

DISCUSSION PAPER

**Guidelines on Sharing of  
Telecommunications Towers & Service  
Specific Pricing Principles for UAS Funded  
Towers**

*Issued on 8 April 2019*

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## 1 EXECUTIVE SUMMARY

The *National Information and Communications Technology Act 2009* (***the Act***) provides at Section 218 for NICTA to make rules and guidelines that are consistent with the Act. Separately, the determination of service-specific pricing principles is provided for in Section 135 of the Act. Before doing either, NICTA must consult publicly.

NICTA is proposing to make a guideline on tower sharing. Further, NICTA is also obliged to make service-specific pricing principles in respect of facilities access services supplied by means of a facility constructed using universal access and service funding, which is a service that the Act (at Subsection 131(1)) deems to be a declared service. The purpose of this discussion paper is to facilitate public consultation and solicit comments on these matters. Copies of the draft guideline and the draft pricing principles determination are attached to this discussion paper.

NICTA recently conducted a public inquiry into the potential declaration of a number of wholesale services pursuant to the procedure set out in Part VI of the Act. One of the services that was discussed for possible declaration was tower sharing – that is, the requirement for an operator owning or controlling telecommunications towers to sharing, under certain conditions, its tower capacity and related amenities with other operators who might request access to such space and amenities.

In the event, for reasons that are discussed more fully later in this discussion paper, and after considering the diverse views of industry participants, NICTA concluded that it was not satisfied that all of the declaration criteria would be met by the declaration of a tower sharing service at this time. This meant that, under Section 129 of the Act, NICTA could not recommend declaration of the service to the Minister.

However, NICTA concluded that the matter should not be left there. NICTA also concluded that a number of disputed aspects about the recent history of attempted tower sharing might be clarified by the promulgation of a Tower Sharing Guideline to offer guidance to operators who seek access to tower space and amenities and to operators from whom such services are sought.

The existence of such a guideline and compliance with the procedures it contains will enable NICTA to actively and purposefully monitor the demand and market for tower sharing, and to revisit the case for a declaration of the service should that be an appropriate outcome. With this in mind, NICTA proposes to review the matter around 12 months after the proposed guideline is finalised and formally made.

On a related matter, Section 131 of the Act deems that certain wholesale services are declared, including “all facilities access services that may be supplied by means of any facility constructed under a Universal Access and Service project agreement for the life of the facility.” Many of the UAS Projects that have been recommended by the UAS Board and approved by the Minister relate to the extension and upgrade of mobile service sites and the tower facilities on those sites. The proposed guideline will also serve to support the wholesale access to such facilities. Further, pursuant to Section 135 of the Act, NICTA has also prepared a draft determination of service-specific pricing

principles in respect of such UAS funded towers. A copy of this draft determination is provided at Annex B.

NICTA is of the preliminary view that both the draft Tower Sharing Guideline at Annex A and the draft service-specific pricing principles at Annex B should be formally made. It now invites all interested parties to submit their comments on these draft documents.

## 2 BACKGROUND

### 2.1 The legislative regime for declaration of wholesale access services

Operator licensees may, at any time, supply wholesale services to other operator licensees under terms and conditions that are commercially agreed. In addition a regulated wholesale access regime is provided for in Part VI of the Act. Under that regime:

- (a) NICTA may, following an inquiry, recommend to the Minister that certain wholesale services should be made **declared services**;
- (b) Section 129 of the Act requires that NICTA must be satisfied that all if the declaration criteria set out in the Act would be met by a declaration;
- (c) The declaration criteria require that a proposed declaration should promote effective competition in PNG markets for ICT services (“the competition objective”), and should promote the economically efficient use of and investment in the facilities by which ICT services may be supplied (“the efficiency objective”)
- (d) The supply of declared services is subject to the **general pricing principles** specified in the Act and also to **service-specific pricing principles** that are determined by NICTA;
- (e) Access providers (i.e. operator licensees) that supply declared services are required to comply with certain **non-discrimination obligations** under s.136 of the Act in relation to their supply of declared services (unless exempted). This means that an access provider must:
  - supply the declared service to, and interconnect relevant facilities with, any access seeker that requests such;
  - supply the declared service and associated interconnection services to access seekers with a technical and operational quality of service equivalent to that which the access provider supplies to itself;
  - supply the access seeker with ordering and provisioning and fault handling services that are equivalent to that which the access provider supplies to itself; and
  - supply the access seeker, if requested, with billing information necessary to enable the access seeker to supply retail services using the declared service.
- (f) The **terms and conditions** on which an access provider fulfils its non-discrimination obligations are to be commercially agreed between the access provider and the access seeker. An access provider may also set out terms and conditions in a **reference interconnection offer (RIO)**. A RIO must be approved by NICTA.

