The NAB Submission on ICASA's Draft Infrastructure Sharing Discussion Paper

13 November 2015

1. Introduction

1.1. On 15 September 2015, the Independent Communications Authority of South Africa ("ICASA"), published a notice regarding draft Discussion Paper on infrastructure Sharing for consultation (the draft Discussion Paper). The closing date for written submissions is 13 November 2015. The National Association of Broadcasters (the NAB) welcomes the opportunity to make its written submission.

1.2. The NAB is the leading representative of South Africa's Broadcasting industry. The NAB aims to further the interests of the broadcasting industry in South Africa by contributing to its development. The NAB membership includes all three tiers of broadcasting as well as signal distributors and associate members, these include:

1.2.1. Three television public broadcasting services, and eighteen sound public broadcasting services of the South African Broadcasting Corporation of South Africa ("the SABC");

1.2.2. The commercial television broadcasters (e.tv, DStv, M-Net and ODM) and sound broadcasting licensees (that include media groups Primedia, Tsiya, Kagiso, MSG Africa, Times Media LTD and AME);

1.2.3. Both the licensed common carrier and the selective and preferential carrier broadcasting signal distributors;

1.2.4. Over thirty community sound broadcasting licensees and a community television broadcasting service, Trinity Broadcasting Network (TBN).

1.2.5. A range of industry associates, including training institutions.

2. Overview

2.1. The NAB is of the view that matters related to broadcasting infrastructure falls within the purview of the Minister of Communications and the Ministers proposed review of broadcasting policy. The National Integrated ICT Policy Review process considered the matter of infrastructure sharing and with the State President's Proclamation of December 2014, it became clear that broadcasting is the responsibility of the Minister of Communications. The NAB will therefore focus on principle issues in this submission, mindful of the growing convergence within the ICT industry. We will also share our views and understanding of a number of the issues raised as questions by the Authority in the Discussion Paper.

2.2. The Electronic communications Act 36 of 2005 (the EC Act) makes use of the term "Electronic Communications Network Services" (ECNS), and does not refer to the term "infrastructure", nor does it define the term. Furthermore, in relation to sharing, the EC Act recognises interconnection and facilities leasing and not infrastructure sharing. The NAB is therefore unclear as to whether the Authority intends to introduce the concept of infrastructure sharing in addition to facilities leasing and interconnection, or whether infrastructure sharing is intended to be used synonymously with interconnection and facilities leasing. In as much as infrastructure sharing may be technically possible, in our view, the concept of infrastructure sharing is currently not recognised in law. For it to be recognised, legislation must be amended accordingly.

2.3. The NAB supports the principle of infrastructure sharing, as it has the potential to not only benefits operators and the environment, but also consumers with an improved quality of service. It can contribute to universal serve and access, whilst also reducing the cost to communicate. To this end, the NAB believes, in principle that infrastructure sharing can contribute to the realisation of the objectives of South Africa Broadband Policy (SA Connect) and those of the National Development Plan (the NDP).

2.4. It would seem however that the Authority has published this Discussion Paper without sufficiently researching the current state of infrastructure sharing, facilities leasing as well as interconnection in the country. The NAB is aware that operators are already sharing infrastructure and doing so under commercially negotiated terms and conditions. Sharing is widespread and includes sharing between competing network providers as well as sharing of associated networks and services such as broadcast and telecommunications services.

2.5. Evidence of such cooperating and sharing is found in the work done at the South African Bureau of Standards (the SABS) where under the auspices of TC74 representatives from across the industry invested close to a year to drafting a standard for site sharing and collaboration, covering both the business as well as technical best practices. Although the standard was never published as its efficacy as a non- binding standard was not considered as worth pursuing by some of the committee members, it does provide a detailed and consolidated review of all aspects associated with site sharing. The Authority is encouraged to review the draft and if appropriate, consider its adoption as a mandatory standard. A copy of a

committee draft of this SABS document is attached for information. An official version should be obtainable from the SABS.

2.6. It is important to point out that the logistics, viability and rationale for infrastructure sharing differ significantly in the different telecommunications and broadcasting networks.

2.7. The NAB notes that within the telecommunications context it is critical to differentiate between sharing of infrastructure between similar and different telecommunications technologies and network structures, as the feasibility of sharing may differ from one context to the next. Unique technical compatibility issues arise where sharing relates to telecommunications services that use different frequency bands and where traffic flows, transmission powers and infrastructure requirements differ vastly. Consider sharing between a mobile network and a broadcasting network, for example:

Aspect	**Mobile**	**Broadcast**
Tower height (m)	45-70	100 to 300
Band used (MHz)	900 (and above)	470-862
Antenna characteristics	Sectionalised	Omni directional -
Antenna Weight ; Size and Windload (at 150 to 160 km/h)	3 sector antenna • Weight: 3x 18 kg • Height: 1.9 m • Windload: 0.950 - 2.100 kN	4x4 panel system • Weight: 210 kg plus 600 kg spine • Height: 4.45m • Windload: 6.2 kN
Backhaul	Significant to operation of site and network (2-8 Mbps) (more if 3G)	Ancillary control and monitoring information only (typically 64 kbps)
Feeds	Backhaul is bidirectional	Critical to network operation – Huge incoming feeds typically 3x 35 Mbps)
Transmitter output powers	3x 50W	3x 2500W
Site spacing (typical) (km)	20-40	45 – 100
Power requirement / Generator capacity (kVA)	6-20	45- 90

2.8. To this end, the Authority is encouraged to analyse, identify and address only those critical aspects of infrastructure sharing that require intervention. Significant evidence of successful and market driven sharing is evident with regard to tower and site sharing. The NAB submits that attempting to overly regulate infrastructure sharing may yield unintended consequences.

