
GENERAL NOTICES • ALGEMENE KENNISGEWINGS

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA**NOTICE 153 OF 2016**

Independent Communications Authority of South Africa
Pinmill Farm, 164 Katherine Street, Sandton
Private Bag X10002, Sandton, 2146

1. The Independent Communications Authority of South Africa ("the Authority") hereby publishes the Findings Document on the regulatory framework on electronic communications infrastructure sharing in terms of section 4C(6) of the Independent Communications Authority of South Africa Act 13 of 2000 ("the ICASA Act").
2. A copy of the Findings Document will be made available on the Authority's website at <http://www.icasa.org.za> and in the Authority's Library on the ground floor of Block D, Pinmill Farm, 164 Katherine Street, Sandton between 09:00 and 16:00 from Monday to Friday.

A handwritten signature in black ink, appearing to read 'Nomvuyiso Batyi', written over a horizontal line.

NOMVUYISO BATYI
ACTING CHAIRPERSON

**FINDINGS DOCUMENT ON
THE REGULATORY FRAMEWORK ON ELECTRONIC COMMUNICATIONS
INFRASTRUCTURE SHARING**

2016

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1. ACKNOWLEDGEMENTS

1.1. The Authority would like to acknowledge all stakeholders who participated in the consultation process on the Regulatory Framework on Infrastructure Sharing.

1.2. The following stakeholders submitted written representations:

- The Competition Commission;
- MWEB;
- The Internet Service Providers' Association (ISPA);
- Transnet;
- ATC South Africa (ATCSA);
- Broadband Infraco;
- Cell C;
- The FTTH Council;
- Global Communications;
- Internet Solutions;
- Mobile Telephone Networks (MTN);
- The National Association of Broadcasters (NAB);
- Neotel;
- The South African Communications Forum (SACF);
- Telkom;
- Vodacom; and
- The Wireless Providers' Association of South Africa (WAPA).

2. INTRODUCTION AND BACKGROUND

2.1. On the 15th of September 2015 the Authority published a Discussion Document on the Regulatory Framework on Infrastructure Sharing, in Government Gazette number 39208 ("Discussion Document")¹, in terms of section 4B of the ICASA Act.

2.2. The purpose of the discussion document was to solicit input on a regulatory framework that will provide certainty on electronic communications

¹ Discussion Document, Notice 916 of 2015, Government Gazette 39208.

infrastructure sharing holistically to include facilities leasing, interconnection and other matters relevant to access to broadband services within the Republic².

- 2.3. This Findings Document summarises the views expressed by the stakeholders in their written representations. The summary is not exhaustive but reflects on salient issues raised by the stakeholders.
- 2.4. The Findings Document is not published for comments but rather to inform stakeholders on the findings from the input received after publication of the Discussion Document.

3. ANALYSIS OF SUBMISSIONS: SPECIFIC COMMENTS

3.1. Infrastructure sharing as an encourager of network deployment to rural and sparsely populated areas

- 3.1.1. "The deployment of electronic communications infrastructure is capital intensive and has associated risks with regard to return on investment. The high costs of deploying electronic communications networks have been the main deterrent for operators deploying networks into rural and sparsely populated areas, thus perpetuating the problem of underservice in these areas. In order to ensure that electronic communications infrastructure is deployed across the country and that the cost to communicate is significantly reduced, the costs associated with infrastructure deployment would need to be reduced. One way of significantly reducing the costs is through the sharing of existing infrastructure and future infrastructure deployments by the private and public sector stakeholders. The sharing of infrastructure is expected to drive down the capital expenditure (CAPEX) and operational expenditure (OPEX) of the sharing parties"³.
- 3.1.2. Transnet⁴, Global Communications⁵, Cell C⁶, Vodacom⁷, MWEB⁸, ATCSA⁹ and Internet Solutions¹⁰ agree that infrastructure sharing can encourage the deployment of networks to rural and sparsely populated areas. The NAB is also agrees but cautions that the sharing should be subject to the Electronic Communications Act No 36 of 2005 ("the ECA") and regulations, technical and

² Section 3 of the Discussion Document, notice 916 of 2015, Government Gazette 39208

³ Notice 916 of 2015, Government Gazette 39208.

⁴ See paragraph 2.1 on page 1 of the Transnet submission.

⁵ See paragraph 9.1 on page 2 of the Global Communications submission.

⁶ See section 9.1 on page 5 of the Cell C submission.

⁷ See page 30 of the Vodacom submission.

⁸ See paragraph 2.2 on page 1 of the MWEB submission.

⁹ See section 3.1.1 on page 2 of the ATCSA submission.

¹⁰ See section 9.1 on the Internet Solutions submission.

economic feasibility¹¹. Furthermore, the Competition Commission agrees with this view; however, it has raised competition concerns¹².

- 3.1.3. Although the SACF also agrees that infrastructure sharing may encourage the deployment of networks to the aforementioned areas, it is, however, of the view that the Authority ought to consider other means of promoting the deployment of networks to such areas, such as the deployment of the Universal Service and Access Fund ("USAF") and other means of publicly funded infrastructure¹³. Neotel¹⁴ and Broadband Infraco¹⁵ support the SACF's proposal in that Neotel believes that operators should be incentivised through the utilisation of the USAF or through a subsidy of their contribution to the USAF. Broadband Infraco believes that a wholesale open access provider supported by USAF may stimulate wireless access investment and rollout to such areas¹⁶.
- 3.1.4. MTN agrees with the Authority but is convinced that a policy encouraging infrastructure sharing by itself will not extend coverage to areas that might not be commercially viable to serve. MTN therefore suggests that the Authority considers providing incentives such as subsidies related to network rollout in rural and remote areas that are calculated to cover the real costs in those areas¹⁷.
- 3.1.5. Telkom agrees in principle but indicates that the lack of modern infrastructure in rural and sparsely populated areas will only lead to a limited amount of infrastructure that can be shared. Telkom further cautions that there is a risk that deployments in the areas will remain unchanged despite infrastructure sharing, unless adequate incentives are proposed¹⁸.
- 3.1.6. To encourage infrastructure sharing in underserved areas, Telkom proposes that all licensees agree to enhance coverage and identify common areas that require better coverage, taking into consideration the cost of application and administration fees, maintenance, and upgrades. The agreement should be imposed on all players including third party entities rolling out networks¹⁹.
- 3.1.7. The FTTH Council is in partial agreement but is of the view that infrastructure sharing will be limited as rural and sparsely populated areas are not financially feasible in terms of return on investment. The FTTH Council, however, notes

¹¹ See section 3 on page 5 of the NAB submission.

¹² See paragraph 4 of the Competition Commission submission.

¹³ See section 9.1 on page 5 of the SACF submission.

¹⁴ See paragraph 11 on page 4 of the Neotel submission.

¹⁵ See section 1 on page 2 of the Broadband Infraco submission.

¹⁶ Ibid.

¹⁷ See section 3.1 on page 7 of the MTN submission.

¹⁸ See section 4.1 on page 10 the Telkom submission.

¹⁹ Ibid.

that auxiliary network expansion will take place and that networks will reach into more rural areas as investment in financially feasible areas are realised. The envisioned expansion will happen organically as urban areas become fully serviced and competition moves to smaller towns.

- 3.1.8. The FTTH Council further believes that it is likely that private capital will not provide all the required investment, and as such it recommends that government make an investment or provide subsidies for private sector companies to expand offerings to financially unviable areas²⁰.
- 3.1.9. WAPA²¹ and ISPA²² do not support the view that infrastructure sharing will always assist in meeting the challenge of building access networks in hard-to-serve areas. Their rationale is that, there is typically a very small number of companies operating in sparsely populated areas; therefore infrastructure cannot be shared if there are an insufficient number of parties to share it. WAPA believes that the areas are economically marginal, and that enforced sharing may actually provide a disincentive to invest²³.

3.2. Infrastructure sharing as an encourager of service-based competition

- 3.2.1. "SA Connect calls on the Authority to encourage the sharing of infrastructure ... to reduce wholesale costs and encourage services-based competition in the market²⁴."
- 3.2.2. Transnet is of the view that infrastructure sharing will enable providers to compete on service offering and not on infrastructure availability²⁵. Telkom expands on this view by stating that infrastructure sharing will allow licensees to pool resources in the infrastructure layer and redirect savings to innovation and differentiation of services and products²⁶. In further support of Transnet's view Cell C states that infrastructure sharing will allow operators to turn their attention to increased innovation, better customer service and eventually better commercial offerings and healthier competition as it alleviates the pressure of network deployment from operators. Cell C is also of the view that in a regulated environment where infrastructure sharing is mandatory and is

²⁰ See section 9.1 on page 1 of the FTTH Council submission.

²¹ See paragraph 28 on page 10 of the WAPA submission.

²² See page 4 of the ISPA submission.

²³ Ibid.

²⁴ Notice 916 of 2015, Government Gazette 39208.

²⁵ See paragraph 3.1 on page 1 of the Transnet submission.

²⁶ See section 4.2 on page 10 of the Telkom submission.

enforced, network services will be provided to all industry players fairly, equitably and transparently²⁷.

