



30 October 2015

**ICASA**

**Attention: Mr Joseph Dikgale**

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Dear Sir

SUBMISSIONS ON THE INFORMATION MEMORANDUM FOR RADIO FREQUENCY SPECTRUM PROSPECTIVE LICENCE TO PROVIDE MOBILE BROADBAND WIRELESS ACCESS SERVICES FOR URBAN AND RURAL AREAS USING THE COMPLIMENTARY BANDS, 700 MHZ, 800 MHZ AND 2.6 GHZ

1. WAPA refers to the "Information Memorandum for radio frequency spectrum prospective licence to provide mobile broadband wireless access services for urban and rural areas using the complimentary bands, 700 MHz, 800 MHz and 2.6 GHz" published as General Notice 914 of 2015 in GG 39203 on 11 September 2015 ("**the Information Memorandum**").
2. At the outset we wish to make it clear that the Authority's efforts to progress the assignment of high demand spectrum in the continued absence of policy clarity are greatly appreciated. While WAPA has noted below its concerns with the proposals set out in the Information Memorandum, this should not disguise its support for continued discussion around the manner in which high demand spectrum will be assigned (followed by firm action).
3. Our responses to the invitation to comment on the Information Memorandum fall into five broad categories:

- 3.1. The proposal fails to address high-demand spectrum available for assignment in a holistic manner in that it does not address available spectrum in the 3.5 GHz band.

WAPA does not understand the reasons for this omission and requests that the Authority issue a public clarification.

- 3.2. The proposal fails to provide for fixed wireless applications.

This ignores both the existing success of fixed wireless networks in providing broadband in rural and urban areas and the future potential of these networks to be a key component in meeting the South Africa Connect National Broadband Plan ("**SA Connect**") broadband targets.

- 3.3. The proposal in practise caters only for the incumbent operators together with two further operators with the ability to establish a national network. It does not present any direct opportunities for SMME and smaller licensees to participate, in line with the stated

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objective of SA Connect to increase diversity and levels of competitive amongst operators. The proposal does not contemplate any assignments of sub-national or regional scope.

This represents a missed opportunity to leverage the spectrum assignment process to meet socio-economic objectives relating to SMMEs and job creation.

- 3.4. The obligations to be attached to each of the licences to be assigned are inappropriate and inadequate and do not create an environment conducive to network development opportunities for smaller licensees, or any mechanism to ensure that existing wireless networks (with particular reference to those outside of the metropolitan centres) can be interconnected with metro or long distance links.

This represents a missed opportunity to leverage the spectrum assignment process to meet socio-economic objectives relating to SMMEs, skills transfer and job creation, based on the success of nascent or start-up businesses that will lead directly to localised economic growth, reducing concentration of wealth amongst a small set of incumbents. At the same time the use of existing networks serving underserved and hard-to-serve areas should be a key element of the strategy to meet the SA Connect targets.

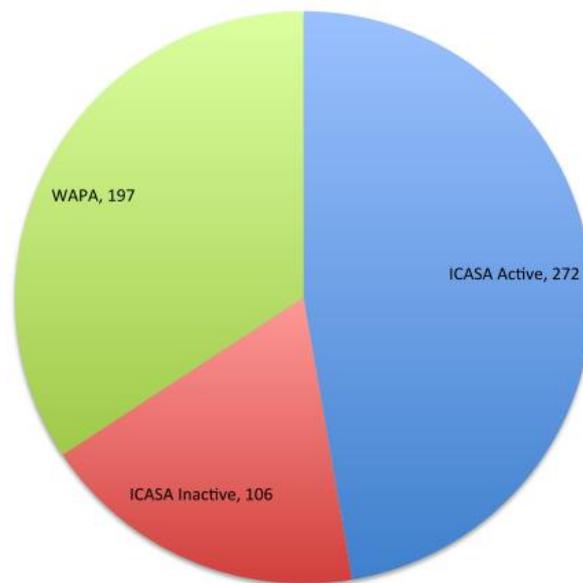
- 3.5. A related concern is the potential for Lot A (wholesale open access) to crowd out competition and investment in the provision of rural access services. Obligations to roll out in underserved areas should be implemented in a manner which avoids the unintended consequence of crowding out competition.

