Eskom

Attention:
Mr Manyaapelo Richard Makgotlho
The Independent Communications Authority of South Africa
Private Bag XI0002
SANDTON
2146

Email: rmakgotlho@icasa.org.za

Date:
07 October 2014

Enquiries: Noko Makgoka
Tel +27 11 800-6138

Dear Mr Manyaapelo Richard Makgotlho

ESKOM COMMENTS ON THE DRAFT INTERNATIONAL MOBILE TELECOMMUNICATIONS (IMT) ROADMAP: GOVERNMENT GAZETTE 37948 OF 28 AUGUST 2014, NOTICE 370 0F 2014.

Eskom would like to thank you for granting an opportunity to comment on the draft international mobile telecommunications (IMT) roadmap in terms of section 2 and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005)..

Eskom supports the IMT roadmap and have suggested some additions and clarifications to enhance the provisions, as presented in the attached Table 1.

Eskom trusts that the input will be received as value adding to the finalization of the process.

Yours Faithfully

Neo Tsholanku
General Manager
Regulation and Legal Division

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Government Gazette

GENERAL NOTICE

NOTICE 730 OF 2014

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

PURSUANT TO SECTION 4 (1) OF THE ELECTRONIC COMMUNICATIONS ACT 2005, (ACT NO. 36 OF 2005)

HEREBY ISSUES A NOTICE REGARDING THE DRAFT IMT ROAD MAP FOR CONSULTATION – INVITATION FOR COMMENT DOCUMENT.

1. The Independent Communications Authority of South Africa ("the Authority"), hereby publishes **the Invitation for Comments document on the Draft IMT (International Mobile Telecommunication) Roadmap for Consultation** in terms of section 2 and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005).

2. Interested persons are hereby invited to submit a hard copy as well as an electronic version of their representation on the Draft IMT Roadmap by no later than 16h00 on Tuesday, 7 October 2014.

3. When compiling their representation in terms of (2) above, respondents are required to respond to the questions using the attached template which can be obtained on the ICASA website: www.icasa.org.za.

4. Written representations or enquiries may be directed to:

The Independent Communications Authority of South Africa

Pinmill Farm Block A

164 *Katherine Street*

South Africa

Private Bag XI0002

Sandton

2146

Attention:

Mr Manyaapelo Richard Makgotlho

e-mail: rmakgotlho@icasa.org.za

5. All written representations submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons from 8th of October 2014 at the ICASA Library or website and copies of such representations and documents will be obtainable on payment of a fee.

Where persons making representations require that their representation or part thereof be treated as confidential, then an application in terms of section 4D of the ICASA Act, 2000 (Act No. 13 of 2000) must be lodged with the Authority. Such an application must be submitted simultaneously with the representation on the draft IMT roadmap. Respondents are requested to ensure that any confidential material is marked clearly as confidential or placed in an annexure which is titled confidential. Kindly note that should the request for confidentiality be refused, the person making the request will be allowed to withdraw the representation or document in question.

_____

Dr SS MNCUBE
CHAIRPERSON

Invitation to Comment on the Draft IMT Roadmap

August 2014

1 Cover Sheet

Title

Mr

Given Name(s)

Cornelius

Surname

Naidoo

Representing (self /organisation)

Eskom Holdings SOC Ltd

Name of organisation (if applicable)

Eskom Holdings SOC Ltd

Contact telephone number

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1.1 Confidentiality

See page 2 above.

1.2 Declaration

I confirm that the information supplied on the cover sheet may be incorporated into a formal consultation response: it can be published by ICASA, unless otherwise specified on this cover sheet, and I authorise ICASA to make use of the information in this response to meet its legal requirements.

Signed ..... at Germiston

Date 7 October 2014

2 Invitation to Comment

The Authority invites written comment from relevant stakeholders on the draft IMT Roadmap and Feasibility studies for IMT in 450-470 MHz and 880-960 MHz.

2.1 IMT450

2.1.1 The Authority invites industry views on IMT usage in general in 450-470MHz.

It is encouraging to see that the Authority is considering spectrum allocation for Smart Grid services in IMT450 or in 403-406 MHz, 426-430 MHz (page 150).

Which portion of the 400 MHz band would be suitable for Smart Grid in South Africa for rural areas (and deep building penetration) would depend on the following:

a) Which channels in the 400 MHz band would be harmonised for Smart Grid in Europe?

b) When will there be a choice of 400 MHz LTE equipment for Smart Grid (CPE devices) to support the deployment of Smart Grid networks in those channels?

For South Africa 5 +5 MHz (FDD or TDD) in the 400 MHz band should be considered for Smart Grid for the medium to long term. Since the Smart Grid Field Area Networks will most likely be LTE Technology systems, then IMT450 may be best suited for Smart Grid deployments in rural areas.

For urban areas the IMT bands between 1 and 2 GHz should be considered (please refer to the comment on 2.14).

2.1.2 The Authority invites industry views on IMT paired spectrum usage for PPDR.

PPDR services are currently allocated in 407.625 - 410/ 417.625 - 420 MHz. The service could remain in this band and the channels increased to 5 +5 MHz.