- 3.2.3. Neotel submits that service-based competition can be encouraged by making available sites to operators who have suitable service offering in areas where they do not have sites²⁸.
- 3.2.4. Vodacom acknowledges infrastructure sharing to be one of several factors that can contribute towards increased service-based competition but cautions that service-based competition should not be the only rationale for infrastructure sharing²⁹. Furthermore, Vodacom believes that the benefits of infrastructure-based competition, in the long-run, exceed those associated with service-based competition. It therefore argues that, policy postures which incentivises investment in network infrastructure so as to foster infrastructure-based competition have typically yielded more welfare-enhancing market outcomes³⁰.
- 3.2.5. Gateway Communications' view to a certain degree supports Vodacom's argument in that they believe that most operators will still wish to deploy their own infrastructure, in particular, active infrastructure. Gateway Communications believes that if passive infrastructure is made available based on costs determined by the amount of infrastructure used by the individual operator, then competition will be stimulated.
- 3.2.6. The FTTH Council is of the view that competition may be facilitated at higher levels (i.e. services layer) if operators are being subjected to open access arrangements at passive or active infrastructure levels; as such, service providers would offer services over open access networks that will open up new markets and stimulate competition³¹.
- 3.2.7. MTN argues that infrastructure sharing in mature mobile markets allows the operator the financial freedom to increase their focus on service innovation as it frees up OPEX and CAPEX in the upstream wholesale market. MTN, however, acknowledges that there is no definitive evidence to suggest infrastructure sharing will encourage service based competition, which is primarily dependent on the competitive dynamics in the downstream market and the effectiveness of competition in the relevant retail product market³².

²⁷ See section 9.2 on page 6 of the Cell C submission.

²⁸ See paragraph 12 on page 4 of the Neotel submission.

²⁹ See page 30 of the Vodacom submission.

³⁰ See page 16 of the Vodacom submission.

³¹ See section 9.2 on page 2 of the FTTH Council submission.

³² See section 3.2 on page 7 of the MTN submission.

- 3.2.8. The Competition Commission submits that regulations at the wholesale level would allow new entrants to compete effectively in the downstream retail market without having to incur huge costs associated with building their own infrastructure. Furthermore, by allowing firms, especially smaller rivals, to co-build infrastructure there would be a reduction in the capital costs associated with building infrastructure in a market that is characterised by network effects and economies of scale; and an allowance for investments in infrastructure and rollout of services in under-developed areas³³.
- 3.2.9. The Competition Commission argues that, if wholesale access is effectively regulated across different infrastructure levels where market power may lie with incumbents, service-based competition at the retail level can be expected to deliver benefits to consumers³⁴.
- 3.2.10. Internet Solutions is convinced that infrastructure sharing does encourage service-based competition in urban areas in that it eliminates the monopoly of the providers who own the infrastructure in a particular environment and allows new players with value-added services and value-added networks (VAS/VAN) to deploy these services, thereby reducing costs and enhancing competition, and as a result users get an enhanced value of service. Internet Solutions is, however, of the view that this may not be the case in rural and sparsely populated areas as the main objective in underserved areas is to ensure access to a basic service, as opposed to encouraging any form of competition³⁵.
- 3.2.11. WAPA submits that there is at worst a linear relationship where each additional Electronic Communications Network Service (ECNS) licensee sharing infrastructure provides its own Electronic Communications Service (ECS) only. The relationship becomes exponential when one or more or all ECNS licensees provide a transparent and non-discriminatory open-access service to ECS licensees at wholesale rates below retail rates and with sufficient flexibility to allow innovation and differentiation by these ECS licensees³⁶.
- 3.2.12. The NAB confides that in the broadcasting sector, 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. The sharing is in the form of site sharing whereby the broadcasters' fixed CAPEX would be shared, thereby decreasing the input

³³ See paragraphs 5 and 6 on page 4 of the Competition Commission's submission.

³⁴ See paragraph 7 on page 4 of the Competition Commission's submission.

³⁵ Paragraph 9.2 on page 2 of the Internet Solutions submission.

³⁶ See paragraphs 31 and 32 on page 11 of the WAPA submission.

costs of both. The NAB expects the saving in input costs to result in more competitive pricing for the end-user³⁷.

3.2.13. According to ATCSA, tower companies are generally incentivised to offer high quality and individualised service offering to their customers. The efficiencies provided by tower companies allow operators to focus on their core business³⁸.

3.3. Infrastructure sharing objectives

3.3.1. The Authority considers the following to be the objectives of infrastructure sharing:

- The promotion of effective competition;
- The avoidance of duplication of investment in infrastructure;
- The reduction in the cost of services; and
- The realisation of universal access objectives.

3.3.2. Internet Solutions is of the view that the four objectives are achieved to the extent that infrastructure sharing leads to fair and effective competition as the playing fields are levelled by allowing all operators access to the deployed infrastructure, and reduces barriers to entry by allowing operators to cut down on capital expenditure in terms of network operation cost and duplication of infrastructure investment. The risk of duplication of infrastructure investment is eliminated as only the required and essential deployments are made and providers get to focus their investments into other profitable projects³⁹.

3.3.3. Internet Solutions, however, cautions that the universal access objectives can only be realised where there are incentives for operators to service underserved areas, and that a mere promulgation of infrastructure sharing regulations cannot on its own lead to realisation of universal access objectives in underserved areas⁴⁰.

3.3.4. Stakeholders are generally in agreement that the objectives are achieved to a certain extent, with Vodacom indicating that they are achieved to the extent of the formulation of commercial agreements which have led to the provision of services in underserved and rural areas⁴¹; Telkom⁴² indicating that they are achieved to the extent that there exist different types of sharing models in the

³⁷ See section 4 on page 5 of the Nab submission.

³⁸ See section 3.1.2 on page 2 of the ATCSA submission.

³⁹ See paragraph 9.3 on page 3 of the Internet Solutions submission.

⁴⁰ Ibid.

⁴¹ See page 30 of the Vodacom submission.

⁴² See section 4.3 on page 12 of the Telkom submission.

sector already; and ISPA indicating that they are achieved to the extent that infrastructure sharing has been shaped by market forces⁴³. Furthermore, Broadband Infraco believes that roaming agreements like that between Cell C and Vodacom, which it considers to be a form of infrastructure sharing, avoided duplication of infrastructure⁴⁴.

- 3.3.5. According to the FTTH Council, the objectives of infrastructure sharing are achieved to the extent that operators are swapping fibre pairs and are adopting open access models in areas where it is difficult or expensive to deploy infrastructure. Furthermore, industry is developing its own solutions to problems of access to infrastructure to meet its needs⁴⁵.
- 3.3.6. ATCSA is convinced that the presence of tower-leasing companies is evidence that infrastructure sharing has become a well-established and successful method of network expansion for operators in South Africa⁴⁶.
- 3.3.7. MTN points out that currently operators avoid duplication of infrastructure by engaging in significant sharing of passive RAN infrastructure and deploying shared structures, such as sites, masts or towers and power supplies⁴⁷. The sharing takes place through voluntarily entering into sharing agreements⁴⁸. These include agreements for the sale of wholesale access to their networks to other operators and third parties⁴⁹.
- 3.3.8. According to MTN, operators have on occasion sold some of their passive infrastructure to third party facilities management companies who specialise in renting them out.
- 3.3.9. MTN acknowledges that the sharing of base stations, base station controllers and core networks has not taken place due to the complexity in their implementation and the need of operators to retain control over their own networks.
- 3.3.10. When considering the reduction in the cost of service, MTN advises that the following be taken into consideration: input costs such as spectrum fees, which now increases yearly by the CPI, the declining cost to communicate for consumers and the cost of infrastructure, which is purchased in US Dollars, hence, the impact of foreign exchange rates on input costs⁵⁰.

⁴³ See page 4 of the ISPA submission.

⁴⁴ See paragraphs 3.1.1 to 3.1.4 on page 3 of the Broadband Infraco submission.

⁴⁵ See section 9.3 on page 2 of the FTTH Council submission.

⁴⁶ See section 3.1.3 on page 3 of the ATCSA submission.

⁴⁷ See section B on page 9 of the MTN submission.

⁴⁸ See section 3.6 on page 12 of the MTN submission.

⁴⁹ See section 3.3 on page 8 of the MTN submission.

⁵⁰ See section C on page of the MTN submission.

- 3.3.11. MWEB notes that ECNS providers have not been compelled to share their networks, however, it also notes that voluntary sharing around mobile network sites exists, nevertheless⁵¹.
- 3.3.12. Neotel submits that infrastructure sharing reduces duplication and cost of providing services, however, it is of the view that the practice does not adequately address the objective of promoting effective competition⁵².
- 3.3.13. Broadband Infraco points out that there is insufficient evidence to demonstrate whether facilities leasing or infrastructure sharing actually reduces the cost of services or if service-based operators will be enabled to realise universal access objectives⁵³.
- 3.3.14. The SACF believes that there is already a significant amount of commercially based infrastructure sharing in the country. The Forum proceeds to reveal that there is, however, no consensus among its members as to whether the objectives of infrastructure sharing are reached in terms of promoting effective competition; avoiding duplication of investment in infrastructure, more specifically in relation to the ineffective duplication of facilities to provide service in sparsely populated and rural areas; reduction of cost of service; and the realisation of universal access objectives⁵⁴.
- 3.3.15. The Competition Commission submits that passive infrastructure sharing in the form of sites, masts, power and security sharing has allowed smaller operators to compete in the downstream retail markets without having to incur huge costs associated with building their own infrastructure. The sharing also allows operators to reduce their capital and operational expenditure and allows for service-based competition which could lead to better quality of service and lower prices⁵⁵.

