NATIONAL ASSOCIATION OF BROADCASTERS' SUBMISSION TO THE PARLIAMENTARY PORTFOLIO COMMITTEE ON SCIENCE AND TECHNOLOGY ON THE ASTRONOMY GEOGRAPHIC ADVANTAGE BILL [B17-2007]

20 JULY 2007

1. INTRODUCTION

1.1 On 25 May 2007, Notice No 631 of 2007 was published in Government Gazette 29897, calling for comments on the Draft Astronomy Geographic Advantage Bill [B17-2007] ("**the Bill**") that the Minister of Science and Technology ("**the Minister**") intends introducing into Parliament in 2007.

The Bill seeks to provide measures to advance radio astronomy in South Africa, and gives the Minister the power to declare "Astronomy Advantage Areas" in order to ensure that radio astronomy facilities are protected from uncontrolled development and from potential radio interference.

Interested persons were invited to make representations on the Bill, the closing date for which was 1 June 2007.

The National Association of Broadcasters ("**the NAB**") only became aware of this Bill on 12 July 2007, and consequently did not make a written submission within the original prescribed timeframe for submissions. The NAB has a long history of participating in legislative and regulatory processes affecting the broadcasting industry and would like to express its gratitude to the Portfolio Committee on Science and Technology ("**the Committee**") for allowing it to make this late written submission, and also for allowing it to make an oral submission to the Committee on 31July 2007.

1.2 The NAB is the leading representative of South Africa's broadcasting industry. It aims to further the interests of the broadcasting industry in South Africa by contributing to its development. NAB members include:

- the three television and the 18 radio stations of the public broadcaster, the South African Broadcasting Corporation;
- all licensed commercial free to air radio and television broadcasters;
- all licensed commercial subscription broadcasters;
- both the common carrier and the preferential carrier licensed signal distributors; and

- over 30 community radio and television broadcasters.

2. THE CONSULTATION PROCESS ON THE BILL

2.1 The NAB notes with regret, that although numerous telecommunications operators were consulted on the Bill prior to its publication, the NAB, the largest representative organisation in the broadcasting industry, was not consulted.

2.2 This lack of consultation means that the NAB is not fully informed, and that this submission may possibly raise issues that are not relevant to this particular process.

2.3 It is also not clear to the NAB whether this Bill is one in a series of laws to be passed on this matter or not.

2.4 As a result of the lack of consultation, the NAB has studied the briefing given to the Committee by the Department of Science and Technology ("**DST**") on 5 June 2007 in an attempt to gain a better understanding of the Bill. This presentation will be dealt with in detail in section 5 of this submission.

3. NAB GENERAL CONCERNS

3.1 The NAB, in principle, supports the objects of the Bill in so far as the Bill seeks to:

- provide measures to advance radio astronomy in South Africa;
- develop the skills, capabilities and expertise of persons engaged in astronomy in South Africa;
- provide a framework for the establishment of astronomy advantage areas.

3.2 The NAB also supports the South African Square Kilometre Array ("**the SKA**") bid, believing that should South Africa win this bid, the foreign

direct investment and job creation opportunities that will arise will be of enormous benefit to South Africa.

3.3 The NAB is concerned that the establishment of Astronomy Advantage Areas could have an adverse impact on the provision of both sound and television broadcasting services in such areas. The NAB concerns with respect to the Bill cover 4 major areas. These are:

- Constitutional issues
- Impact on universal service
- Impact on broadcasters
- Impact on listeners and viewers

3.4 **Constitutional Issues:**

The Constitution requires that broadcasting in South Africa be regulated by an independent authority (ICASA). Certain provisions of this Bill, however, give the Minister of Science and Technology and/or the Management Authority to be established in terms of section 15 of the Bill, the power to regulate broadcasting in South Africa.

Section 192 of the Constitution provides as follows:

> "*National legislation must establish an **independent authority** to **regulate broadcasting** in the **public interest**, and to ensure fairness and a diversity of views broadly representing South African society*" (emphasis added).

