 14.8 GHz.
- Telecommunications operators will be required to indicate intended rollout of FS in each of the above sub-bands to facilitate the broadcasting licensees being aware of where potential interference to their services may occur. Such indications should be given at least quarterly. This data will be for the information of DTH operators only and, in no way, implies a veto right on Telecommunications or other operators roll-out plans.
- In mitigating interference that does occur, the broadcasting licensees shall make their clients aware that there is potentially more than one reason for degradation of DTH service other than FS (Telecommunications operators). Natural shielding of such receivers by local topography and morphology, long cable runs, faulty equipment to name but a few, will also play a role.
- DTH operators will provide a company contact to end-users (viewers). This contact would be used in cases of service outages.
- DTH operators will work with end users to evaluate potential cause of interference. In cases where interference appears to be terrestrial and is persistent, operator will investigate source.

- DTH operators shall recommend or undertake modification to DTH customer installation to help alleviate interference problem. These measures include, but are not limited to relocating or shielding the DTH receiving antenna. The DTH operator will do this in a timely fashion. Potential modifications include re-siting of the antenna out of the microwave line-of-sight, or erection of shielding in the direction of the microwave source.
- Telecommunications operators will provide a point of contact to the DTH operator who will expeditiously assist the DTH operator with information required to deal with these scenarios. Information provided by telecommunications operator shall include the link end points, frequencies and bandwidths of the microwave carriers, and power densities.
- Telecommunications operators shall give their complete co-operation to avoid unnecessary harmful interference.



**LIST OF ABBREVIATIONS AND DEFINITIONS**

<b>ALLOCATE</b>	Entry in a band plan indicating the reservation of frequency spectrum for use by a service under certain conditions
<b>ASSIGN</b>	Refers to authorisation given to a radio station to use a radio frequency channel or radio frequency spectrum under specific conditions in the context of licensing
<b>CEPT</b>	Conference for European Post and Telecommunications
<b>DTH</b>	A South African specific national broadcasting service allocation implemented by satellite, direction satellite to earth.
<b>FS</b>	Fixed Services
<b>FSS</b>	Fixed Satellite Services
<b>GHZ</b>	Giga Hertz, where a decimal has been used as the delimiter for display. As an example 2.500 GHz equates to 2 500 MHz.
<b>ITU</b>	International Telecommunications Union
<b>MIGRATION</b>	Refers to systems in one frequency band moving to a different frequency band, or to different frequencies within the same frequency band.
<b>MIGRATION TIME</b>	Time for migration is indicated by Year x – y, where x is included and year y excluded. Year 0 begins at 01 January 1999.
<b>PSTS</b>	Public Switched Telecommunication Service.
<b>SATRA</b>	South African Telecommunications Regulatory Authority
<b>SABRE-2</b>	South African Band Re-planning Exercise covering 3 – 70GHz
<b>WLL</b>	Wireless Local Loop (for Public Switched Telephony Services)