3.4. Dealing with infrastructure sharing matters

- 3.4.1. Transnet is of the view that infrastructure sharing matters should be dealt with under one regulation. The envisioned regulation should not be limited to the ECA, but should incorporate other matters such as health and safety, roads, pipeline and railway infrastructure⁵⁶.

⁵¹ See paragraph 2.3 on page 2 of the MWEB submission.

⁵² See paragraph 13 on page 4 of the Neotel submission.

⁵³ See paragraph 3.1.3 on page 3 of the Broadband Infraco submission.

⁵⁴ See section 9.3 on page 6 of the SACF submission.

⁵⁵ See paragraph 8 on page 5 of the Competition Commission's submission.

⁵⁶ See paragraphs 5.1 and 5.2 on page 2 of the Transnet submission.

- 3.4.2. MWEB⁵⁷ and Global Communications⁵⁸ are also of the opinion that it would be better to deal with infrastructure sharing matters under one regulation to maintain consistency in the application of the principles established for sharing and to avoid inconsistencies across various regulations. Global Communications further suggests that there should be an overall 'framework' or 'principles' document, followed by a set of sub-regulations dealing with each of the key areas such as, ducts, towers, premises and the local loop. This would apparently provide the Authority with some flexibility in the resources which it is able to devote to the overall task⁵⁹.
- 3.4.3. Vodacom argues that it would not be practical or sensible to deal with electronic communications facilities leasing and interconnection in one regulation as the two are fundamentally different matters⁶⁰.
- 3.4.4. In line with Vodacom's argument, the NAB points out that the ECA envisages the promulgation of two sets of regulations to regulate Facilities Leasing and Interconnection in terms of Chapters 7 and 8, respectively. The association further points out that section 38 of the ECA empowers the Authority to prescribe regulations to facilitate the conclusion of interconnection agreements by stipulating interconnection agreement principles, while section 44 provides for the promulgation of regulations to facilitate the conclusion of electronic communications facilities leasing agreements. The NAB is further of the view that the Facilities Leasing Regulations adequately address issues of infrastructure sharing⁶¹.
- 3.4.5. Cell C believes that there is already an infrastructure sharing regulation in the form of facilities leasing regulations⁶².
- 3.4.6. Neotel is of the view that infrastructure sharing matters should not be encapsulated in one regulation, but incorporated into various regulations⁶³.
- 3.4.7. Telkom also does not agree that the Authority should deal with infrastructure sharing matters in one regulation⁶⁴. Furthermore, Telkom is of the view that the ECA and the Facilities Leasing Regulations effectively cater for infrastructure sharing. Telkom, however, suggests that if the efficacy of the regulations be doubted, then the Authority should embark on a Chapter 10

⁵⁷ See paragraph 2.4 on page 2 of the MWEB submission.

⁵⁸ See paragraph 9.4 on page 2 of the Global Communications submission.

⁵⁹ Ibid.

⁶⁰ See page 31 of the Vodacom submission.

⁶¹ See paragraph 5.1 on page 6 of the NAB submission.

⁶² See section 9.4 on page 7 of the Cell C submission.

⁶³ See paragraph 14 on page 4 of the Neotel submission.

⁶⁴ See section 4.4 on page 13 of the Telkom submission.

market review process, which will support evidence based regulation and avoid any unintended consequences on the growth of the sector⁶⁵.

- 3.4.8. Internet Solutions is of the view that infrastructure sharing matters cannot be addressed in one regulation due to the vast infrastructure sharing matters that would have to be addressed⁶⁶.
- 3.4.9. According to WAPA, it would appear that the broadness of the term "infrastructure sharing" does not appear to be capable of being regulated through a single regulation⁶⁷.
- 3.4.10. MTN is of the view that it would be easy for the industry to be guided by separate pieces of regulations specific to a particular subject matter, where the Authority is mandated to promulgate a regulation for such a particular subject matter in terms of the ECA.
- 3.4.11. MTN is opposed to the Authority's proposal for infrastructure sharing to encompass facilities leasing, interconnection and other matters as the ECA does not refer to infrastructure sharing, but makes provision to interconnection in chapter 7 and facilities leasing in chapter 8⁶⁸.

3.5. The benefits of infrastructure sharing

- 3.5.1. Transnet submits that the benefits of infrastructure sharing constitute the reduction of cost to the economy in that ECA licensees will spend less on infrastructure; there will be a reduction in demand for resources involved in environmental and wayleaves approvals; and the reduction in the risk posed by trenching on existing infrastructure such as roads and pipelines⁶⁹.
- 3.5.2. The NAB is of the view that infrastructure sharing will result in the reduction of barriers to entry to new entrants; elimination of red-tape associated with the application for, and the erection of infrastructure; and will deal with the avoidance of compliance to and the upkeep of regulations⁷⁰.
- 3.5.3. Global Communications submits that infrastructure sharing will result in shared costs being more closely aligned with services deployment objectives. Global Communications further submits that the practise will avoid over-build investment through infrastructure duplication, which is economically inefficient; lead to competition being stimulated by allowing smaller operators to consider investment in services in areas where they could not afford to make

⁶⁵ Ibid.

⁶⁶ See paragraph 9.4 on page 3 of the Internet Solutions submission.

⁶⁷ See paragraph 24 on page 10 of the WAPA submission.

⁶⁸ See section 3.4 on page 10 of the MTN submission.

⁶⁹ See paragraphs 6.1 to 6.3 on page 2 of the Transnet submission.

⁷⁰ See section 6 on page 6 of the NAB submission.

- dedicated infrastructure investment; and further lead to services being delivered sooner to less developed regions as a result of more players being able to participate in the market through the lowering of capital investment requirements⁷¹.
- 3.5.4. MWEB is of the view that infrastructure sharing will allow new entrants to enter the market earlier⁷².
- 3.5.5. The FTTH Council submits that the sharing of infrastructure will result in CAPEX and OPEX savings for the civils infrastructure component during the initial implementation phase and on an ongoing maintenance basis, and network expansion; however, it argues that enforcing open access networks will deliver the same result⁷³.
- 3.5.6. ATCSA believes that significant capital expenditure savings and operational cost savings through efficiencies achieved in multi-tenant communication sites and speedier equipment and network deployment for network operators will be realised from sharing infrastructure. The ATCSA further believes that there will be aesthetic benefits for the public such as the reduction of the number of communication towers and masts in the skyline; environmental benefits, such as fewer back-up generators running during power outages; and speedier network coverage and increases of capacity⁷⁴.
- 3.5.7. Internet Solutions is of the view that infrastructure sharing reduces spending on infrastructure as it allows operators to cut down on capital expenditure; it reduces network operation cost as a result of sharing site rent; it reduces barriers to entry; and it enables new entrants to penetrate the market.
- 3.5.8. MTN submits that all forms of infrastructure sharing are usually characterised by increased efficiency in the use of resources, where capacity exists, and generally reduce costs as they reduce the investment lay-out and OPEX required to provide a given level of service.
- 3.5.9. According to MTN, it is generally accepted that the sharing of sites and masts, and even the core network, tends to impact coverage and quality of service to consumers positively, as the cost-saving characteristics of infrastructure sharing allow for increased efficiency. MTN submits that infrastructure sharing may lead to positive consumer outcomes, such as, the optimisation of scarce national resources; the decrease in duplication of investment; product and

⁷¹ See paragraph 9.5 on 2 of the Global Communications submission.

⁷² Paragraph 2.5 on page 2 of the MWEB submission.

⁷³ See section 9.5 on page 3 of the FTTH Council submission.

⁷⁴ See paragraph 3.1.5 on page 3 of the ATCSA submission.

technological innovation; and environmental benefits by reducing the number of sites⁷⁵.

3.5.10. Vodacom believes that the benefits of infrastructure-based competition, in the long-run, exceed those associated with service-based competition. It therefore argues that, policy postures which incentivises investment in network infrastructure so as to foster infrastructure-based competition have typically yielded more welfare-enhancing market outcomes⁷⁶; however, Vodacom believes that there is a need for the Authority to enforce access to fixed passive electronic communications facilities as the future growth of broadband adoption very much rests on the existence of a robust regulatory dispensation capable of guaranteeing equitable, fair and non-discriminatory access to electronic communications facilities⁷⁷.

3.6. Regulation of 'one-build' civil works and mast erections

3.6.1. The South African broadband policy states that the Authority will regulate where necessary in support of coordinated 'one-build' civil works and mast erection; and the encouragement of infrastructure sharing more generally⁷⁸.

3.6.2. Transnet supports 'one-build' civil works only in relation to public infrastructure, and is of the view that sufficient load capacity for future needs should be ensured in 'one-build' mast structures.

3.6.3. Transnet further advises the Authority to consider other Regulators and organs of state in the 'one-build' decision-making process and affordability of 'one-build' requirements by the first entity required to build infrastructure⁷⁹.

3.6.4. Telkom believes that it is too early to decide whether 'one-build' is feasible or not without it being clearly defined, and its pros and cons highlighted sufficiently⁸⁰.

3.6.5. Telkom further points out the disadvantage of 'one-build' to be the constraint on network growth, as it does not cater for future network demands for internet growth speeds and uncertainty of spectrum availability⁸¹.