The Constitution thus requires that the regulation of broadcasting in the public interest be conducted by an independent authority established by legislation.

This independent authority is ICASA established in terms of the Independent Communications Authority Act (No 13 of 2000) as amended.

The NAB submits that ICASA has no power or authority to delegate or share its powers, and, therefore, ICASA remains solely responsible for

the regulation of broadcasting and other electronic communication services in South Africa.

Section 192 of the Constitution does not provide for multiple institutions to regulate broadcasting. It provides for "**an** independent authority" to regulate broadcasting i.e. ICASA.

3.5 **Impact on universal service:**

Broadcasting is a medium for imparting education, information and entertainment to the general public. It also plays a pivotal role in nation building and promoting a democratic South Africa. To many members of the South African population, it is their only means of obtaining information and entertainment.

In order to achieve national universal service imperatives, the Independent Communications Authority of South Africa ("**ICASA**") has imposed coverage obligations on all free-to-air broadcasters holding broadcast licences. The cessation of broadcasting services in astronomy geographic advantage areas would be a contravention of the broadcasters' licence conditions and also deny the population the right to receive information as provided for in section 16 of the Constitution of South Africa ("**the Constitution**").

3.6 **Impact on viewers and listeners:**

The impact on viewers and listeners is closely related to the issue of universal service and the right to receive information. However, there is also a cost factor to be taken into account. Any technology changes to broadcasting will hold cost implications for viewers and listeners in that they would have to either modify or acquire new receiving equipment to continue to receive services that they are currently receiving.

3.7 **Impact on broadcasters:**

The broadcasting licences currently held by broadcasters confer both rights and obligations on them. The NAB submits that certain of these rights could be adversely affected by the provisions of the Bill. These

issues will be dealt with in more detail in subsequent sections of this submission.

3.8 The NAB understands that the SKA will operate in the frequency band 70 MHz to 25 GHz. This encompasses all broadcasting frequency bands for radio and television, both terrestrial and satellite. The NAB does not know what levels of protection from harmful interference the SKA will require, and this is a cause for concern.

4. NAB SUBMISSION ON THE PARTICULAR PROVISIONS OF THE BILL

4.1 **Ad section 1(Definitions):**

"***core astronomy advantage area***"

"***central astronomy advantage area***"

"***coordinated astronomy advantage area***"

It is not clear to the NAB as to the differences between a "core astronomy advantage area", a "central astronomy advantage area" and a "coordinated astronomy advantage area", and what the different interference protection criteria in these various areas will be. It is not specified whether the interference limits to be applied in the different areas will be hard limits or co-ordination threshold values.

The NAB submits that these different areas should be clearly defined in the final legislation, and the nature and the values of the interference limits specified.

"***fixed radio frequency interference source***"

The NAB submits that this definition should be amended to read:

"***fixed radio frequency interference source***" means any device transmitting radio waves from a fixed location. The NAB submits that the words "*with radiated power*" in the current definition are redundant, and should be deleted for the sake of clarity.

"***mobile radio frequency interference source***"

The NAB submits that this definition should be amended to read:

"***mobile radio frequency interference source***" means any device, instrument, component or equipment capable of causing radio frequency interference which is easily transportable, or of which transportability is an inherent feature, and includes cellular telephones, walkie-talkies and mobile telecommunication units in vehicles. The words "*and roof-top telecommunication installations*" should be omitted from the definition of "mobile radio frequency interference source", as these are applicable to a fixed radio frequency interference source.

4.2 **Ad section 4(1)(a):**

The NAB is concerned with the provisions of section 4(1)(a) of the Bill, which currently provides that in the event of a conflict between the provisions of this legislation and any other national legislation relating to radio frequency interference, that the provisions of the Astronomy Geographic Advantage Act will apply. Whilst this is a standard clause in many pieces of legislation, the NAB submits that there are serious conflicts between the provisions of this Bill and the Electronic Communications Act (No 36 of 2005) ("**ECA**") that will create problems for broadcasters in the future.