2.1.3 The Authority invites industry views on IMT paired spectrum usage for the SA connect initiative.

Mobile broadband applications for the SA Connect Initiative may best be served for rural areas by the allocation of IMT700 (790 - 862 MHz) as per WRC07 (5.316A, 5.316B and 5.317A) and (694 - 790 MHz) as per WRC12 (5.312A and ITU Resolution 232).

These bands together with the Digital Dividend spectrum would be better suited for rural mobile broadband for the following reasons:

a) There is enough spectrum in IMT700 to encourage competition which would lead to lower communication costs for rural end users

b) A very competitive end user device market exists in the current mobile bands (compared to IMT450)

c) The same end user device could be used in rural and urban areas by supporting multipe bands

2.1.4 The Authority invites industry views on IMT unpaired spectrum usage for M2M and smart energy/grid applications in South Africa.

Paired spectrum would be required for LTE FDD in bands designated as FDD bands by 3GPP as per Region 1 allocation. The trend is moving towards more TDD bands becoming available in the future. More TDD systems are becoming available from LTE manufacturers. Some operators may use FDD bands for the deployment of TDD systems.

Consideration should be given to avoid interference between TDD and FDD systems in the same band.

TDD spectrum would be more suited for M2M LTE applications, such as Smart Grid.

Experts on Smart Grid consider TDD LTE to be more suited for Smart Grid applications than FDD, since more bandwidth is required in the uplink than in the downlink. Unpaired spectrum could be used for M2M applications, particularly in ITM bands where 20 MHz or less spectrum is available. These narrow bands would be unattractive for deployment of mobile broadband services by commercial operators.

Allocation of spectrum for M2M applications should also be considered in the following IMT bands:

IMT880: 2x8 MHz

IMT2100TDD: 15 MHz, since 20 MHz of the 35 MHz is already allocated in South Africa

2.1.5 The Authority invites industry views on the migration of incumbents (Transnet, SAA, Telkom, etc.) out of the 450-470 MHz band.

Incumbents in the IMT450 band who are using older technologies that are not 4G technologies should be migrated out of the band as part of their technology modernisation, to free up spectrum for new 4G technology users in the band.

2.1.6 The Authority invites industry views on the migration time line.

Due to high demand for rapid deployment of new technologies, the migration time lines should be reduced to 3 to 5 years.

2.1.7 The Authority invites industry views on destination bands.

The lower 400 MHz band which is currently not fully utilised may be considered as a destination band for users migrated out of the IMT450 band.

2.1.8 The Authority invites industry to give any other inputs that must be taken into consideration when finalising plans for the IMT 450 band

The EUTC (European Utility Telecom Council) has published a position paper on spectrum requirements for utilities in Europe. It plans to lobby for the harmonisation of the 450 MHz spectrum in Europe for this purpose and, via the regulator, intends to place it on the agenda at WRC-15.

We understand UTC Latin America is intending to raise the issue of utility recognition as users of spectrum at a future WRC with the Brazilian regulator. A planned AUTC (African Utility Telecom Council) would seek further discussions with ICASA for similar support on such a position.

If specific channels in the 450 MHz band are harmonised for Smart Grid through the ITU for Europe, this allocation is then likely to be applied to the rest of Region 1, which includes South Africa and SADC.

2.2 IMT700

2.2.1 The Authority invites industry views on Option 1 (ITU Region 3).

Not recommended.

2.2.2 The Authority invites industry views on Option 2 (ITU Region 1).

This option is recommended. The unpaired spectrum of 15 MHz could be allocated to TDD LTE M2M applications.

2.2.3 The Authority invites industry views on Option 3 (ITU Region 1).

Not recommended.

2.2.4 The Authority invites industry views on 2×3 MHz IMT band of ITU Region 1 solution.

2x3 MHz IMT band could be used for lower data rate applications if 3 MHz channels are supported by LTE systems. Currently most LTE systems support bandwiths of 5, 10 and 20 MHz.

2.2.5 The Authority invites industry views on other ITU Region 1 based suggestions.

No comment

2.3 IMT750

2.3.1 The Authority invites industry views on IMT unpaired spectrum in the coverage band of 750 MHz.

No comment

2.4 IMT800

2.4.1 The Authority invites industry views on Option 1 (ITU Region 3).

No comment

2.4.2 The Authority invites industry views on the 2×3 MHz IMT band of Option 1 (ITU Region 3).

No comment

2.4.3 The Authority invites industry views on Option 2 and 3 (ITU Region 1)

No comment

2.5 IMT850

2.5.1 The Authority invites industry views on the migration of incumbents (Neotel, etc.) out of the band.

This band would be more useful for 4G technology applications like TDD LTE. The 2x8 MHz in this band could be assigned to 4G technology M2M applications.

2.6 GSM900 spectrum consolidation

2.6.1 The Authority invites industry views on spectrum consolidation.

No comment.

2.6.2 The Authority invites industry views on guard bands.

The guard bands between users should be unassigned and should not be within any user's allocated spectrum.

2.6.3 The Authority invites industry views on the time line of spectrum consolidation, i.e. when it should be done.

The time lines should be 3 to 5 years.