3.6.6. Vodacom argues that the regulation of infrastructure deployment, including the means by which such infrastructure is deployed falls beyond the scope of

⁷⁵ See section 3.5 on page 11 of the MTN submission.

⁷⁶ See page 16 of the Vodacom submission.

⁷⁷ See page 19 of the Vodacom submission.

⁷⁸ Discussion document, notice 916 of 2015, Government Gazette 39208.

⁷⁹ See sections 7.1 to 7.3 on page 3 of the Transnet submission.

⁸⁰ See section 4.6 on page 14 of the Telkom submission.

⁸¹ Ibid.

the regulatory framework for the leasing of electronic communications facilities, in terms of Chapter 8 of the ECA⁸².

- 3.6.7. The NAB is concerned that prescribing requirements to build towers that are universally capable of accommodating any type of antenna would mean that the cost of the towers would be high as the towers need to be designed and constructed around a specific antenna and wind load capacity that is required. The NAB is of the view that over-engineering is very expensive and costly, but acknowledges that 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.
- 3.6.8. The NAB reminds the Authority 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 procedures⁸³.
- 3.6.9. Global Communications is of the view that all operators should have the opportunity at inception, to participate in any new 'one-build' infrastructure deployment on a shared investment basis, as this will constitute good policy. Global Communications, however, advises the Authority to consult the industry on how this might be most effectively achieved. In addition, Global Communications urges caution that any associated moratorium on subsequent 'overbuild' in the same area within a set timeframe may have the effect of slowing investment and service rollout⁸⁴.
- 3.6.10. MWEB believes that the 'one-build' concept is not the only solution to encourage infrastructure sharing, and is of the view that the Authority would need to provide guidelines which industry can follow to achieve the objectives of 'one-build'. MWEB is further of the view that the Authority's intervention should be based on empirical evidence that demonstrates failure in achieving a particular policy objective⁸⁵.
- 3.6.11. Broadband Infraco submits that this aspect of the ICT industry is adequately regulated, including from an environmental law and occupational health and safety perspective⁸⁶.

⁸² See page 31 of the Vodacom submission.

⁸³ See paragraphs 7.1 and 7.2 on page 7 of the NAB submission.

⁸⁴ See paragraph 9.6 on page 3 of the Global Communication submission.

⁸⁵ See paragraph 2.6 on page 2 of the MWEB submission.

⁸⁶ See section 5.1 on page 4 of the Broadband Infraco submission.

- 3.6.12. Neotel is of the opinion that 'one-build' should be dealt with in the Rapid Deployment Regulations⁸⁷.
- 3.6.13. The FTTH Council is of the view that regulating where industry builds next will simply mean that all operators will compete over the same geographical area. The result will be stifled competition and lack of natural expansion. The Council further argues that, for the Authority to regulate 'one build' civil works, it will need to stipulate a single technical standard for the deployment of infrastructure, such as, specifications for trenching, re-instatement, manholes, hand-holes and pole attachments, in the case of fibre optic infrastructure. Accordingly, the Authority will have to prescribe security measures for accessing shared infrastructure, and clearly defined processes and procedures for operators to perform ongoing maintenance.
- 3.6.14. The FTTH Council believes that forcing sharing will make investment less attractive, and further believes that enforcing a 'single build' policy is a violation of section 22 of the ECA. The Council cautions that an attempt to alter section 22 of the ECA, will undermine the rights of telecommunications licensees⁸⁸.
- 3.6.15. The SACF is of the view that any regulation that is contemplated by the Authority should be done taking its guidance from the policy and regulatory assessment being done by the Department of Telecommunications and Postal Services ("DTPS"), referred to as the "Support towards the Deployment of a National Rapid Deployment Policy and Policy Directions in South Africa", and following a market review⁸⁹.
- 3.6.16. Internet Solutions advises the Authority not regulate on 'one-build' civil works and mast erections simply on the basis that the Authority is under-resourced and under-capacitated at the moment to regulate on these matters⁹⁰.
- 3.6.17. WAPA advises the Authority to be cautious of over-regulation, which it believes removes flexibility from the various build options. Furthermore, WAPA believes that commercial pressures and interactions with landowners and authorities will continue to drive a trend towards sharing⁹¹.
- 3.6.18. MTN does not believe it is necessary for the Authority to regulate a 'one-build' civil works in respect of mast erection. Furthermore, MTN points out that

⁸⁷ See paragraph 16 on page 5 of the Neotel submission.

⁸⁸ See section 9.6 on page 3 of the FTTH Council submission.

⁸⁹ See section 9.6 on page 8 of the SACF submission.

⁹⁰ See paragraph 9.6 of the Internet Solutions submission.

⁹¹ See paragraph 37 on page 11 of the WAPA submission.

tower companies are not licensed entities and therefore outside the scope ICASA's regulatory mandate⁹².

3.6.19. Cell C is of the view that the Authority has no mandate or jurisdiction to regulate building civil works, unless it is confined to the building of electronic communication networks⁹³.

3.7. Incentives to encourage infrastructure sharing

3.7.1. Transnet suggests as incentives for infrastructure sharing, a proportional reduction in license fees for entities that support 'one-build' initiatives in a particular financial year; a limit on the number of licensees that can lay fibre on public property; and an offset on the fulfilment of 'one-build' with USAASA obligations⁹⁴.

3.7.2. Vodacom is of the view that incentives should be technically and financially feasible⁹⁵.

3.7.3. Telkom suggests the introduction of a tax incentive for capital infrastructure. It also suggests that state-owned infrastructure be made available on a cost basis and be shared equally amongst the operators, and that municipalities also co-operate by removing any administration fees or barriers to provision of communications infrastructure⁹⁶.

3.7.4. Telkom further suggests that the formulation of the rapid development guidelines be accelerated; the processing of environment impact assessments be prioritised; the sub-letting of shared infrastructure be prohibited; and that the government contribute to funding the deployment of networks in under-serviced areas. Should other licensees wish to join, then all parties should contribute equally to fund the network in rural areas or sparsely populated areas⁹⁷.

3.7.5. Global Communications is of the view that the sharing of passive infrastructure will be encouraged by cost-based allocation of facilities based on the percentage used⁹⁸.

3.7.6. MWEB suggests regulation that is consistent and lacking ambiguity as an incentive⁹⁹.

⁹² See section 3.6 on page 12 of the MTN submission.

⁹³ See section 9.6 on page 9 of the Cell C submission.

⁹⁴ See paragraphs 8.1 to 8.3 on page 3 of the Transnet submission.

⁹⁵ See page 32 of the Vodacom submission.

⁹⁶ See section 4.7 on page 14 of the Telkom submission.

⁹⁷ Ibid.

⁹⁸ See paragraph 9.7 on page 3 of the Internet Solutions submission.

⁹⁹ See paragraph 2.7 on page 3 of the MWEB submission.

- 3.7.7. Broadband Infraco is of the view that facilities leasing is a commercial imperative for operational efficiency and business sustainability. It is further of the view that the behaviour of the facilities provider can be better regulated in terms of wholesale access pricing and principles¹⁰⁰.
- 3.7.8. Neotel is of the view that the cost of deploying networks in rural areas could be incentivised by either a reduction in or subsidy from the operator's contribution to the USAF¹⁰¹.
- 3.7.9. ISPA¹⁰² and WAPA¹⁰³ suggests financial incentives such as allowing deductions from annual license fees, including radio frequency spectrum licence fees, and USAF contributions; and operational incentives such as preferential access to radio frequency spectrum surrounding a shared high-site, and the provision of universal access subsidies to defray civil engineering costs.
- 3.7.10. The FTTH Council is of the view that co-ordination at all levels within government, and co-operation with other utility providers to realise rapid expansion of infrastructure can serve as incentives for sharing infrastructure. The Council is further of the view that, where any upgrades to roads, storm-water and electricity infrastructure are made, ducts be provided for future use, and that developers and property owners in green-field residential areas deploy dark air and allow for multiple operators to provide fibre in the ducts¹⁰⁴.
- 3.7.11. The SACF submits that the utilisation of USAF monies and monetary set-offs against license fees can encourage infrastructure sharing in underserved and rural areas¹⁰⁵.
- 3.7.12. The SACF is of the view that the high cost in rolling out infrastructure are already providing substantial incentives for network licensees to embrace infrastructure sharing.
- 3.7.13. ATCSA suggests a free, fair, competitive business and regulatory environment that results in the ability of tower companies to freely meet the needs and requirements of MNOs and other operators as an incentive¹⁰⁶.
- 3.7.14. Internet Solutions is of the view that special incentives such as reduced Annual License Fees or USAF contributions could go a long way in promoting infrastructure sharing. It is further of the view that operators that are willing

¹⁰⁰ See section 5.2 on page 4 of the Broadband Infraco submission.

¹⁰¹ See paragraph 17 on page 5 of the Neotel submission.

¹⁰² See page 5 of the ISPA submission.

¹⁰³ See paragraph 39 on page 11 of the WAPA submission.

¹⁰⁴ See section 9.7 on page 4 of the FTTH Council submission.

¹⁰⁵ See section 9.7 on page 9 of the SACF submission.

¹⁰⁶ See section 3.1.7 on page 3 of the ATCSA submission.

to deliver broadband connectivity in underserved areas should be able to claim from the funds collected by the USAF¹⁰⁷.