2.9. The Authority has, in the draft Discussion Paper, posed questions to interested parties and the NAB will respond only to questions relevant to its members and submits that the objectives of infrastructure sharing as outlined in the draft Discussion Paper are supported - these include:

- Promotion of effective competition
- Avoidance of duplication of investment in infrastructure
- Reduction of costs of services
- Realisation of universal service
- The NAB further foresees benefits for rapid deployment of DTT and digital radio services.

3. Discussion Paper Question 1

Do you agree that infrastructure sharing will encourage the deployment of networks to rural and sparsely populated areas? If not, please provide the reasons for your answer.

The NAB believes that infrastructure sharing can encourage the deployment of networks to rural areas. However subject to the EC Act as well as regulations it must be technically and economically feasible for infrastructure sharing to occur.

4. Question 2

In your opinion, how do you think infrastructure sharing will encourage services based competition?

Broadcasters share Infrastructure for low-power broadcasting services to avail services in remote areas where people ordinarily do not receive services due to the lack of infrastructure. When competing companies share a site, their fixed Capex costs are shared, thereby decreasing both their Input costs, which in turn should result in more competitive pricing for the end-user.

5. Question 4

Do you think the regulator should deal with infrastructure sharing in one regulation?

5.1. The EC Act envisages the promulgation of two sets of regulations to regulate Facilities Leasing and Interconnection in terms of Chapters 7[1] and 8[2] . Section 38 of the EC Act empowers the Authority to prescribe regulations to facilitate the conclusion of interconnection agreement by stipulating interconnection agreement principles[3]. Furthermore section 44 of the EC Act also provides for the promulgation of regulations to facilitate the conclusion of electronic communications facilities leasing agreements[4]. In our view these regulations adequately address issues of infrastructure sharing.

5.2. When the EC Act was amended in 2014, the concept of "financial feasibility" was substituted with "economic feasibility". The Authority will therefore need to amend the 2010 Interconnection Regulations and Facilities Leasing Regulations to align them with the 2014 EC Act amendments to sections 37 and 43.

5.3. In addition to the principles of economic and technical feasibility, the NAB further proposes that sharing must be made on the "need and use" basis to discourage frivolous requests for sharing.

6. Question 5

Please list other benefits realised as a result of infrastructure sharing.

Other benefits include:

- Reduction of barriers to entry to new entrants;

[1] Chapter 7 deals with interconnection.
[2] Chapter 8 deals with facilities leasing.
[3] Published in government gazette 33101 dated 9 April 2010
[4] Published in government gazette 33252 dated 31 May 2010

- elimination of red-tape associated with applying for, and the erection for infrastructure;
- Avoidance of compliance to infrastructure erection and upkeep regulation.

7. Question 6

Do you think that it is necessary for the Authority to regulate for "one-build" civil works and mast erections at this time? Please state your reasons.

7.1 The NAB's concern is that prescribing requirements to build towers that are universally capable of accommodating any type of antenna would mean that the cost of these towers would be high. In addition, the Authority is reminded that infrastructure deployment is governed by the Environmental Impact Assessment Regulations and moving forward the Authority should be guided by applicable guidelines, and processes and procedures.

7.2 Towers need to be designed and constructed around the specific antenna and wind load capacity that is required. Over-engineering is very expensive and costly. Good tower design does plan for growth and accommodation of third parties. This, however, needs to happen within the context of commercial viability and sustained operations.

7.3 The NAB therefore believes that before any regulations are developed, there must be an enabling policy in place. A detailed market study to determine the demand for such infrastructure must also be conducted.

7.4 Furthermore, for the rapid deployment of electronic communications facilities to occur, the EC Act envisages a wide inter-ministerial consultation and coordination. Section 21of the EC Act provides that:

> *"the Minister, in consultation with the Minister of Cooperate Governance and Traditional Affairs, the Minister of Rural Development, and Land Reform, the Minister of Water and Environmental Affairs, the Authority and relevant institutions, develop a policy and policy directions for rapid deployment and provisioning of electronic communications facilities, following which the Authority must publish regulations".*

7.5 To our knowledge, no such Policy and Policy Directions have been developed as yet. The NAB is however aware that the Department of Telecommunications and Postal Services (the DTPS) commissioned Analysis Mason to develop a discussion paper for the development of a *Policy* for Rapid Deployment of Electronic Communications Infrastructure[5]. Analysis Mason completed the report on 10 August 2015 and in terms of their project plan outline, the final policy with reasons ought to have been published for public comment by October 2015.