The “wholesale open access” network only addresses the last mile/access links component, and does not address the opportunity for rapid broadband deployment via existing and new access network operators that are frequently shut out of obtaining backhaul links by incumbents. An unintended consequence of a “wholesale open access network” is that it will likely undermine the existing, vibrant and effective Wireless ISP industry catering to underserved areas.

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## WAPA's interest in the assignment of high-demand spectrum

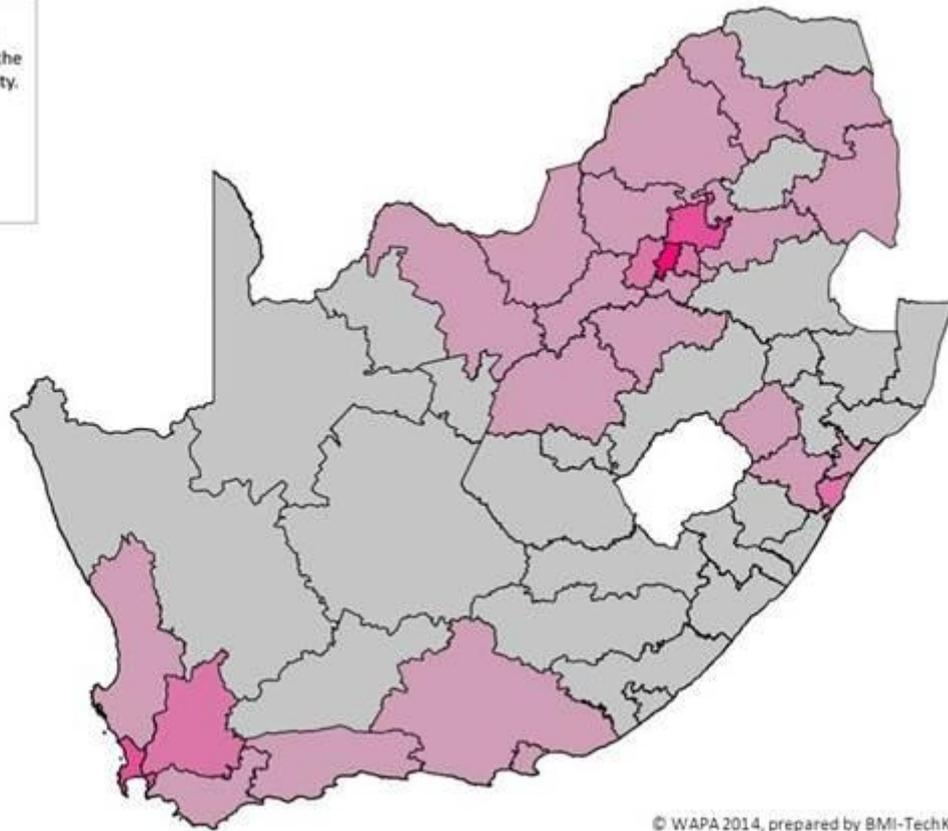
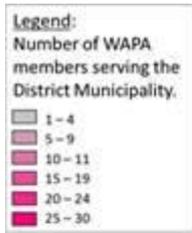
4. WAPA was formed in 2006 as a non-profit organisation representing the Interest of wireless Internet service providers (WISPs) in both urban and rural locations in South Africa. WAPA promotes technical and business best practices for wireless connectivity providers and engages in policy work to promote spectrum allocation and assignment, wholesale service provision and SMME enablement.
5. WAPA currently represents more than 220 organisations, including large and small players, as well as support industries such as equipment vendors and software providers.



WAPA Current Market share of active ICASA ECNS license holders  
42%

Source: [www.icasa.org.za](http://www.icasa.org.za), WAPA membership database

6. The average WAPA member is an SMME providing extensive coverage in rural areas in South Africa where there is no cost-effective alternative access means. WAPA members are found throughout South Africa and collectively have an extensive footprint.