- 3.7.15. MTN is of the view that the Authority can encourage infrastructure sharing in unprofitable areas by utilising USAF monies and issuing subsidies through transparent tenders to meet objectives of universal access to underserved rural areas¹⁰⁸.
- 3.7.16. Cell C is of the view that a simplified planning process for shared sites also constitute an incentive for infrastructure sharing¹⁰⁹.

3.8. The promotion of non-discriminatory access to infrastructure

- 3.8.1. The Authority also consulted on how it can improve its intervention in terms of non-discriminatory access to infrastructure, and received the following views.
- 3.8.2. Transnet encourages the Authority to publish a best practice document with recommendations on how the infrastructure sharing should be done fairly¹¹⁰.
- 3.8.3. Telkom advises the Authority to make appropriate amendments to the current Regulations if they have proven to be insufficient¹¹¹.
- 3.8.4. Vodacom recommends the review of the current formulation of regulations to strengthen them and render them more effective, robust and optimal¹¹².
- 3.8.5. MWEB submits that the Authority should make it compulsory for all infrastructure owners to be transparent in their pricing, negotiation and conclusion of agreements for sharing. MWEB further submits that the Authority consider implementing price controls on the costs charged to access seekers¹¹³.
- 3.8.6. NAB is of the view that the Authority does have adequate control over discriminatory access to facilities by licensees. It is further of the view that both the Interconnection Regulations and the Facilities Leasing Regulations discourage discriminatory practices¹¹⁴.
- 3.8.7. Global Communications encourages the Authority to conduct industry workshops highlighting how infrastructure sharing has been made to work in

¹⁰⁷ See paragraph 9.7 on page 4 of the Internet Solutions submission.

¹⁰⁸ See section 3.7 on page 12 of the MTN submission.

¹⁰⁹ Section 9.7 on page 10 of the Cell C submission.

¹¹⁰ See paragraph 9.1 on page 3 of the Transnet submission.

¹¹¹ See section 4.8 on page 15 of the Telkom submission.

¹¹² See page 32 of the Vodacom submission.

¹¹³ See paragraph 2.8 on page 3 of the MWEB submission.

¹¹⁴ See paragraph 8.1 on page 8 of the NAB submission.

other countries, and to develop sharing mechanisms and guidelines in conjunction with the industry, rather than purely by regulatory imposition¹¹⁵.

- 3.8.8. Neotel recommends that the Authority enhance the enforcement of its regulatory mechanisms¹¹⁶.
- 3.8.9. ISPA is of the view that non-discriminatory access to electronic network services, especially the last mile access networks, can also be promoted with proper wholesale open access principles, and need not only be achieved with intervention in facilities sharing¹¹⁷.
- 3.8.10. The FTTH Council suggests that the Authority provides SMME's with education or support on the process for getting access to infrastructure and on facilities leasing, provide transparent pricing recommendations, and engage local, provincial and national government on the importance of allowing operators to use street lamps, poles and sewers to deploy or attach fibre. According to the Council, local, provincial and national departments currently simply refuse access to facilities, and provide firm 'timescales for approval' for same¹¹⁸.
- 3.8.11. The SACF is of the view that the Authority's capacity regarding human and financial resources can be increased to enable it to deal swiftly and effectively with the development of dynamic regulatory provisions that change in sync with the evolving ICT ecosystem, and with disputes that are likely to arise from this evolution. In addition, the Authority should be capacitated to effectively monitor requests to lease facilities in accordance with, inter alia, section 43 of the ECA.
- 3.8.12. The Forum urges the Authority to play a more active role to resolve impasses and unjustified time delays, as well as in the enforcement of proportionate and justified remedies. Furthermore, the Authority is to consider penalties against any proven deficiencies¹¹⁹.
- 3.8.13. ATCSA is of the view that a legal, regulatory and business environment that is conducive to, and encourages investment in communications infrastructure is the best way to encourage non-discriminatory access¹²⁰.
- 3.8.14. Internet Solutions urges the Authority to provide the appropriate regulatory framework which enables the development of infrastructure-based competition, in addition to service-based competition; to provide the

¹¹⁵ See paragraph 9.8 on page 3 of the Internet Solutions submission.

¹¹⁶ See paragraph 18 on page 5 of the Neotel submission.

¹¹⁷ See page 5 of the ISPA submission.

¹¹⁸ See section 9.8 on page 4 of the FTTH Council submission.

¹¹⁹ See section 9.8 on page 9 of the SACF submission.

¹²⁰ See section 3.1.8 on page 3 of the ATCSA submission.

innovative regulatory strategies and policies with reasonable terms and conditions to promote infrastructure sharing; ensure that infrastructure sharing takes place on a neutral, transparent, fair and non-discriminatory basis; and to be properly resourced, sufficiently capacitated and staffed to properly fulfil its mandate in the best interests of the public¹²¹.

- 3.8.15. WAPA points out that there is a need for an inexpensive and effective dispute resolution mechanism which can create a body of precedent regarding facilities leasing disputes. WAPA proceeds to allege that there exists a perception in industry that disputes will only be resolved by the courts and that there is no capacity within the Authority for investigation of complaints. Furthermore, WAPA is of the view that the Authority has failed to utilise provisions in the ECA relating to essential facilities¹²².
- 3.8.16. MTN encourages the Authority to conduct regular wholesale market reviews to assess which operators in any relevant wholesale upstream market have Significant Market Power ("SMP") status. Where an operator is deemed to have SMP, the Authority is to decide whether it is appropriate to impose ex-ante mandatory sharing regulations¹²³.
- 3.8.17. Cell C is of the view that the Authority needs to upskill the resources that deal with intervention in matters to do with non-discriminatory access to infrastructure. Cell C also alleges that there is a noticeable lack of capacity within the Authority¹²⁴.
- 3.8.18. Cell C is further of the view that the Complaints Compliance Committee ("CCC") ought to have a special unit within it to deal with facilities leasing and sharing disputes¹²⁵.

3.9. The Facilities Leasing Regulations

- 3.9.1. Telkom is of the view that the existing ECA licensing framework and facilities leasing framework contemplated in sections 43 and 44 adequately cater for infrastructure sharing¹²⁶. Furthermore, Telkom's view is echoed by Cell C, which believes that the Facilities Leasing Regulations on their own address both facilities leasing and sharing¹²⁷.

¹²¹ See paragraph 9.8 on page 4 of the Internet Solutions submission.

¹²² See paragraphs 42 to 44 on page 12 of the WAPA submission.

¹²³ See section 3.8 on page 13 of the MTN submission.

¹²⁴ See section 9.8 on page 10 of the Cell C submission.

¹²⁵ Ibid.

¹²⁶ See section 4.9 on page 15 of the Telkom submission.

¹²⁷ See section 9.9 on page 11 of the Cell C submission.

- 3.9.2. Vodacom feels that the Regulations need to be strengthened and that the Authority needs to expand its role to entail qualified mediation where negotiation impasses are likely to arise¹²⁸.
- 3.9.3. Global Communications shares Vodacom's sentiments in that it feels that the Facilities Leasing Regulations provide useful guidelines, however, they need strengthening to be fully effective. Global Communications therefore advises the Authority to consider developing a model infrastructure sharing agreement which would be the default for use by operators¹²⁹.
- 3.9.4. Transnet is concerned that the lack of best practice and technical standards makes it difficult for the Regulations to be implemented effectively¹³⁰.
- 3.9.5. MWEB argues that the Regulations do not go far enough in ensuring that facilities seekers are guaranteed access, in that a facility provider has no obligation to justify why they cannot grant access. Furthermore, there is no penalty were the facilities provider has denied access without good reason¹³¹.
- 3.9.6. Broadband Infracore recommends that the Regulations contain penalties for facilities providers failing to grant access to their sites where the facilities seeker's equipment is located in a timeous manner; withholding information needed by the facilities seekers to commission new customers on its network via facilities provider's sites; and for compelling facilities seekers to take bundled services where the facilities seeker has asked for unbundled services.
- 3.9.7. Neotel does not think that the Regulations cater for infrastructure sharing adequately. It therefore suggests that the Authority considers amending the Facilities Leasing Regulations to align them with the objectives of infrastructure sharing, and ensure better enforcement of the Regulations¹³².
- 3.9.8. ISPA acknowledges that the Facilities Leasing Regulations create a framework for the leasing of electronic communication facilities, however, highlights that they do not provide for many of the matters set out in section 43(3) of the ECA. ISPA is thereof of the view that the framework needs to be further developed in respect of specific applications of leasing such as local loop unbundling and spectrum sharing¹³³.

¹²⁸ See pages 21 and 32 of the Vodacom submission.

¹²⁹ See paragraph 9.9 on page 3 of the Internet Solutions submission.

¹³⁰ See paragraph 10.1 on page 4 of the Transnet submission.

¹³¹ See paragraph 2.9 on page 3 of the MWEB submission.

¹³² See paragraph 19 on page 5 of the Neotel submission.

¹³³ See page 6 of the ISPA submission.