7.6 It is therefore our view that the Authority awaits Policy and Policy Direction from the Minister on the rapid deployment of electronic communications facilities.

8. Question 8

In your view, how can the Authority improve on its intervention in terms of non-discriminatory access to infrastructure?

8.1 In our view, the Authority does have adequate control over discriminatory access to facilities by licensees. Both the Interconnection Regulations and the Facilities Leasing Regulations discourage discriminatory practices. Regulation 10 of the Interconnection Regulations stipulate:

> *"the parties to an interconnection agreement must not unfairly discriminate in the negotiation, conclusion and implementation of such agreement, unless otherwise requested by the interconnecting party.*
>
> *Request from interconnection seekers, including requests for additional interconnection in terms of an already concluded interconnection agreement must be dealt with in the order in which they are received, and*
>
> *An interconnection provider must apply similar terms and conditions including those relating to rates, and charges, in similar circumstances to itself, affiliates*

[5] Discussion Paper the Development of Rapid Deployment Policy for Electronic Communications infrastructure 10 August 2015. http://www.ellipsis.co.za/wp-content/uploads/2015/06/Discussion-Paper-on-the-Development-of-a-Rapid-Deployment-Policy-for-Electronic-Communications-Infrastructure.pdf

and other interconnection seekers, providing similar services, unless otherwise requested by the interconnection party" [our emphasis]

8.2 The regulations further provide for dispute, resolutions mechanisms to resolve any dispute that may be lodged in terms of the regulations and sets out penalties for contraventions.

8.3 Furthermore, in terms section 43(9) of the EC Act, the Authority is required to review the list of electronic communications facilities at least once every 36 months. The NAB proposes that such a list should be in the public domain for prospective infrastructure sharing seekers to have easy access and knowledge of which facilities are available for sharing.

9. Question 12

Please state the advantages and disadvantages of passive infrastructure sharing.

9.1 Advantages:

- Encourages the deployment of services without the inhibiting cost of infrastructure
- Expedite the deployment of services
- Simplifies the process of transmission network installations
- Sharing will reduce the involvements of operators in none-core businesses such as building and maintenance of sites thereby helping operators to concentrate on their core businesses
- decreased fixed and operating costs, multiple parties enjoy the geographical location of the nice – all benefit from existing infrastructure
- licensees can earn some revenue from their existing infrastructure, thereby lessoning the burden of site upkeep.

9.2 Disadvantages:

- Management of the site becomes a little more difficult as different operators make use of the facilities
- Economic lifespan of assets can be reduced due to high frequency of usage and pooling of the assets

- disputes over areas of responsibility, jurisdiction, and maintenance

10. Question 15

Please state the advantages and disadvantages of active infrastructure sharing.

10.1. Advantages:

- Reduces cost of operations as multiple parties enjoy existing infrastructure
- Reduces barriers to entry due to simplified implementation process

10.2. Disadvantages:

- Complex engineering works;
- Increased possibility of radio frequency interference and cross talk;
- Could lead to conflicts among operators over areas of responsibility, jurisdiction, maintenance, equipment reliability – faulty finding becomes difficult due to all parties involved having to be present and actively involved;
- Quality of Service may be impacted through active infrastructure sharing;
- In the broadcasting environment, especially in the deployment of SFN, active infrastructure sharing will be very tricky. In the SFN environment, one site impacts all sites in an SFN;
- The end-user charter will also need to take into consideration the negative impact of active infrastructure sharing on service offering.

10.3. Regulatory intervention on active infrastructure sharing is not considered practical or feasible, especially in relation to different telecommunications technologies being co-located on a site. The focus should rather be on co-location and physical sharing in which each operator and technology can ensure end-to-end quality of services and up time.

10.4. Where uniform technologies are under consideration the sharing as outlined in the GSM based example should be considered. Site sharing regulations should focus on mandating procedures and processes rather than a blanket “mandating” may be counterproductive as it may not adequately consider all the scenarios and compatibility challenges. However mandating the requirements to pursue colocation

and sharing and to fulfil prescribed procedures and processes may yield a more positive outcome.

11. Question 16

Please provide examples of how active and passive infrastructure is being shared in South Africa

11.1 In terms of broadcasting, the following can be shared:

- Antennas
- Masts
- Civil and electrical works
- Multiplexers
- Contribution links

11.2 Furthermore, active sharing occurs inside a signal distributors' sites where different radio and television stations share a Combiner system – it would be impractical for each television station to have its own antenna system. Another example would be where signal distributor relies on a service provider to deliver signals to it, and the best location for the provider is co-location at the site. Both parties benefit from being very closely located.

11.3 Passive sharing also occurs where third party companies rent a room or piece of ground at a fixed/mobile operator or signal distributor's site. They operate totally independently from the site owner's equipment, and may (or may not) rely on the owner for power, water.

11.4 Another passive example would be where a fixed/mobile operator rents space on its tower for an unrelated business activity, and charges a small amount for the cost that was incurred in erecting their tower, its maintenance and upkeep.

12. Conclusion

The NAB welcomes the opportunity to participate in this process. We believe our inputs will add value to the Authority's further deliberations on this matter.