## 2.2 Legislative arrangements for making of guidelines

Part XI of the Act relates to Mandatory Instruments, which include rules and guidelines. NICTA may make guidelines relating to the ICT industry and ICT licensees, but, before doing so is required to consult with the Minister and affected ICT licensees and to engage in public consultation; (Section 218 of the Act).

The legislative requirements for public consultation are set out in Section 229 of the Act.

Section 219(1)(c) of the Act requires that, before making a guideline, NICTA should publish a notice of its intention to do so. NICTA published such a notice on 8 April 2019 and copies are posted on the NICTA website ([www.nicta.gov.pg](http://www.nicta.gov.pg)).

## 2.3 Structure of this discussion paper

Chapter 3 of this discussion paper reviews the considerations that arose in the course of the recent wholesale services review in relation to the potential declaration of tower sharing services and the reasons why NICTA concluded, on balance, that further information should be gathered before a declaration could be further considered.

Chapter 4 discusses the provisions in the proposed guideline (set out in draft at Annex A).

## 2.4 Submissions in response to this discussion paper

2.4.1 NICTA invites written submissions in response to the issues raised in this discussion paper from any interested parties. Arguments and assertions (as distinct from statements of opinion) should be supported with evidence and data, particularly if they are contrary to the current understanding or tentative conclusions set out in this discussion paper.

2.4.2 Submissions should be submitted via email to [inquiry.submission@nicta.gov.pg](mailto:inquiry.submission@nicta.gov.pg) and must be received by **noon Monday 6<sup>th</sup> May 2019**.

2.4.3 Copies of all submissions received will be published on NICTA's Public Register consistent with the requirements on NICTA under subsection 229(3) of the Act. Claims for confidentiality over any written information submitted to NICTA in response to this public consultation process are governed by section 44 of the Act. Under section 44 of the Act, NICTA ultimately determines whether or not it will accept a claim for confidentiality and exclude from publication the information that is subject to that claim. The process for claiming confidentiality is set out in the *Guidelines on the submission of written comments to public consultations and public inquiries*. Any respondent that wishes to claim confidentiality over information that it submits in response to this discussion paper should follow the procedures described therein.

### 3 Tower Sharing Service

#### 3.1 Background

The potential for declaring tower sharing services was recently considered by NICTA in conjunction with its wholesale services review. Access to towers to share their capacity was considered in the context of the group of services that make up the wholesale MACO (Mobile Access and Call Origination) market, which include mobile roaming and virtual network operator services.

Sharing of telecommunications towers may be considered in isolation from other MACO services and could be the subject of a separate declaration. NICTA previously considered in 2013-14 whether tower sharing should be declared. At that time NICTA decided not to recommend declaration to the Minister and concluded that it was not satisfied that declaration would meet the declaration criteria. NICTA concluded that:

- a) declaration would not necessarily, in and of itself, promote effective competition in markets for ICT services in PNG;
- b) access to towers is not a pre-requisite for the promotion of competition in at least one market other than the market for the wholesale service/facility itself;
- c) the wholesale service/facility can feasibly be substituted as a matter of commercial reality; and
- d) declaration would materially compromise the incentives for efficient investment in competitive mobile network infrastructure.

The question for NICTA in 2018 was whether circumstances have changed in the market, and changed sufficiently to warrant a change in this regulatory position?

#### 3.2 The relevant market

3.2.1 The market for wholesale mobile access and call origination (**MACO**) services comprises various services that are typically considered to be components of the market, or separate sub-markets, which enable an access seeker to have access to the subscriber base of a mobile network operator.

3.2.2 MACO services include the sharing of and access to passive network elements in the mobile operator's network. Passive elements in this context are non-electronically active elements such as sites, buildings, towers, masts, poles and ducts. In the case of mobile networks the most commonly accessed passive network elements are towers as these are the supporting structures for radio base stations (in 2G networks, or equivalently NodeB in 3G networks and eNodeB in 4G networks). Furthermore it is often the case that a mobile network

operator (**MNO**), having constructed a tower for its own purposes, has spare capacity on that tower that could be leased to another MNO.

### 3.3 Competitive assessment

- 3.3.1 As far as NICTA is aware, there are currently no MACO services currently offered or supplied in PNG, including tower sharing. The operators are free to offer these services to each other on a commercial basis, but none of them has chosen to do so. There is some dispute amongst the operators (KTH and Digicel) as to the recent history of attempts to engage about potential sharing on a commercial basis. This came through in the submissions to the 2018 public inquiry.
- 3.3.2 Little has changed in the provision of retail mobile services since the 2013 inquiry. Digicel continues to have by far the largest market share; indeed its market share has increased in terms of subscribers, traffic and revenue. See Figure 5.1 below.