- 3.9.9. MWEB points out that the Authority is yet to prescribe “essential facilities” in terms of the ECA¹³⁴. Furthermore, ISPA¹³⁵ and WAPA¹³⁶ point out that the Authority has not exercised any of its powers in respect of mandating access to essential facilities.
- 3.9.10. The FTTH Council believes that the Facilities Leasing Regulations do adequately cater for infrastructure sharing requirements at an opportunistic level. However, it is of the view that the pricing for leasing of facilities needs to be mandated and that complaints or requests for access to facilities needs to be accommodated timeously¹³⁷.
- 3.9.11. Internet Solutions does not believe that the current facilities leasing regulations do adequately address infrastructure sharing needs, hence, the need for a regulatory intervention which specifically deals with infrastructure sharing¹³⁸.
- 3.9.12. MTN argues that the Facilities Leasing Regulations refer to ‘electronic communications facilities’ instead of ‘infrastructure sharing’, and further argues that infrastructure sharing arrangements may be entered into with entities that are not licensed in terms of the ECA and therefore fall outside the regulatory ambit of the ECA and the Regulations¹³⁹.
- 3.9.13. The Competition Commission understands from its investigations that there are regulations in existence to deal with wholesale access for specific essential services, but is of the view that there are either no regulation or strong enforcement of regulations dealing with terms of access¹⁴⁰.

3.10. The definition of passive and active infrastructure sharing

3.10.1. The Authority defines passive and active infrastructure as follows¹⁴¹:

- “Passive infrastructure sharing refers to the sharing of space, electrical and civil engineering elements of an electronic communications network”
- “Active infrastructure sharing refers to the sharing of active or intelligent elements of an electronic communication network.”

3.10.2. Sites, masts or towers, access transmission and ducts are examples of passive infrastructure, while network elements such as base stations,

¹³⁴ See paragraph 2.9 on page 3 of the MWEB submission.

¹³⁵ Ibid.

¹³⁶ See paragraph 46.6 on page 13 of the WAPA submission.

¹³⁷ See section 9.9 on page 4 of the FTTH Council submission.

¹³⁸ See paragraph 9.9 on page 4 of the Internet Solutions submission.

¹³⁹ See section 3.9 on page 13 of the MTN submission.

¹⁴⁰ See paragraph 10 on page 6 of the Competition Commission’s submission.

¹⁴¹ Notice 916 of 2015, Government Gazette 39208.

switches and microwave radio equipment, and networks such as the radio access network, the core network and transmission backbones are examples of active infrastructure.

- 3.10.3. Transnet¹⁴², MWEB¹⁴³, FTTH Council¹⁴⁴, Internet Solutions¹⁴⁵, MTN¹⁴⁶ and the Competition Commission agree with the Authority's definition of passive infrastructure.
- 3.10.4. Global Communications also agrees with the definition, however, it argues that only dark fibre and dark copper constitute passive elements, while microwave links fall within the definition of active elements¹⁴⁷.
- 3.10.5. Cell C believes that the definition does not go far enough. It is of the view that it is necessary to cover all possible elements in order to remove ambiguity. Cell C therefore proposed that the definition be changed to "passive infrastructure sharing involves multiple operators sharing the same infrastructure as a means to reduce the costs associated with real estate, access rights and preparing sites for the requirements of active infrastructure¹⁴⁸."
- 3.10.6. Transnet¹⁴⁹, MWEB¹⁵⁰, FTTH Council¹⁵¹, MTN¹⁵² and Global Communications¹⁵³ agree with the Authority's definition of active infrastructure. ISPA on the other hand is not agreeable¹⁵⁴.
- 3.10.7. Cell C proposes that the definition of active infrastructure include antennae, feeder cable, Node B, RAN and transmission systems¹⁵⁵.
- 3.10.8. Broadband Infraco also agrees with the definitions, but questions whether the distinction between active and passive infrastructure is necessary¹⁵⁶.
- 3.10.9. Vodacom is of the view that the ECA and the Regulations do not purport, either directly or indirectly to sustain a distinction between passive

¹⁴² See paragraph 11.1 on page 4 of the Transnet submission.

¹⁴³ See paragraph 2.10 on page 3 of the MWEB submission.

¹⁴⁴ See section 9.10 on page 5 of the FTTH Council submission.

¹⁴⁵ See paragraph 9.10 on page 5 of the Internet Solutions submission.

¹⁴⁶ See section 3.10 on page 13 of the MTN submission.

¹⁴⁷ See paragraph 9.10 on page 4 of the Internet Solutions submission.

¹⁴⁸ See section 9.10 on page 12 of the Cell C submission.

¹⁴⁹ See paragraph 14.1 on page 5 of the Transnet submission.

¹⁵⁰ See paragraph 2.13 on page 4 of the MWEB submission.

¹⁵¹ See section 9.13 on page 5 of the FTTH Council submission.

¹⁵² See section 3.13 on page 15 of the MTN submission.

¹⁵³ See paragraph 9.13 on page of the Internet Solutions submission.

¹⁵⁴ See page of the ISPA submission.

¹⁵⁵ See section 9.13 on page 13 of the Cell C submission.

¹⁵⁶ See paragraph 7.2 on page 5 of the Broadband Infraco submission.

infrastructure and active infrastructure. It is further of the view that this distinction is immaterial for purposes of appreciating the scope of the definition of what constitutes an electronic communication facility in section 1 of the ECA, nor is the distinction material for purposes of understanding the operative scope of the obligation set-out in section 43(1) of the ECA¹⁵⁷.

3.10.10. Telkom disagrees with the definitions and is of the view that the Authority appears to be introducing categories in its definitions which are not in line with the spirit of the ECA. Telkom is further of the view that the scheme of the ECA does not support a distinction between active and passive infrastructure sharing¹⁵⁸.

3.10.11. Telkom perceives the Authority to be conflating "sharing" of active infrastructure with leasing of network services¹⁵⁹.

3.10.12. The SACF is of the view that both the definition of electronic communications facility under section 1 of the ECA and the obligation to lease electronic communications facilities under section 43(1) of the same, do not seek to sustain a distinction as to whether the facility may be characterised as being either passive or active electronic communications facilities.

3.10.13. The Forum raises a concern that the reasons for the Authority seeking to sustain the distinction is not immediately clear given that the ECA does not purport to impose differentiated obligations in respect of whether the electronic communications facility is defined as either active or passive, and argue that the distinction does not appear to be useful given that it is a static description of electronic communications facilities which may, depending on their intended usage within a licensee's network architecture, fall within either description¹⁶⁰.

3.11. Infrastructure that is essential for sharing

3.11.1. Stakeholders provided the following as passive infrastructure that is essential for sharing:

- Electricity and generators;
- Containers, brick and mortar buildings;
- Access control systems;
- Sewer, waste water infrastructure and water pipes;

¹⁵⁷ See page 32 of the Vodacom submission.

¹⁵⁸ See section 10 on page 15 of the Telkom submission.

¹⁵⁹ Ibid.

¹⁶⁰ See section 9.10 on page 10 of the SACF submission.

- Street lights and street poles.
- Towers/masts;
- Site access roads;
- Connections;
- Portions of ground space.
- Telkom's ducts

3.11.2. Cell C is of the view that all passive infrastructure or facilities are essential for sharing, unless a request is "not reasonable"¹⁶¹.

3.11.3. ISPA highlighted that there should be a reference to passive electronic communications facilities as contained in the definition in section 1 of the ECA¹⁶².

3.11.4. The following were provided as active infrastructure that is essential for sharing by the various stakeholder:

- Network management tools, software and hardware; and
- Access networks.

3.11.5. The Competition Commission submits that competition dynamics and market developments would dictate the nature of infrastructure that would be deemed essential¹⁶³.

3.12. Advantages and disadvantages of passive infrastructure sharing

3.12.1. Transnet is of the view that passive infrastructure sharing can lead to a reduction in the duplication of infrastructure (including power) and security requirements; quick deployment; reduction in the environmental impact costs; and allow for back up and diversity. Transnet, however, is also of the view that infrastructure sharing requires more effort to manage access control to sites; power capacity responsibilities; responsibility for providing for power outages; and managing power consumption of multiple users¹⁶⁴.

3.12.2. Global Communications believes that the major advantage of passive infrastructure sharing is that investment barriers will be lowered and

¹⁶¹ See section 9.11 on page 12 of the Cell C submission.

¹⁶² See page 6 of the ISPA submission.

¹⁶³ See paragraph 11 on page 6 of the Competition Commission's submission.

¹⁶⁴ See paragraphs 13.1 and 13.2 on page 4 of the Transnet submission.

operators will be able to acquire as much passive infrastructure as can be afforded in order to achieve the best cost for their services¹⁶⁵.