2.6.4 The Authority invites industry views on demand for IMT migration of 5 MHz taking into consideration the spectrum for IMT available in the 700 and 800 MHz bands.

No comment.

2.6.5 The Authority invites industry views on need-based differentiated spectrum assignments in the 880-915 MHz (paired with 935-960 MHz).

No comment.

2.6.6 The Authority invites industry views on demand for IMT migration of 10 MHz, taking into consideration the new spectrum for IMT in 700 MHz and 800 MHz.

No comment.

2.7 IMT2300 unpaired spectrum TDD

2.7.1 The Authority invites industry views on usage of 2380-2400 MHz.

This 20 MHz of spectrum could be assigned to low data rate 4G technology applications such as M2M applications using TDD LTE.

2.7.2 The Authority invites industry views on usage of 2290-2300 MHz for IMT.

This 10 MHz of spectrum could be assigned to low data rate 4G technology applications such as M2M applications using TDD LTE.

2.8 IMT2600 paired FDD spectrum

2.8.1 The Authority invites industry views on demand in the IMT2600 FDD band.

No comment.

2.8.2 The Authority invites industry views on the migration of the incumbent (WBS), into 2380-2400MHz.

No comment.

2.8.3 The Authority invites industry views in-band migration of the incumbent (WBS), into IMT2600 unpaired spectrum.

No comment.

2.8.4 The Authority invites industry views on alternative destination bands for the incumbent (WBS).

No comment.

2.9 IMT2600 unpaired TDD spectrum

2.9.1 The Authority invites industry views on demand in IMT2600 TDD band.

No comment.

2.10 IMT3500 unpaired TDD spectrum

2.10.1 The Authority invites industry views on migration out of 3400-3600 MHz from FDD usage to TDD.

No comment.

2.10.2 The Authority invites industry views on status and time line.

No comment.

2.10.3 The Authority invites industry views on interest in TDD downlink focused spectrum.

No comment.

2.10.4 The Authority invites industry views on interest in TDD uplink focused spectrum.

No comment.

2.10.5 The Authority invites industry views on interest in the introduction of a Managed Spectrum Park.

Does this imply that the Managed Spectrum Park Operator (which would be a spectrum licencee) would not be the owner of the equipment used? This is contrary to the current regulations.

Clarification is required on this aspect.

2.11 Operators opinion on one TDD-operator instead of every operator having parts of TDD spectrum

2.11.1 The Authority invites industry views on the TDD spectrum bundling of IMT450, IMT750 and IMT2600 and assignment to one (wholesale) operator.

Not supported. The difficulty would be on determining priorities of competing operators and requirements.

For example: It needs to be clarified how the requirements for Smart Grid spectrum would be weighed up against commercial Mobile Telephony spectrum requirements?

2.11.2 The Authority invites industry views on the operator interest in individual IMT3500 assignments per operator or in one assignment to one (wholesale) operator.

No comment.

2.12 Universal service obligations for lower frequency bands (sub-1GHz)

2.12.1 The Authority invites industry views on universal service obligations for lower frequency bands (sub-1GHz).

The 450 MHz may not be suitable for Mobile Broadband applications as per the Ofcom input on page 136.

IMT450 in Brazil is used for fixed wireless broadband using equipment provided by a Brazilian supplier WxBR. Other suppliers are offering propriety LTE in the 450 MHz band which are not fully LTE standard compliant.

The following should be considered before ITM450 is allocated for rural mobile broadband applications:

a) The band is considered to be unsuitable for mobile broadband applications due to large antennas required in mobile device which may not be feasible and would increase CPE device costs.

b) 20 MHz of spectrum means that it can only be used by 1 or 2 operators making it uncompetitive and this would lead to increased communication costs.

c) If this band were used for rural mobile broadband then rural users would require another device for use in urban areas. Two mobile devices will not be affordable for most rural users.

d) The 20 MHz of spectrum in IMT450 would be more effectively used for M2M applications, such as Smart Grid.

2.13 Capacity licence obligations for new and existing IMT bands

2.13.1 The Authority invites industry views on licence obligations for new and existing IMT bands, including infrastructure sharing.

No comment.

2.14 Additional input

2.14.1 The Authority requests any other inputs that are deemed necessary and appropriate which should be taken into consideration.

Smart Grid technology is an essential element for the future of the electrical utility industry worldwide. This technology will improve delivery, enable automation, reduce electricity costs and cut carbon emissions. For the implementation of Smart Grid, a Field Area Network is required. This would be a secure licenced band point-to-multipoint wireless network. The current trend is towards using TDD LTE systems for this network to connect Smart Meters and sensors in the electricity network to the utilities' national communications network.

For this network the spectrum requirements are:-

a) 5 +5 MHz in the 400 MHz band for rural areas (and deep building penetration).

b) 10 +10 MHz in a band between 1 and 2 GHz for urban areas.

The most likely ITM bands suitable for this network are ITM450 for rural areas and ITM1500 for urban areas, subject to harmonisation in Region 1 and the availability of LTE systems for Smart Grid in these bands.

The Authority should take cognisance of the spectrum requirements for Smart Grid in the IMT Roadmap.