**Figure 5.1: Indication of developments in the provision of mobile services in PNG**

	2013	Current situation	% change
<b>Market shares (subscribers)</b>			
a) Digicel	74.6%	89.5%	+20%
b) bmobile	12.8%	8%	-38%
c) Kumul (Telikom)	12.6%	2.5%	-80%
<b>Market share (traffic)</b>			
a) Digicel	90.6%	96.7%	+7%
b) bmobile	8.8%	2.9%	-67%
c) Kumul (Telikom)	0.6%	0.4%	-33%
<b>Market share (revenue)</b>			
a) Digicel	87.9%	n/a	
b) bmobile	11.5%	n/a	
c) Kumul (Telikom)	0.6%	n/a	

n/a = not available

- 3.3.3 However, there are signs that bmobile-Vodafone (bmobile) and Kumul (Telikom) have improved their competitive potential by increasing the coverage of their networks. Figure 5.2 shows the increasing scale and scope of their networks in terms of the number of towers (radio cell sites) deployed, and in terms of the network coverage by population and landmass.

**Figure 5.2: Indication of developments in the provision of mobile services in PNG**

	2013	Current situation	% change
<b>Number of mobile towers deployed</b>			
a) Digicel	766	1077	+40.6%
b) bmobile	188	267 <sup>1</sup>	+42%
c) Kumul (Telikom)	60	177	+195%
<b>Network coverage (by population)</b>			
a) Digicel	74%	85%	+11%
b) bmobile	36%	n/a	
c) Kumul (Telikom)	22%	41%	+19%
<b>Network coverage (by total area)</b>			
a) Digicel	24.4%	53%	+28.6%
b) bmobile	5.8%	n/a	
c) Kumul (Telikom)	n/a	6.5%	

n/a = not available

### 3.4 Considerations affecting declaration of tower sharing services

- 3.4.1 NICTA expressed its satisfaction that access or increased access to the wholesale service is technically feasible having regard to the technology available, the costs involved, and the effect of supply on the integrity, operation and performance of other ICT services and facilities. Tower sharing is undoubtedly feasible as has been demonstrated in many countries over many years. The technologies for tower construction and mounting of equipment that are employed in PNG are the same as elsewhere in the world.
- 3.4.2 As well NICTA remained of the view in 2018, as in 2014, that increased access to the wholesale service would avoid inefficient replication of underlying facilities that may be efficiently shared. There are many areas of PNG that are sufficiently remote and of low population density so as to make replication of towers inefficient, and where service providers could share tower facilities, as has been practised in many other countries.

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<sup>1</sup> bmobile to confirm data.

- 3.4.3 However, declaration of mobile tower sharing services also required re-assessing the criteria that were not met in 2014.
- 3.4.4 The first of those criteria is that “declaration would necessarily, in and of itself, promote effective competition in markets for ICT services in PNG”. As indicated in Figure 1 above effective competition in the market for retail mobile services has not improved over the past 4 years. Much of the competition during that period has been in urban areas where duplicate towers and networks exist. The lack of competition therefore cannot be attributed to the non-availability of mandated tower sharing. It follows, at least in those areas, that declaration of the tower sharing service would not necessarily promote effective competition in the retail mobile services market. Undoubtedly it would make some contribution. Some doubt has also been cast on the efficacy of declaration from the experience with towers funded by the Universal Service Fund (**USF**). Open access is a condition of USF funding, and Digicel has constructed a number of towers using the USF, but there is doubt about whether in such cases other operators sought access to the towers. It is recognised though that this may be a reflection of the location of the USF funded towers and the availability of wholesale backhaul options to those sites.
- 3.4.5 A further criterion is that the wholesale service/facility cannot feasibly be substituted as a matter of commercial reality. The commercial reality over the past four years is that such substitution has not occurred. The analysis conducted by NICTA in 2013/14 suggested that the other MNOs would increase and broaden their tower roll-out programmes (especially in the absence of declaration). To a significant extent this has happened, but there remain parts of the country in which only Digicel operates towers, and in many of these locations there is no commercial case for a rival to duplicate this investment.
- 3.4.6 Another criterion is that declaration would not materially compromise the incentives for efficient investment in competitive mobile network infrastructure. If duplicate mobile infrastructure is commercially feasible then this will provide the deepest and most sustainable form of competition in the industry. In 2014 NICTA judged that there was a risk that declaration would jeopardise such investment in alternative infrastructure. However, Digicel, bmobile and Kumul (Telikom), have invested in new towers in the meantime, (see Figure 2 above). In 2018 therefore the risk of compromising investment incentives has at least been reduced to the extent of additional investment that has already occurred. NICTA believes that the commercial terms for tower sharing should give the access provider an adequate risk-adjusted return on its investment, so that the possibility of tower sharing could act as an incentive for operators to deploy new towers in previously unserved areas. Nevertheless the matter is not beyond doubt.
- 3.4.7 NICTA noted in its 2018 review the lack of progress over the past four years in establishing effective competition in retail mobile services markets in PNG and

the fact that bmobile and Kumul (Telikom) have invested considerably in new mobile towers. Consequently, the risks of declaring tower sharing services were considered to be less in 2018 than they were perceived to be in 2014. However, NICTA also noted that there remains no empirical evidence that declaration is necessary for the promotion of competition in the retail services market and some evidence (on the basis of USF-funded facilities) that declaration would not in and of itself promote effective competition although it will undoubtedly provide competitive choices not currently available in locations which will not sustain the duplication of towers and related infrastructure.