- 3.12.3. Telkom is of the view that passive infrastructure sharing will be cumbersome on incumbent networks as those networks were designed without taking consideration of additional load requirements and the needs of future operators. Telkom therefore feels that it is easier to implement infrastructure sharing on new infrastructure as better planning can be done upfront with the requirements of other operators in mind. Furthermore, Telkom is of the view that the operator constructing the new infrastructure will carry the risk and additional costs of planning and building for future needs without the guarantee of a return on investment. It is for this reason that Telkom believes that co-planning and co-funding is necessary to promote infrastructure sharing for new developments, and that publicly funded infrastructure be made available to all operators¹⁶⁶.
- 3.12.4. Telkom submits that the sharing of masts leads to sub optimal radio coverage and minimal capacity to support two or three licensees, and that the sharing of ducts may lead to security and QoS issues, such as malicious or accidental damage to Telkom's network which leads to disruption of services. Telkom is further of the view that the sharing of the copper local loop will result in high investment costs of refurbishing a degraded network as opposed to investing in newer technologies or network modernisation¹⁶⁷.
- 3.12.5. The NAB is of the view that passive infrastructure sharing encourages the deployment of services without the inhibiting cost of infrastructure; expedites the deployment of services; simplifies the process of transmission network installations; reduces the involvement of operators in non-core businesses such as building and maintenance of sites thereby helping them to concentrate on their core businesses; decreases fixed and operating costs and allows licensees to earn some revenue from their existing infrastructure, thereby lessening the burden of site upkeep.
- 3.12.6. The NAB, however, is also of the view that with the sharing of passive infrastructure, the management of sites becomes a little more difficult as different operators make use of the facilities; the economic lifespan of assets can be reduced due to high frequency of usage and pooling of the assets; and disputes over areas of responsibility, jurisdiction, and maintenance can occur¹⁶⁸.

¹⁶⁵ See paragraph 9.12 on page 4 of the Internet Solutions submission.

¹⁶⁶ See section 4.12 on page 16 of the Telkom submission.

¹⁶⁷ Ibid.

¹⁶⁸ See paragraphs 9.1 and 9.2 on page 9 of the NAB submission.

- 3.12.7. MWEB believes that there are no disadvantages to sharing passive infrastructure and proceeds to mention realising efficiencies and avoiding duplication as advantages thereof¹⁶⁹.
- 3.12.8. ISPA submits that the major advantages of the sharing would be linked to benefits arising out of the sharing of capital expenditure¹⁷⁰.
- 3.12.9. The FTTH Council submits that the single biggest benefit of infrastructure sharing would pertain to cost savings for the civils component in respect of CAPEX and OPEX savings. The Council believes that infrastructure sharing will lead to network expansion, however, it argues that enforcing open access networks will deliver the same result.
- 3.12.10. The Council cautions that the forcing of sharing will make investment less attractive¹⁷¹.
- 3.12.11. ATCSA believes that the sharing of passive infrastructure can lead to capital expenditure savings; operational efficiencies and levels of service that cannot be provided by non-tower companies; quicker network roll-out using existing infrastructure; and aesthetic benefits¹⁷².
- 3.12.12. Internet Solutions is of the view that the sharing of passive infrastructure can result in cost saving as a result of shared power supply including the generators on site, and environmental benefits as it minimises the damage to the environment¹⁷³.
- 3.12.13. Internet Solutions, however, is of the view that access to the site has to be controlled carefully by the operators and that all service providers need to adhere to a common quality standard so as to avoid faulty equipment affecting other parties. There is risk in case of infrastructure failure which will affect all operators and services at once.
- 3.12.14. WAPA identified the biggest advantages as being a reduction in costs and an increase in the speed with which they can expand coverage, and regarded the principle disadvantages as logical and physical security together with the potential for spectrum signal interference¹⁷⁴.
- 3.12.15. According to MTN, the advantage of the infrastructure sharing is the reduction in operational and capital costs in the upstream wholesale market. MTN submits that the challenges of infrastructure sharing include leasing

¹⁶⁹ See paragraph 2.12 on page 3 of the MWEB submission.

¹⁷⁰ See page 7 of the ISPA submission.

¹⁷¹ See section 9.12 on page 5 of the FTTH Council submission.

¹⁷² See section 3.1.12 on page 4 of the ATCSA submission.

¹⁷³ See paragraph 9.12 on page 5 of the Internet Solutions submission.

¹⁷⁴ See paragraphs 53 and 54 on page 16 of the WAPA submission.

property to erect base transceiver stations or building space for installation distributed antenna systems, and exorbitant or unreasonable lease charges¹⁷⁵.

3.12.16. Cell C refers to the risk of market share loss by established players as a disadvantage of sharing passive infrastructure¹⁷⁶.

3.12.17. The Competition Commission submits that passive infrastructure sharing may be beneficial for the efficient use of resources, environmental and health reasons, and may result in pro-competitive benefits in the form of reduced costs of building infrastructure and possible deployment of networks to rural and sparsely populated areas¹⁷⁷.

3.12.18. The Commission, however, cautions that the sharing of commercially sensitive information which can result in coordinated outcomes would have a negative effect of chilling competition¹⁷⁸.

3.13. Advantages and disadvantages of active infrastructure sharing

3.13.1. Transnet submits that the advantage of sharing active infrastructure is that it reduces duplication of infrastructure; increases the speed of deployment of infrastructure; reduces the cost of infrastructure; and allows for backup and diversity. Transnet also submits that the disadvantages of sharing active infrastructure constitute the technical difficulties of segregating shared infrastructure; the introduction of technical complexities in the management of shared infrastructure; the challenges of sharing frequency spectrum licensed to one entity; and the creation of opportunity for bigger players to bully smaller ones with price control over bandwidth and spectrum¹⁷⁹.

3.13.2. The NAB is of the view that the sharing of active infrastructure reduces cost to operations as multiple parties enjoy existing infrastructure, and reduces barriers to entry due to the simplified implementation process.

3.13.3. On the other hand the NAB is also of the view that the sharing of active infrastructure can lead to complex engineering works; increased possibility of radio frequency interference and cross talk; conflicts among operators over areas of responsibility, jurisdiction, maintenance, equipment reliability; and the impact on quality of service¹⁸⁰.

¹⁷⁵ See section 3.12 on page 14 of the MTN submission.

¹⁷⁶ See section 9.12 on page 12 of the Cell C submission.

¹⁷⁷ See paragraph 12 on page 6 of the Competition Commission submission.

¹⁷⁸ See paragraph 13 on page 7 of the Competition Commission submission.

¹⁷⁹ See paragraphs 16.1 to 16.3 on page 5 of the Transnet submission.

¹⁸⁰ See paragraphs 10.1 and 10.2 on page 10 of the NAB submission.

- 3.13.4. Global Communications does not support the mandating of active infrastructure sharing at this time, except in the absence of passive element capacity such as where no duct space or dark fibre is available and transmission capacity is provided in lieu of this. Global Communications is of the view that not only is the sharing of higher layer elements such as switches, RANs and core networks more complex and sensitive from a technology and security perspective, but that it remains outside mandated access regulation at this time¹⁸¹.
- 3.13.5. ISPA submits that the major advantages of the sharing would be linked to benefits arising out of the sharing of capital expenditure¹⁸².
- 3.13.6. The FTTH Council believes that lit infrastructure allows for competition on a services layer¹⁸³.
- 3.13.7. Internet Solutions holds a view that the sharing of active infrastructure can lead to reduction in cost and environmental damage, however, it also holds a view that the sharing of active infrastructure can also lead to interference risks; loss of service if equipment fails or is stolen; and the challenge of synchronising maintenance by the sharing operators¹⁸⁴.
- 3.13.8. WAPA identifies the biggest advantages of sharing active infrastructure as being a reduction in costs and an increase in the speed with which they can expand coverage, and identifies the principle disadvantages as logical and physical security together with the potential for spectrum signal interference.
- 3.13.9. WAPA submits that, it should be borne in mind that there is a high cost attached to sharing of active electronic communication facilities due to the need to manage quality of service. The costs include those relating to access control, technical support, insurance, and monitoring¹⁸⁵.
- 3.13.10. The Competition Commission believes that active infrastructure sharing may raise competition concerns with regards to information exchanged between parties to the agreement, which can include commercially sensitive information¹⁸⁶.

¹⁸¹ See paragraph 9.15 on page 4 of the Internet Solutions submission.

¹⁸² See page 7 of the ISPA submission.

¹⁸³ See section 9.15 on page 5 of the FTTH Council submission.

¹⁸⁴ See paragraph 9.15 on page 5 of the Internet Solutions submission.

¹⁸⁵ See paragraphs 53, 54 and 56 on page 16 of the WAPA submission.

¹⁸⁶ See paragraphs 17 and 18 on page 8 of the Competition Commission submission.

3.14. The practice of infrastructure sharing in South Africa

3.14.1. The sharing of infrastructure in South Africa is mainly realised through commercial agreements, in particular, electronic communications facilities leasing agreements.

3.14.2. According to the stakeholders, the main forms of sharing include the following:

- Colocation on real estate and masts or towers, and in equipment rooms;
- Lease of optic fibre cables and the 'swopping' of fibre pairs;
- Lease of transmission circuits;
- Sharing of electrical power;
- Roaming or MVNO;
- Open access in areas where it is difficult or expensive to deploy infrastructure;
- Leasing space from tower companies;
- Sharing civil and electrical works; and
- Sharing multiplexers, contribution links and combiner systems.

4. ANALYSIS OF SUBMISSIONS: GENERAL COMMENTS

4.1. The need for a Chapter 10 market review process

4.1.1. Broadband Infracore raises a concern that the problem statement that the Discussion Document seeks to address is absent¹⁸⁷. In light of the concern, the FTTH Council advises the Authority that the need for regulatory intervention requires careful analysis and in depth consultation before the Authority makes any conclusions¹⁸⁸. It is for this reason that Telkom further advises the Authority to first undertake a Chapter 10 market review process to assess the market failure which necessitates such an intervention¹⁸⁹. Cell C is agreeable to Telkom's advice in that it believes that a regulatory impact assessment is a common and necessary prerequisite for any regulatory process¹⁹⁰.