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Figure 1: WAPA Members Coverage across District Municipalities, 2014

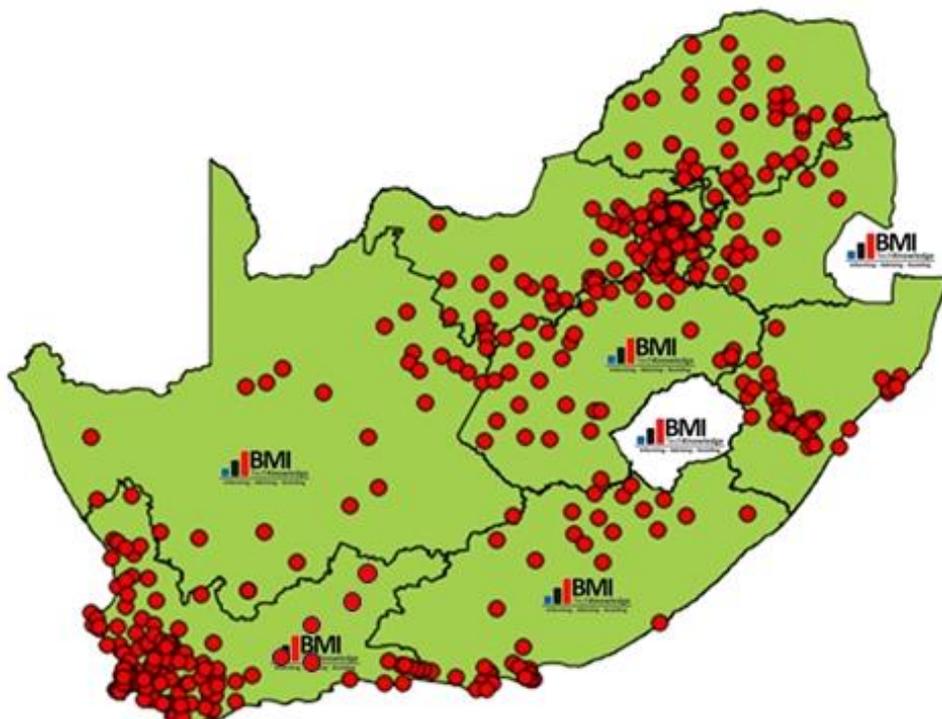


Figure 2: WAPA Members Coverage Map, June 2012 - WAPA members collectively have quite an extensive footprint, with a specific focus on rural areas.

7. WAPA members have a proven track record of price reduction and service innovation in the provision of broadband services to areas which, as a consequence of perceived commercial non-viability, have been largely neglected by the large operators.
8. It should be noted that the strong growth in this industry has been made despite the legal and regulatory constraints imposed on operators in this industry, the lack of support and the non-availability of critical scarce resources such as licensed radio frequency spectrum suitable for the deployment of broadband access networks. There has been huge growth in the fixed wireless access industry; it is estimated that there may be as many as 500 SMME wireless access providers in South Africa.
9. WAPA members generally focus on using open standard wireless technologies such as the 802.11 Wi-Fi standards, but an increasing number of members also hold licensed spectrum in the upper GHz ranges for the purpose of operating point-to-point links.
10. WAPA works to promote the model of community-based SMMEs covering small areas and interconnecting with each other to achieve ubiquitous coverage. This fosters job creation and skills transfer, and results in deepening broadband penetration in South Africa.
11. More information about WAPA is available from <http://www.wapa.org.za>.

## What are we trying to achieve through the spectrum assignment process?

12. While recognising the uncertainty created by the fact that the Minister of Telecommunications and Postal Services has indicated that spectrum policy relating to high-demand spectrum will only be finalised by the end of March 2016, WAPA submits that the design of the lots to be auctioned as well as the obligations to be attached thereto should seek to further as many of the objects of the Electronic Communications Act (“the ECA”) as can reasonably be accommodated.
13. WAPA has identified the following objects of the ECA – set out in section 2 - which it regards as directly relevant to the much-delayed assignment of high-demand spectrum:
  - (c) *promote the universal provision of electronic communications networks and electronic communications services and connectivity for all;*
  - (d) *encourage investment, including strategic infrastructure investment, and innovation in the communications sector;*
  - (e) *ensure efficient use of the radio frequency spectrum;*
  - (f) *promote competition within the ICT sector;*
  - (i) *encourage research and development within the ICT sector;*
  - (l) *provide assistance and support towards human resource development within the ICT sector;*
  - (p) *develop and promote SMMEs and cooperatives;*
14. Furthermore the extant National Radio Frequency Policy 2010<sup>1</sup> has as one its express objectives contributing “to the promotion of national interests, development and diversity within the framework of Government strategic objectives” and it is self-evident that the work of the Authority should also ultimately be directed to the achievement of these objectives.
15. In a recent public address<sup>2</sup> the Honourable Minister of Telecommunications and Postal Services alluded to the nine point plan announced by the President in his 2015 State of the Nation Address around the need to unlock the potential of SMME’s, cooperatives, township and rural enterprises as meaningful contributors to South Africa’s economic growth and development. The Minister noted that the “small business sector is a necessary catalyst that will bridge the gap between the first and the second economy and contribute positively in our fight against poverty, inequality and unemployment”.
16. Finally, the assignment of high-demand spectrum is a critical determinant of whether South Africa will meet the connectivity targets set out in SA Connect.
  - 16.1. SA Connect expressly refers to the role of fixed wireless networks in meeting broadband deployment challenges in rural areas:

