



SKA SOUTH AFRICA  
SQUARE KILOMETRE ARRAY

17 Baker Street  
Rosebank  
Johannesburg  
South Africa  
2196  
  
Tel: +27 (0) 11 442 2434  
Fax: +27 (0) 11 442 2454  
Email: atiplady@ska.ac.za

Dr Stephen Mncube  
Chairperson of ICASA Council,  
Block A, Pinmill Farm  
164 Katherine Street  
Sandton  
2146

For attention: Ms Refilwe Ramatlo  
Email: DigitalDividendandDigitalMigrationCommittee@icasa.org.za  
Fax no. 011 566 3252

30 July 2012

Dear Dr Mncube,

**Re: Written Representations on the Amended Digital Terrestrial Television (DTT) Regulations**

These representations are made by the South African SKA Project Office in response to Notice 532 of 2012 published by ICASA in Government Gazette No. 35508 on 10 July 2012.

The South African SKA Project Office (SASPO) has been established by the Department of Science and Technology and the National Research Foundation to facilitate the establishment of new radio astronomy operations in South Africa as approved by the South African Cabinet. South Africa has been selected by the SKA Organisation to accommodate the major portion of the SKA Radio Telescope in Southern Africa. The MeerKAT radio telescope developed by South Africa as a precursor to the SKA telescope will be incorporated in SKA Phase 1. The MeerKAT and the core of the SKA will be established in the vicinity of Carnarvon and Williston in the Northern Cape Province.

The SASPO participated in all the previous enquiries on Draft DTT Regulations conducted by ICASA, made written representations and attended the oral hearings.

The written representations in respect of the Amended DTT Regulations are as follows:

1. SASPO wishes to express its satisfaction and appreciation to ICASA for Regulation 3(6).
2. SASPO would like to point out an uncertainty about the radio astronomy protection situation in the Northern Cape Province in terms of the Amended DTT Regulations, as follows:



- 2.1. Regulation 3(6) states the requirement that for certain analogue television transmitters located in the Northern Cape Province it is required that switch-off occurs before the end of December 2015.
- 2.2. Regulation 14(1)(b) states that appointed ECNS Licensees must ensure that the digital broadcast signal for public service DTT services reaches 95% of the population of the Republic by the end of the dual illumination period.
- 2.3. The existing analogue television transmitters that will cause radio frequency interference to MeerKAT and SKA radio astronomy observations are those named below according to the names used in the ICASA Terrestrial Broadcasting Frequency Plan 2008:

Calvinia, Carnarvon, De Aar, Pofadder, Prieska, Upington and Williston.

It is uncertain how the specific analogue television transmitters referred to in the Regulation will be identified in terms of 2.1 or 2.2 above. All or some of them may fall within the remaining 5% for which an obligatory switch-off has not been determined.

- 2.4. It is proposed that the phrasing of Regulation 3(6) be amended to the following:

*For analogue television transmitters located in the Northern Cape Province that will cause radio frequency interference to radio astronomy as determined in terms of the Astronomy Geographic Advantage Act (Act No. 21 of 2007) and the Regulations made in terms of that act, it is required that the analogue broadcast switch-off occurs before the end of December 2015 in order to provide the required protection for radio astronomy.*

3. A matter that has not been addressed in the Amended DTT Regulations is that of the possible radio frequency interference that DTT transmissions located at the stations listed in 2.3 may cause. The migration to DTT provides the opportunity to configure these transmissions so that radio frequency interference to radio astronomy will not occur. It is proposed that this matter can be addressed by including the following provisions in the Amended DTT Regulations:

- 3.1. *High power DTT transmissions in the Northern Cape Province that exceeds an effective radiated power of 60 dBm and may cause radio frequency interference to radio astronomy as determined in terms of the Astronomy Geographic Advantage Act (Act No. 21 of 2007) and the Regulations made in terms of that act, is required to restrict transmission in the direction of the Core Astronomy Advantage Area as declared in Notice No. 723 in Government Gazette No.*



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33462 published on 20 August 2010 in order to provide the required protection for radio astronomy.

- 3.2. DTH satellite is deemed to be acceptable in the context of possible radio frequency interference to radio astronomy.
- 3.3. Low power transmissions with an effective radiated power of less than 60 dBm located at towns in the Karoo region of the Northern Cape Province with the transmission directed at the town but not in the direction of the declared Core Astronomy Advantage Area are deemed to be acceptable in the context of possible radio frequency interference to radio astronomy.

Thank you for the opportunity to make this contribution. SASPO is also available to participate in any oral enquiries should it be required.

Regards

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Dr Adrian Tiplady  
SKA Site Bid Manager  
Tel: 011 442 2434  
Fax: 011 442 2454