In terms of the provisions of section 30 of the ECA, it is ICASA that is responsible for the control, planning, administration and management of the radio frequency spectrum, with the exception of spectrum used by security services, in South Africa. Furthermore section 62 of the ECA, which deals with broadcasting signal distribution, requires that electronic communication network service licensees who provide broadcasting signal distribution services must comply with the provisions of the ECA and the frequency plan developed by ICASA.

Furthermore section 30(2)(a) of the ECA requires that ICASA, in controlling, planning, administering, managing and licensing the use of the radio frequency spectrum, must comply with the applicable standards and requirements of the ITU and its Radio Regulations, as agreed to or adopted by the Republic.

The ITU Radio Regulations are an international treaty containing rules for the use and operation of frequencies, and specify operating procedures for transmitting and receiving stations.

The ITU Radio Regulations place all radiocommunication services on an equal footing and do not provide for preferential treatment of the radio astronomy service. This is clearly stated in No 4.6 of the Radio Regulations.

> *"For the purpose of resolving cases of harmful interference, the radio astronomy service shall be treated as a radiocommunication service. However, protection from services in other bands shall be afforded the radio astronomy service only to the extent that such services are afforded protection from each other."*

4.3 **Ad section 22:**

Section 22(1) of the Bill provides that notwithstanding any other legislation or any rights granted in terms of any other legislation, the Minister has the sole authority within a core or central astronomy advantage area to protect the use of the radio frequency spectrum for astronomy. The NAB submits that this section, too, conflicts with the Constitution, the ECA and the ITU Radio Regulations. Therefore the concerns raised in section 4.2 above, apply to this section as well.

Section 22(2)(b) requires the conversion, within a reasonable time period, of analogue transmissions using the radio frequency spectrum, to digital transmissions.

The NAB will deal with this provision as it relates to television and sound broadcasting separately.

4.3.1 **Television broadcasting**

The Department of Communications is currently developing a policy for the migration of analogue television broadcasting to digital in line with the provisions of an ITU planning conference for digital broadcasting that took place in 2006. The conversion

of analogue television transmissions to digital can therefore, probably be achieved within a reasonable time period. Digital television broadcasting transmissions are more spectrum efficient than analogue transmissions. Approximately 8 to 10 television content streams can be carried within a single 8 MHz digital transmission as compared to 1 analogue content stream. This will reduce the spectrum occupancy within astronomy geographic advantage areas, but will not completely eliminate radio frequency interference.

4.3.2 **Sound Broadcasting**

The majority of the South African population, particularly in rural areas are solely reliant on FM sound broadcasting for receiving information and entertainment. At present there is no sound broadcasting digital transmission standard available that offers the public affordable receiving equipment. Furthermore, the public broadcaster, the SABC, has an obligation to provide universal service of its programming. The NAB submits that the provisions of section 22 of the Bill are in conflict with this universal service obligation, and the constitutional right of citizens to receive information.

4.3.3 **Self-Help Broadcast Relays**

There are many communities in South Africa who are situated outside of the coverage areas of the SABC services. It is often not economically viable for broadcasters to provide services to these communities, and the communities, at great financial cost then, with the necessary authorisation from ICASA, purchase and erect, their own self-help transmitting stations to relay the services of licensed broadcasters to their communities.

Consideration must also be given to the impact of the Bill on these self-help relay stations.

Section 22(2)(c) gives the Minister the power to require any user of the radio frequency spectrum which broadcasts into a core or central astronomy advantage area to migrate onto a radio frequency or utilise alternative technology that more effectively protects radio astronomy.

This implies that the Minister can regulate broadcast transmissions from stations that could be hundreds of kilometres outside of the core area, taking into consideration the high powers and high sites used by broadcast stations.

The NAB is certain that is not what is intended and requests that the Bill be amended accordingly.

4.4 **Ad section 50:**

Section 50 of the Bill gives the Minister the power to make regulations regarding any matter that may be prescribed in terms of this legislation.

The NAB submits that the powers granted to the Minister in terms of sections 18, 20, 22, 23 and 28 of the Bill are in conflict with the Constitution, the provisions of the ECA and the ICASA Act, and cannot be made applicable to broadcasting.