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<sup>1</sup> Notice 306 of 2015, GG 33116, 16 April 2010

<sup>2</sup> Keynote Address by the Honourable Minister of Telecommunications and Postal Services, Dr. Siyabonga Cwele at the 2015 Durban Main Business Fair Conference <http://www.dtps.gov.za/mediaroom/media-statements/552-minister-cwele-keynote-address-at-the-durban-business-fair.html>

*Spectrum: Spectrum is a scarce but non-depleting resource that has to be managed efficiently in order to optimise its potential to provide broadband access. This is especially pertinent given the dominance of mobile access in South Africa. Fixed wireless access also requires spectrum and represents an alternative to fixed line networks to provide high capacity broadband especially in rural areas.*<sup>3</sup>

16.2. SA Connect identifies, *inter alia*, the following “immediate priorities with respect to spectrum”<sup>4</sup>:

- *The re-allocation and assignment of broadband spectrum taking into consideration job creation, small business development, national empowerment and the promotion of NDP goals;*
- *Approval of spectrum sharing between spectrum licensees and across services by ICASA in support of efficient use of spectrum and where it does not impact negatively on competition;*
- *The enabling of dynamic spectrum allocation :and*
- *Ensuring sufficient spectrum for extensive Wi-Fi and other public access technologies and services.*

16.3. SA Connect also explicitly sets out the public interest policy objectives to be furthered by “licensing of broadband spectrum” (our emphasis):

*It is Government's objective to ensure that access to broadband for all is attained. Therefore, licensing of broadband spectrum should contribute to the realisation of the following public interest policy objectives:*

- *The achievement of universal access to broadband;*
- *Effective and efficient use of high demand spectrum;*
- *Adoption of open access principles;*
- *Safeguard the spectrum commons and spectrum required for public access technologies and services; and*
- *The promotion of broader national development goals of job creation, the development of small and medium sized businesses and South African-owned and controlled companies, and the broad based economic empowerment of historically disadvantaged persons.*

17. It cannot be sufficiently stressed how important the assignment of this spectrum is for South Africa’s future. The outcomes of this process and the implementation of the ensuing regulatory framework will shaping the competitive landscape of South African communications for the next ten to twenty years.

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<sup>3</sup> SA Connect paragraph 12

<sup>4</sup> SA Connect paragraph 12

## The omission of the 3.5 GHz band

18. It is highly-desirable to assign all available high-demand access spectrum at the same time. This approach allows interested parties to make decisions based on certainty about their options in making strategic decisions around the substantial capital investments involved in obtaining and utilising a spectrum licence.
19. The failure to include this band in the proposals set out in the Information Memorandum is inexplicable given the previous processes undertaken by the Authority regarding this band.
  - 19.1. The Authority has previously proposed a managed spectrum park model for the band that would allow telecoms companies to share common spectrum on a self-managed basis.<sup>5</sup>
  - 19.2. The band formed part of the series of IMT Radio Frequency Spectrum Assignment Plans published by the Authority in March 2015<sup>6</sup>. The RFSAP for the band – coming into force on 1 April 2017 – reflects a decision to allocate the 200 MHz available on an unpaired basis and to amend the National Radio Frequency Plan 2013 (“NRFP 2013”) to reflect TDD as a typical application.
  - 19.3. WAPA notes that the NRFP 2013 currently stipulates Fixed Wireless Access as a typical application in this band.
20. There is a substantial amount of available radio frequency spectrum in this band.
  - 20.1. 2 x 28 MHz national
  - 20.2. 2 x 14 MHz on a district municipality basis (available in all but one or two municipalities)
21. WAPA submits that this band must be included in the process contemplated in the Information Memorandum.
22. WAPA notes further that this band should be considered for fixed wireless applications in line with the current allocation in the 2013 National Radio Frequency Plan. The RFSAP for this band referred to above does not explicitly contemplate deleting fixed wireless applications in the next review of the National Radio Frequency Plan.