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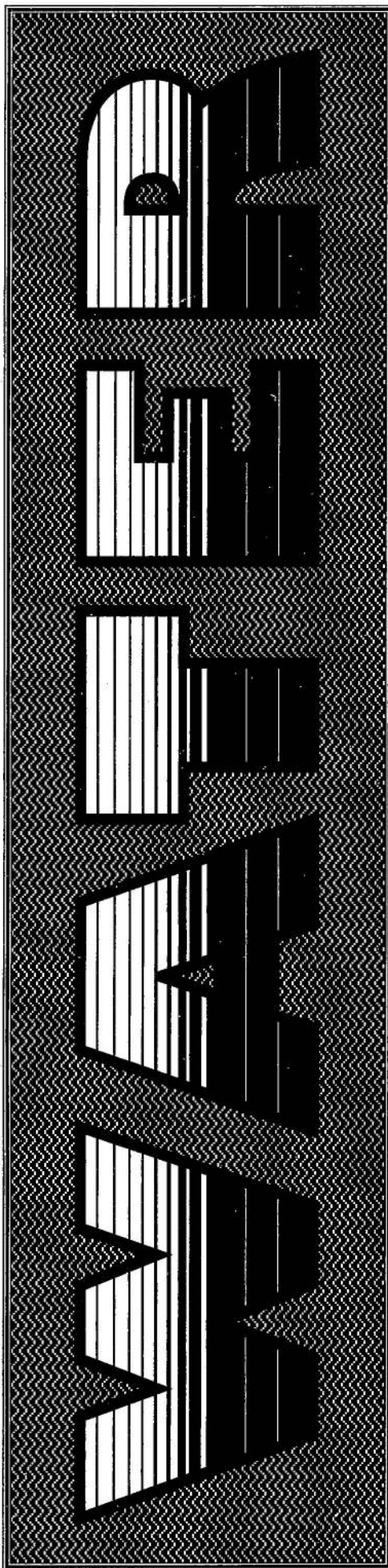
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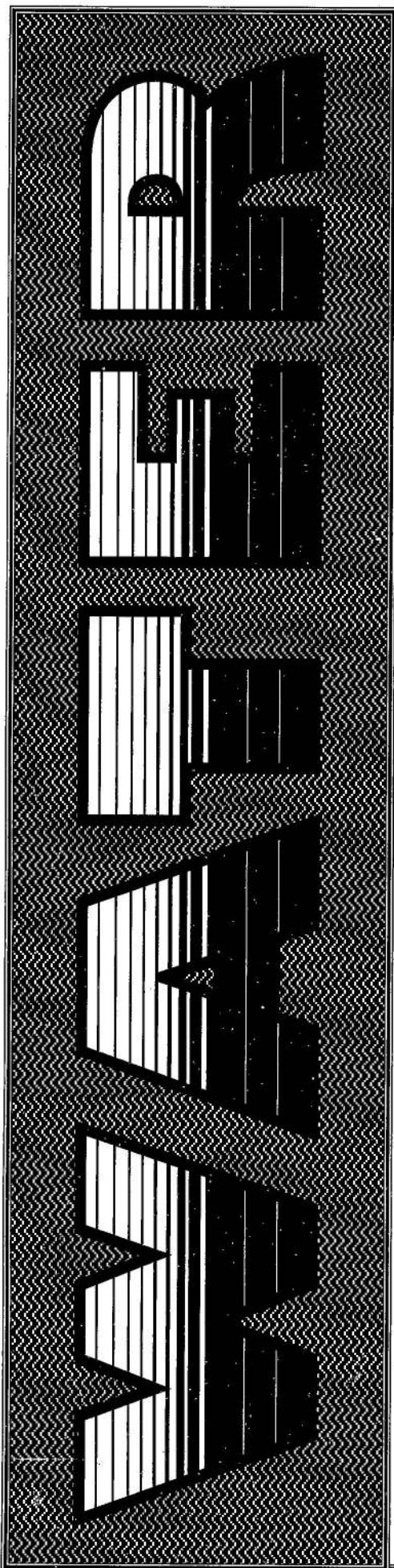