5. DST PRESENTATION TO PORTFOLIO COMMITTEE JUNE 2007

The NAB is aware that on 5 June 2007, the Department of Science and Technology briefed the Committee on the Bill. Because the NAB was not consulted on this Bill, it has studied the publicly available documentation on this briefing in an attempt to better understand the Bill.

One of the issues raised in that briefing was “Broadcasting & Telecommunications Impact”.

The NAB is concerned about certain statements made in this regard.

The following points are an extract from slide 14 of the DST presentation:

- **"FM not affected in all areas**
- **Single channel analogue television transmissions with high power and from high sites**
  i. Effectively replaced with multi-channel low power municipal relay transmitters
  ii. Will be migrated to digital technology (low power local transmissions)
  iii. All broadcasting services are available from satellite (already digital)"

The NAB wishes to address each of these points individually.

5.1 "FM not affected in all areas"

It is not clear to the NAB exactly what is meant by this statement.

FM sound broadcasting, which is an analogue transmission, will still be used in South Africa for many years to come, as is the case in most countries around the world. There are, at present, no economically viable alternative digital technologies available for sound broadcasting. As stated in section 4.3 above, the SABC has a universal service mandate in respect of all of its sound broadcasting services, and these cannot, legally, be switched off in astronomy geographic advantage areas.

5.2 "Single channel analogue television transmissions with high power and from high sites can effectively be replaced with multi-channel low power municipal relay transmitters"

Neither the NAB nor any of the broadcasters have been consulted on this issue, which has serious cost and logistical implications. Radio fulfils an additional important role in providing the service to commuters in motor vehicles. Unless a very large number of low power radio transmitters are deployed that simulate the present radio coverage from the established high power transmitters they will lose access to

the service in many areas whilst travelling. Broadcasters would not be willing to carry the cost of such an infrastructure change, and the question then arises as to who would carry the costs involved? Aside from the purely infrastructural costs there would also be significant costs in informing the public of the proposed changes.

5.3 "**Single channel analogue television transmissions with high power and from high sites will be migrated to digital technology (low power local transmissions)"**

The same concerns as raised in section 5.2 are applicable here. Existing high power, high site broadcasting transmission infrastructure already exists in these areas. Who will carry the cost of establishment of low power local transmission infrastructure? Existing national assets will then also become redundant.

5.4 "All broadcasting services are available from satellite (already digital)"

Whilst this statement is correct, it does not mean that all terrestrial broadcasting transmissions can be switched to satellite.

FM sound broadcasting is essentially a portable and mobile service. Broadcasting transmissions via satellite can only be received using a fixed, receiving installation. Therefore it is not practical to require FM sound broadcasting transmissions to be received via satellite.

Digital television broadcasting transmissions require all users to install a satellite receiving dish and a set top box or decoder. The Digital Broadcasting Migration Working Group that was established by the Minister of Communications to develop recommendations and contribute towards the development of a national strategy for the migration of broadcasting systems from analogue to digital, found that of the 7.5 million television households in South Africa, approximately 4.5 million households were unable to afford a set top box at any price.

The NAB is reasonably certain that many of these people that cannot afford set top boxes reside in areas that will be declared astronomy geographic advantage areas. Once again the question arises, if

terrestrial television viewers are expected to switch over to satellite to protect radio astronomy, who will carry the costs?

6. POTENTIAL IMPACT ON BROADCASTING SERVICES

The NAB has conducted a study to determine the potential impact that the establishment of astronomy geographic advantage areas could have on broadcasting in South Africa.

More than 350 000 television viewers and more than 280 000 radio listeners could potentially be adversely impacted by the establishment of an astronomy geographic advantage area in the Northern Cape.

Details of the results of the study are contained in the Annexure to this submission.

The NAB submits that this impact on citizens must be taken into account when establishing the astronomy geographic advantage area in the Northern Cape and that the necessary remedial measures be taken so as to ensure that these citizens can continue to receive broadcast transmissions.

