Attention:

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RESPONSE TO "*INFORMATION MEMORANDUM FOR RADIO FREQUENCY SPECTRUM PROSPECTIVE LICENCE TO PROVIDE MOBILE BROADBAND WIRELESS ACCESS SERVICES FOR URBAN AND RURAL AREAS USING THE COMPLIMENTARY BANDS, 700MHz, 800MHz AND 2.6GHz*"

Submitted by: City Telecoms

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City of Cape Town

Date: 12 October 2015

Respond to: Leon Van Wyk
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1 Introduction

The City of Cape Town ("the City") welcomes ICASA's plans for spectrum assignment and clarity on the way forward. The City has already given input with regard to all the IMT bands under consideration.

The Telecommunications Department of the City of Cape Town ("City Telecoms") welcomes any measures to expand the availability of broadband access as per the *South Africa Connect* strategy. We therefore broadly support the intentions as laid out in the latest set *Information Memorandum for Radio Spectrum Prospective Licenses*.

The City of Cape Town has a vision for a single metropolitan telecommunication network covering the entire metro area, with network and/or Internet access for all its users/employees and connectivity for all municipal devices and systems. In addition, the City has a mandate to use its network for enabling socio-economic development by facilitating public Internet access and by selling spare infrastructure capacity on its broadband network.

Currently the City owns and operates its own optic fibre based 'broadband' telecommunications network. Over 600km of optic fibre cable has been deployed along core and local routes, connecting 242 City buildings. The City's telecommunications network already has links that use wireless technologies to connect buildings; 'point-to-point radio links' to connect various edge sites, and also to support backhaul (using microwave network links) where needed. These wireless links therefore complement the optic fibre links, providing connectivity to sites that are not easily connected directly by fibre, or provide backup connectivity where redundancy is needed.

The City also has a separate wireless Private Mobile Radio network that uses TETRA technology and is used primarily for secure voice communications (although there are some data applications as well).

As City Telecoms implements the City's vision of becoming a "well run, enterprising and connected City" (from the City's IDP), the management of 'large urban systems' will become increasingly dependant on ubiquitous connectivity.

These needs have been identified as:

Safety and Security:

- The City requires a secure private network for public safety, which can carry voice and data applications for real time decision-making. Mobility of the users and service area coverage are the key requirements for such a network.
- CCTV and video surveillance is currently utilised by the City for crime prevention and community safety. Expanded coverage will enable wider deployment of such systems.

Utility Services Management:

- The City requires use of a wireless mobile data network for 'smart' service management (e.g. demand management, monitoring, predictive analysis, real time billing, etc.,) for all utility functions; rapid response to queries and incidents; real time communication with field workers; improved productivity and reduction of wasted time and materials
- Smart Grid systems: wireless data networks also enable the deployment of smart grid systems such as smart meters, which will enhance the City's ability to manage

its infrastructure and the supply and demand aspects of utility services – particularly water and electricity

- The deployment of connected environmental and pollution monitoring devices is also possible.

Transport and Traffic management:

- Wireless technologies can provide the connectivity needed for remote management of traffic signal controllers, highway variable message boards and traffic monitoring cameras
- Wider network coverage will enable the City to undertake such management at a larger number of sites
- The existing traffic controller systems needs to be migrated to new wireless connectivity as Telkom no longer supports the wire-line infrastructure that currently connects to the controllers

The City is concerned that the current proposals for the allocation of spectrum does not take full account of this wide variety of municipal applications and public sector usage, and is driven by the needs of only the commercial operators.

2 Comments on Prospective Spectrum License Plans

The proposed Spectrum License Plans do not deal adequately with the issues that are contained within the National Broadband Policy pertinent to municipalities. We are concerned by the lack of proposed allocation of frequency spectrum for public sector use. The City's needs for spectrum allocated for its use across a range of departments and applications have been outlined above. Internationally, the increasing needs of spectrum for mobile broadband applications relating to Emergency Services Networks have been taken into account when regulators allocate spectrum.

Our key concern with the ICASA spectrum licensing plans is the lack of any allocations for public sector usage in the current proposals and the lack of clarity on how other portions of the frequency are to be allocated.

The City already has licensed use of spectrum in the 410-423MHz ranges for its TETRA network, which is used for a public safety voice network. There is a need for additional spectrum for the creation of an Emergency Services Network with mobile broadband data carrying capabilities. ICASA's proposed spectrum allocation should make specific provision to set aside suitable frequency ranges for this this purpose, i.e. frequencies in the IMT450 or IMT500-700 range.

As ICASA is now proposing that the IMT700-850 range is allocated to the commercial service providers, we therefore propose that ICASA block off a portion of spectrum specifically for Public Sector Networks in either the IMT450 or IMT500-700 ranges. Whilst we have used the example of an Emergency Services Network, it is common cause that the spectrum in the IMT450 or IMT500-700 ranges can be used in LTE mode for other aspects of a Public Sector Data Network (e.g. Smart Grid, IoT, M2M). It is imperative therefore that ICASA allocates such broadband capable spectrum to public sector entities.

Secondly, the GSM-R standard allocation in the IMT900 band is being used increasingly in Europe for **public transport systems**, that go beyond the railway networks. The City anticipates that its *MyCiTi* integrated rapid public transport system (IRT), the *Rea Vaya* public transport system and other municipal public transport

systems will benefit greatly if the GSM-R allocation was broadened to encompass public transport systems and not just rail systems. As was pointed out in the IMT900 spectrum assignment plan, the technology options for GSM-R are evolving rapidly to include broadband systems. Regional allocation of this spectrum would also greatly contribute to efficient geographic use by multiple public transport operators or municipalities.

The City therefore proposes that ICASA **allocates portions of the GSM-R spectrum in the IMT900 range to public transport entities on a regional basis.**

We note that the mechanism for the licensing of spectrum outside of the **700MHz, 800MHz and 2.6GHz** has not yet been defined as part of the process so far. This creates a vacuum for entities that do not qualify for the current allocations and we urge that ICASA provide details of licensing across the ranges of available spectrum.

Sincerely

Leon Van Wyk

END