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<sup>5</sup> [Invitation to apply for a radio frequency spectrum licence for the purposes of providing broadband wireless access service in the 3.5 GHz band \(28 May 2010\)](#)

<sup>6</sup> Final Radio Frequency Spectrum Assignment Plan for the frequency band 3400 to 3600 MHz in terms of sections 2 (d),(e) and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005) and read with Regulation 3 of the Radio Frequency Spectrum Regulations 2011 and read with the IMT Roadmap 2014.

## Participation in the assignment process

23. Our submission is that the scope of participation in the assignment process can be greatly expanded through the inclusion of a set of sub-national or regional lots for assignment.
24. Recognising the realities of the current market structure WAPA accepts that such a broadening of scope may require the Authority to accede to its request that the 3.5 GHz band be included in the assignment process.
25. The majority of WAPA members – and all of those with a significant presence in rural areas – recognise that the likely reserve prices, auction prices and annual licence fees (let alone the cost of deployment) associated with a national licence are beyond their reach.
26. This should not, however, obscure the fact that there is significant demand amongst rural SMME WISPs for licensed frequency that can be used for the deployment of access networks. In the words of one WAPA member responding to the Information Memorandum:

*So I'm all for more readily available spectrum - either free, but rather very cost effective exclusive local area based spectrum. I personally think that back-haul is easy so sort with licensed or license exempt microwave kit. The biggest problem we have/will have is PtM access in 5GHz. You can still get away with a 60 or 90cm dish with 2-5 degree beam-width on PtP links, but how do you mitigate interference when you put up even as narrow as 90 degree sectors. You just pick up all the noise around you - it unavoidable. The core of the matter is availing cost effective spectrum, behind cost effective CPE kit on AP's for PtM connectivity to clients. You can still change your back-haul to fiber or licensed microwave or 17Ghz kit - that's relatively easy - but what do you do when you cannot find a noise free channel to connect 30 odd clients on - then you're in trouble. You can have all the back-haul in the world but if you cannot connect customers you have no business left.*

*So do we as WISPs need more spectrum to work with for PtM access - absolutely!! The problem with free spectrum is what we currently have - more and more people are buying kit and putting it up, causing massive interference. I'm saying leave the current allocation for the masses to play in, and for rural areas. But in towns where local municipalities on their own almost use up all the channels available we need something a bit more exclusive.*

*My proposal is to free up spectrum that can be sold area by area on a reserve fee auction basis. I think if we do the numbers on this we will find that it will still add considerable revenue whilst availing clean relatively cheap air for us to provide services in.*

*If we just free up random spectrum we will find our way back here in less than a year.*

27. There is plenty of international precedent for creative approaches to the competitive assignment of spectrum so as to allow for regional assignments and set-asides.
28. WAPA is also monitoring the increasing availability of low-cost GSM equipment, a trend which will allow WISPs to offer IMT services in rural areas in a limited geography, meaning subscriber equipment and existing mobile handsets could be used in supported bands.