7. CONCLUSION

The NAB submits that, legally, ICASA is the only Authority in South Africa with the power to regulate broadcasting and other electronic communication services, and that ICASA must be responsible for all radio frequency spectrum matters throughout South Africa, including in astronomy geographic advantage areas.

In order to advance the science of astronomy in South Africa and to ensure the success of the SKA, ICASA must work closely, and co-ordinate with the Department of Science and Technology.

The NAB once again thanks the Portfolio Committee for the opportunity to make these representations.

ANNEXURE

SERVICES AFFECTED BY THE ASTRONOMY GEOGRAPHICAL ADVANTAGE BILL AND SQUARE KILOMETRE ARRAY (SKA)

Transmitter Site	Service	Frequency (MHz)	ERP (kW)	Gross Target Audience
Carnarvon	SABC 2	623.25	10	9 112 (All)
	E-TV	655.25	10	9 112 (All)
	RSG	102.5	10	10 891 (Afr)
	K-FM	95.7	10	11 008 (All)
	SAFM	106.1	10	56 (Eng); 11 008 (All)
Calvinia	SABC 2	479.25	10	12 745 (All)
	E-TV	543.25	10	12 745 (All)
	RSG	101.5	10	13 743 (Afr)
	K-FM	94.7	10	13 940 (All)
	SAFM	105.1	10	27 (Eng); 13 940 (All)
Beaufort West	SABC 1	199.25	4	31 632 (All)
	SABC 2	223.25	13	46 339 (All)
	M-Net	175.25	1.6	30 934 (All)
	E-TV	599.25	56	46 339(All)
	RSG	100.7	10	33 767 (Afr)
	K-FM	93.9	10	39 343 (All)
	SAFM	104.3	10	310(Eng); 39 343 (All)
	Umhlobo Wenene	90.7	10	4 783(Xhosa)
De Aar	SABC 1	231.25	10	52 609 (All)
	SABC 2	183.25	100	72 292 (All)
	E-TV	207.25	100	72 292 (All)
	RSG	102.0	10	30 392 (Afr)
	SAFM	105.6	10	255 (Eng); 38 844 (All)
	Umhlobo Wenene	92.0	10	7 698 (Xhosa)
Douglas	SABC 2	759.25	10	30 579 (All)
	RSG	102.9	9	23 866 (Afr)
	O-FM	96.1	9	28 246(All)
	SAFM	106.5	9.3	186 (Eng); 28 246(All)
Prieska	SABC 2	191.25	10	23 076 (All)
	E-TV	215.25	10	23 076(All)
	RSG	100.8	9	17 849 (Afr)
	O-FM	94.0	9	19 037(All)
	SAFM	104.4	9	54 (Eng); 19 037(All)
	Umhlobo Wenene	90.8	9	804

Transmitter Site	Service	Frequency (MHz)	ERP (kW)	Gross Target Audience
Pofadder	SABC 2	223.25	2.5	6 464 (All)
	E-TV	175.25	2.5	6 464(All)
	RSG	102.8	5	5 008 (Afr)
	K-FM	96.0	5	5 435 (All)
	SAFM	106.4	5	111 (Eng); 5 435 (All)
Van Rynsdorp	SABC 1	175.25	10	72 980 (All)
	SABC 2	223.25	100	99 804 (All)
	E-TV	199.25	100	99 804 (All)
	RSG	103.4	17	51 991 (Afr)
	K-FM	96.6	17	53 945 (All)
	SAFM	107.0	17	412 (Eng); 53 945 (All)
Victoria West	SABC 2	215.25	0.5	10 768 (All)
	E-TV	615.25	0.5	393 (All)
	RSG	101.1	4	9 381 (Afr)
	SAFM	104.7	4	72 (Eng);10 337 (All)
Upington	SABC 2	223.25	100	106 477 (All)
	E-TV	199.25	112	106 477 (All)
	RSG	101.1	4	55 718 (Afr)
	SAFM	104.7	4	263 (Eng); 64 683 (All)