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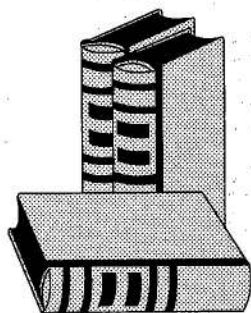
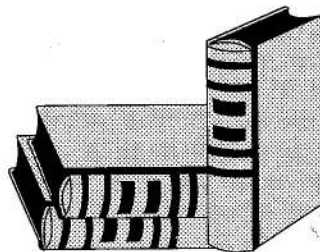
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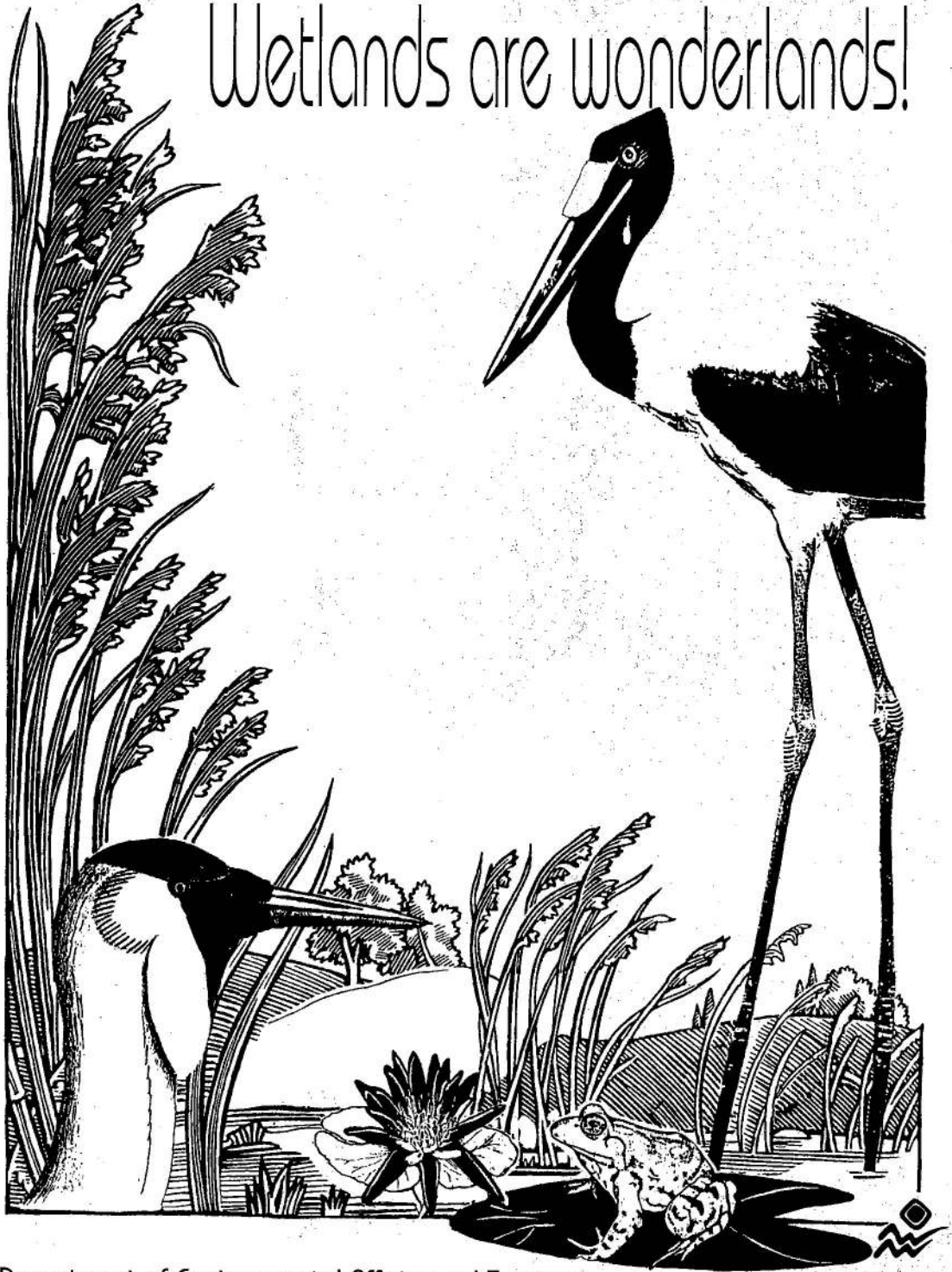
*Where is the largest amount of meteorological information in the whole of South Africa available?*



*Waar is die meeste weerkundige inligting in die hele Suid-Afrika beskikbaar?*

Department of Environmental Affairs and Tourism  
Departement van Omgewingsake en Toerisme

# Wetlands are wonderlands!



Department of Environmental Affairs and Tourism



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