## Obligations to be imposed

29. The proposed obligations set out in the Information Memorandum can be summarised as follows:

	<b>Applicable to Lot:</b>	<b>Obligation</b>
<b>Wholesale</b>	<b>A</b>	<ul style="list-style-type: none"> <li>• Provide wholesale open access services on the following basis:               <ul style="list-style-type: none"> <li>• Non-discriminations access;</li> <li>• Transparency;</li> <li>• Fair and reasonable pricing; and</li> <li>• Cost oriented with reasonable rate of return</li> </ul> </li> <li>• 3 years of obligation holiday from paying radio frequency spectrum license fees with regard to the 700 MHz spectrum license (worth ZAR81 000 000 without factoring in licence fee increases)</li> </ul>
<b>Coverage</b>	<b>B, C, D, E</b>	<ul style="list-style-type: none"> <li>• Rollout 70% of the broadband network in the identified areas before rolling out in the cities</li> <li>• Coverage = provision of data services in the areas with an average downlink user throughput of 30 Mbit/s in the period from 07:00 to 20:00</li> <li>• Provide services to all identified underserved areas within three years from the date that 700 MHz/800 MHz spectrum becomes available</li> </ul>
<b>DTT</b>	<b>A, B, C, D, E</b>	<ul style="list-style-type: none"> <li>• Provide set-top-boxes free of charge to households for Free To Air Terrestrial Television Service</li> <li>• Cost to licensee offset against the auction price</li> </ul>
<b>BEE</b>	<b>A - F</b>	<ul style="list-style-type: none"> <li>• Achieve BBEE level 2 status within twenty four (24) months from date of issue of licence OR</li> <li>• Increase equity ownership by Historically Disadvantaged Persons (HDP) by three percent (3%) within 24 months from date of issue of licence</li> </ul>

30. WAPA recognises that the proposed obligations:

- 30.1. Seek to enhance service layer competition as contemplated in SA Connect;
- 30.2. Seek to advance transformation of the industry;
- 30.3. Seek to ensure universal service and access; and
- 30.4. Seek to serve as a funding mechanism for the set-top box distribution programme.

31. These objectives are aligned with the objects of the ECA and the relevant policy set out in SA Connect.

32. WAPA submits, however, that the proposed obligations are nevertheless non-optimal and represent a number of missed opportunities to further other objects of the ECA and to promote other national interests, development and diversity.

32.1. The transformation obligation appears to be improperly formulated in that effecting a 3% increase in HDP equity ownership will in most circumstances be far easier to achieve than attaining Level 2 status. The latter obligation is also relative in the sense that the content of the obligation is informed by the BEE status of the applicant (i.e. it discriminates between an applicant with Level 4 status and an applicant with level 3 status). The obligation requiring a 3% shareholding similarly does not take into account the current shareholding of the applicant.

For the record the incumbent operators currently hold the following BEE certification status:

Telkom – Level 3

Vodacom – Level 2

MTN – Level 2

Cell C – unknown

What is the impact of an obligation to attain Level 2 status where the applicant already has that status? Does this really advance the transformation agenda?

WAPA's preference is for working with the broader BEE framework so as to create opportunities for SMMEs through the inclusion of the procurement leg of the scorecard.

32.2. There are no obligations relating to utilisation of the spectrum assigned within a specified period failing which the licence will lapse – so-called “use-it-or-lose-it” provisions. This is a historical lesson that we must surely have learnt by now.

The inclusion of such an obligation would promote more efficient use of spectrum as required by subsection 2(e) of the ECA.

32.3. Similarly restrictions on further aggregation of the spectrum auctioned subsequent to the completion of the assignment would prevent further consolidation of spectrum holdings<sup>7</sup> and promote more efficient use of spectrum as required by subsection 2(e) of the ECA as well as promoting competition as required by subsection 2(f) of the ECA.

This is particularly critical in South Africa where the market continues to prompt incumbent operators to grow through acquisition. The Authority is aware of the challenges presented by such consolidation and has its own ongoing process in this regard.

32.4. There are no obligations relating to empowerment of SMMEs and the creation of jobs, particularly in the rural areas in which Lots B, C D and E are required to be deployed.

The inclusion of such an obligation would develop and promote SMMEs and co-operatives as required by subsection 2(p) of the ECA as well job creation as required by national socio-economic objectives.

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<sup>7</sup> As implemented in Canada, see <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10581.html> Condition 6.2

32.5. There are no obligations relating to skills transfer to empower SMMEs, co-operatives and local communities, particularly in the rural areas in which Lots B, C D and E are required to be deployed.