¹⁸⁷ See the first paragraph of the 'General Comments' on page 1 of the Broadband Infracore submission.

¹⁸⁸ See section 9.4 on page 3 of the FTTH Council submission.

¹⁸⁹ See section 1 on page 4 of the Telkom submission.

¹⁹⁰ See the second paragraph on page 2 of the Cell C submission.

- 4.1.2. The NAB submits that there must be an enabling policy in place, and a detailed market study must also be conducted to determine demand before any regulations are developed¹⁹¹.
- 4.1.3. The NAB further submits that, 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 association therefore recommends that the focus should rather be on co-location and physical sharing¹⁹².
- 4.1.4. ISPA believes that infrastructure sharing initiatives would be most effectively identified and addressed by a proper market analysis under Chapter 10 of the ECA¹⁹³.
- 4.1.5. MTN urges the Authority to balance the benefits of infrastructure sharing efficiency against the potential of competitive harm caused to the relevant market¹⁹⁴. Telkom further urges the Authority to consider the impact on the relevant wholesale and retail access markets when discussing the competitive aspects of infrastructure and spectrum sharing¹⁹⁵.
- 4.1.6. MWEB submits that regulatory intervention would need to be balanced with a fair pricing structure for operators who invest in infrastructure¹⁹⁶.

4.2. Open access to infrastructure

- 4.2.1. WAPA submits that infrastructure sharing should not be confused with wholesale access, and proceeds to explain that wholesale access implies a technical and commercial arrangement to use an existing network rather than a joint venture type arrangement¹⁹⁷.
- 4.2.2. WAPA further submits that there is no compelling case for the Authority to prioritise infrastructure sharing above the development and enforcement of an effective wholesale access regime¹⁹⁸.
- 4.2.3. ATCSA believes that the best method to achieve the objectives of infrastructure sharing is a free, fair and competitive business and regulatory environment that encourages further investment in infrastructure and allows tower companies to meet each operator's individual demands and

¹⁹¹ See paragraph 7.3 on page 7 of the NAB submission.

¹⁹² See paragraph 10.3 on page 10 of the NAB submission.

¹⁹³ See paragraph 3.6 on page 2 of the ISPA submission.

¹⁹⁴ See paragraph 2.11 on page 5 of the MTN submission.

¹⁹⁵ See section 3 on page 6 of the Telkom submission.

¹⁹⁶ See paragraph 1.2 on page 1 of the MWEB submission.

¹⁹⁷ See paragraph 2.2 on page 1 of the WAPA submission.

¹⁹⁸ See paragraph 2.12 on page 2 of the WAPA submission.

preferences¹⁹⁹. Furthermore, ISPA²⁰⁰ and WAPA²⁰¹ submit that an effective wholesale open access regime should seek to remove unfair price discrimination between wholesale and retail arms or between “friends”; introduce greater transparency into the availability of wholesale products or infrastructure available for sharing on a wholesale basis, and ensure that there is a clear, transparent and reasonable pricing for access to existing structures.

- 4.2.4. The FTTH Council is of the view that deploying Open Access removes the need to duplicate infrastructure to a large extent. The Council is further of the view that regulatory action for broadband networks should focus on ensuring access on a fair, reasonable and non-discriminatory terms as opposed to enforcing ‘one trench’ policies, and believes that the need for a regulated infrastructure sharing model can be negated by introducing recommendations for ‘Open Access’ networks where all operators have equal access to a single network²⁰².

4.3. The Rapid Deployment Policy

- 4.3.1. Neotel points out that the Authority needs to be cognisant of the possible outcomes of the National ICT Policy Review process, as it believes that the process could lead to a complete overhaul of the sector thus impacting the current and proposed regulations²⁰³.
- 4.3.2. The SACF feels that the Authority does not seem to have taken into consideration the extensive coverage of the matter in the National ICT Policy Review process. The SACF submits that the Policy Review recommendations which are now being rendered into a White Paper would likely once approved have an impact on the regulations currently being formulated through the Authority’s consultation process. The SACF further submits that there needs to be close coordination in policy and regulatory developments so that future conflicts among policy, regulations and the views of the national ICT industry are avoided. The SACF therefore recommends that there be an alignment of the regulatory framework with the work that is currently being done by the DTSPS²⁰⁴.
- 4.3.3. Vodacom submits that the DTSPS has commissioned Analysys Mason to undertake a policy and regulatory assessment referred to as “Support

¹⁹⁹ See section 3.1.7 on page 3 of the ATCSA submission.

²⁰⁰ See paragraph 3.5 on page 2 of the ISPA submission.

²⁰¹ Ibid.

²⁰² See section 9.4 on page 3 of the FTTH Council submission.

²⁰³ See paragraph 10 on page 4 of the Neotel submission.

²⁰⁴ See section 1 on page 2 of the SACF submission.

towards the development of a National Rapid Deployment Policy and policy direction for South Africa.” The policy review initiative is expected to culminate in the Honourable Minister of the Department of Telecommunications and Postal Services (DTPS) issuing a policy direction in terms of section 3 of the ECA. Amongst others, the issuance of the policy direction ought to have been preceded by the Minister having consulted with the other Ministers envisaged in section 21 of the ECA. It is on the basis of the policy direction envisaged to be developed under section 21 of the Act and consequently issued under section 3 of the ECA that the Authority must have regard in prescribing the regulations envisaged on section 21(2) of the ECA. These regulations ought to inter alia give treatment to matters relating to the regulation of coordinated and harmonised civil engineering and deployment of electronic communications facilities²⁰⁵.

- 4.3.4. The NAB concurs with Vodacom that for the rapid deployment of electronic communications facilities to occur, the ECA envisages a wide inter-ministerial consultation and coordination²⁰⁶.
- 4.3.5. ISPA highlights that there is a significant overlap of the scope of the Authority’s inquiry with the process to develop rapid deployment policy. ISPA therefore advises the Authority to be cautious of over-regulation that removes flexibility from the various build options available²⁰⁷.
- 4.3.6. Cell C’s opinion is that the Rapid Deployment Policy by the Minister of DTPS should assist the Authority in determining its priorities for the short and medium term²⁰⁸.

5. THE AUTHORITY’S FINDINGS

- 5.1. Upon concluding the above analyses of the submissions the Authority found the following to be the salient views of the stakeholders:
 - 5.1.1. Alternative investment mechanisms such as funds from the USAF may need to be explored to encourage network rollouts in areas that do not have infrastructure and are not financially viable.
 - 5.1.2. The lack of effective regulation of infrastructure sharing may result in benefits not being passed through to end-users.
 - 5.1.3. Service-based competition should not necessarily be the only rationale for encouraging the rollout of networks to rural and sparsely populated areas.

²⁰⁵ See pages 31 of the Vodacom submission.

²⁰⁶ See paragraph 7.4 on page 7 of the NAB submission.

²⁰⁷ See page 5 of the ISPA submission.

²⁰⁸ See the fourth paragraph on page 2 of the Cell C submission.

- 5.1.4. Regulation at the wholesale level would allow for effective competition in the downstream retail market.
- 5.1.5. The objectives of infrastructure sharing have, to a certain extent, been achieved through commercial agreements.
- 5.1.6. Infrastructure sharing matters should not be dealt with in one regulation, in particular taking into consideration the provisions of chapters 7 and 8 of the ECA.
- 5.1.7. Benefits are realised by stakeholders as a result of existing initiatives for infrastructure sharing.
- 5.1.8. The regulation of 'one-build' civil works and mast erections does not fall within the scope of the ECA.
- 5.1.9. Regulation 20 (contravention and penalties) of the Electronic Communications Facilities Leasing Regulations, 2010 needs to be strengthened to encourage compliance.
- 5.1.10. The Authority's definition of passive and active infrastructure sharing is correct, however, the distinction between passive and active infrastructure sharing is not in line with the ECA.
- 5.1.11. There are competition concerns with regard to active infrastructure sharing.
- 5.1.12. The Authority should undertake a chapter 10 market review process to identify market failure before intervening.
- 5.1.13. Effective infrastructure sharing should take into account the principles of open access.
- 5.1.14. The Authority should align this process with Rapid Deployment Policy of the Department of Telecommunications and Postal Services as envisaged in section 21 of the ECA.

6. CONCLUSION AND THE WAYFORWARD

- 6.1. The Authority embarked on the consultative process on the Regulatory Framework on infrastructure sharing with a view that the sharing of electronic communications infrastructure will result in the realisation of the above mentioned objectives, in particular, that the practice will encourage service-based competition in the downstream retail markets as it will result in the reduction of input costs for incumbents and new entrants.
- 6.2. Stakeholders went to great lengths to address infrastructure sharing matters, including how the Authority could improve the regulation of the practise, *inter alia*, by strengthening the existing Facilities Leasing Regulations.

6.3. Based on the submissions of the stakeholders the Authority concludes that the ECA and the Facilities Leasing Regulations effectively cater for infrastructure sharing. In this regard, the Authority intends to actively monitor and enforce implementation of the Facilities Leasing Regulations and applicable provisions of the ECA to promote and facilitate infrastructure sharing. The Authority will also assess whether there is a need to review and or augment the current Facilities Leasing Regulations to deal with, *inter alia*, local loop unbundling.