The inclusion of such an obligation would develop and promote SMMEs and co-operatives as required by subsection 2(p) of the ECA, provide assistance and support towards human resource development as required by subsection 2(l) of the ECA as well as job creation by national socio-economic objectives and would

33. Our submission is that there are alternative obligations which should be considered for imposition in association with the lots to be auctioned. These should, in part at least, include mechanisms requiring or incentivising the empowerment of SMMEs and the utilisation of existing access networks.
34. WISPs or fixed wireless access providers – whether WAPA members or not – represent both an important element of the technology mix for broadband deployment as also a mechanism for the Authority to further multiple policy objectives through the contemplated spectrum assignment process.
35. In the United States the Federal Communications Commission (FCC) approach to what it terms the “innovation band” has introduced a three-tier licensing regime which effectively seeks co-existence between government users and private users and between licensed and licence-exempt spectrum applications<sup>8</sup>. Of interest here is the particular care taken by the FCC to ensure that WISPs – the incumbent users on a licence-exempt basis in the 3 550 – 3 700MHz bands – are considered and incorporated into the process. The FCC expressly modified its proposals to preserve existing investment by WISPs in the licence-exempt 3 650 – 3 700MHz band, including technical considerations around interoperability between new licensed networks and legacy WISP networks.
36. WAPA has previously presented information to ICASA with regard to the relationship between rural WISPs and Neotel under which a network interconnection agreement is entered into in terms of which:
- 36.1. The WISP provides connectivity services to Neotel over its electronic communications network so that Neotel can provide services to its customers within the coverage area of the WISP.
- 36.2. Neotel provides backhaul connectivity services to the WISP.
37. WAPA submits that this model provides a template for the development of an obligation to be attached to one or more lots to be auctioned and which directly:
- 37.1. Promotes infrastructure and service competition;
- 37.2. Promotes job creation;
- 37.3. Promotes affordable universal service and access; and
- 37.4. Promoted skills transfer and entrepreneurship.

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<sup>8</sup> FCC Releases Rules for Innovative Spectrum Sharing in 3.5 GHz Band @ paragraphs 394 – 401  
<https://www.fcc.gov/document/citizens-broadband-radio-service-ro>

38. The Authority's experience in imposing universal service and access obligations and monitoring compliance with such obligations has made the following clear:
- 38.1. Incentive rather than penalise: this is the lesson from the Community Service Telephone obligations imposed on the previous set of high-demand spectrum licences assigned. Incentivising compliance reduces the cost of monitoring and enforcement, increasing the effectiveness of the mechanism.
  - 38.2. Keep it simple and realistic: if a rational incentive is not available then the obligation represents a cost to the operator upon which it is imposed. The operator will seek to recover this through retail pricing or to avoid it through litigation.
39. Far greater detail in respect of the proposed obligations must be provided for public debate. The devil is very much in the detail and the importance of this process requires the detail and the enforceability of the detail to be scrutinised.
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## Delay in assignment process for Lot A

40. WAPA is concerned that the proposed delay in the assignment of Lot A will weaken the likelihood of the successful implementation of what is already a marginal business case. Allowing incumbent operators a head start over a new wholesale operator will simply allow them to entrench their positions.
  41. This raises an extremely important consideration: Lot A should not be presented as the regulatory intervention promoting service layer competition while ignoring the current lack of service layer competition evident on the networks of the incumbent mobile network operators.
  42. The need to have clear and enforceable open access rules is particularly important for Lot A given its express purpose, but the same clear and enforceable rules are need in respect of the entities which currently dominate the market and will continue to do so for the foreseeable future.
  43. The Authority may need to consider developing a two-tier regulatory framework:
    - 43.1. Functional separation rules of general application to incumbent operators setting out how the Authority will enforce open access through transparency and non-discrimination provisions. The Authority should consider as a model the settlement agreement entered into between Telkom and the Competition Commission and the manner in which its deals with transfer pricing and related matters.
    - 43.2. Structural separation rules of specific application to an open access wholesale wireless network operator. These rules would be entrenched as obligations attaching to Lot A.
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## Conclusion

44. WAPA trusts that the above submissions will assist the Authority in its deliberations around this critical process.
45. WAPA's core concern with the Information Memorandum is that it fails to recognise the existing realities of service provision in South Africa and the role to be played by WISPs in rolling out rural network infrastructure and providing broadband and other services. In its current form the Authority's proposal not only fails to leverage this infrastructure and services but may actually be undermining a key component of the SA Connect Policy.

Regards

WAPA Regulatory Advisors