### **3.5 Consideration in the 2018 wholesale services review and public inquiry**

- 3.5.1 The submissions from KTH and ICCC to the public inquiry supported the proposed declaration of tower access service. The submission from Digicel did not. In particular, KTH and Digicel differed in their statements about the extent to which they had engaged or tried to engage with each other to negotiate a commercial agreement on tower sharing. As NICTA understands the situation, KTH was seeking access to Digicel towers in certain locations, but may have been seeking a national agreement framework with specific agreement terms relating to individual locations. In any case a commercial framework agreement has not eventuated.
- 3.5.2 In broad terms Digicel put three main lines of argument for its views in its first round submission:
- (1.) that information basis on which NICTA is operating, especially in relation to demand, is insufficient for NICTA to recommend a declaration;
  - (2.) that the Discussion Paper suggests a level of uncertainty by NICTA, and that should preclude a recommendation by NICTA for a declaration; and
  - (3.) that a range of issues need to be determined before a declaration could or should be made, such as whether access providers would need to design and build towers with additional capacity for wholesale access that might be sought, and whether the current needs of access seekers for tower capacity should prevail over the future needs of access providers.
- 3.5.3 In relation to (1), NICTA considered that there is a level of demand but there are no arrangements in place to systematically record applications for tower sharing. Nevertheless the evidence of demand was confirmed in the submission from KTH.
- 3.5.4 In relation to (2), NICTA disagreed that there has to be a level of complete certainty as suggested by Digicel. The Act does not require that level of certainty for a declaration, whether expressly or implicitly. In matters of economic assessment evidence might be ambiguous or might need to be weighed against evidence that points towards an opposite conclusion. The Act, at section 129(1)

requires only that NICTA should be satisfied that all of the declaration criteria would be met by the declaration.

- 3.5.5 In relation to (3), NICTA noted the point being made, but does not regard these issues as novel or without solutions. They are matters to be considered when developing the service specific pricing principles required for a declared service under section 135 of the Act. Many other jurisdictions have addressed these issues with various solutions and levels of success. Those approaches are available for guidance to PNG should the service be declared.
- 3.5.6 Digicel also made the point that the Act proceeds on the basis that commercial and market forces should be given an opportunity of fulfilling the objectives for the sector in the Act if they are capable of doing so, and should be fully considered before regulatory intervention is pursued. Indeed this is the underlying policy preference expressed throughout the Act. Precisely how it might be taken into account in relation to any specific issue is a matter that needs to be considered in the context and the circumstances in which each issue arises. In the case of access to towers, there is some evidence that sharing arrangements that have been arrived at by commercial negotiation are more robust and effective than some attempts to impose mandatory access in a range of diverse circumstances. This consideration did not directly impact on whether the criteria for declaration of tower sharing services are met or not. It did, however, encourage NICTA to ensure that there has been every opportunity for good faith negotiation on a commercial basis between intending access seekers and potential access providers.

### **3.6 NICTA's conclusions from the 2018 Public Inquiry and review**

- 3.6.1 As a result of the public inquiry process, NICTA concluded that the case for declaration of tower access services is not compelling at this time. It would be better to establish a basis for effectively monitoring the market and reconsidering the matter of potential declaration again in future. This approach would include establishing a record-keeping obligation to ensure that information on applications made and received is recorded by the relevant network operators, and is available to inform a future review.
- 3.6.2 NICTA now plans to monitor and, if required, facilitate further negotiation for a further period of about 12 months, after which NICTA will make a further decision to review the circumstances that might warrant declaration of tower sharing services at that time. A new Public Inquiry will be initiated at that time if considered to be warranted.
- 3.6.3 NICTA also concluded that the provision of a guideline could positively assist the process of seeking access and negotiating commercial access arrangements. As noted above, NICTA considers that commercial agreements for tower sharing that have been voluntarily arrived at between operators are

likely to be more robust and reflective of needs than sharing that is mandated by regulation. Experience elsewhere suggests this is the case, and the preference for commercial outcomes is a principle underlying the Act.

## **4 Explanatory Comments on the proposed Tower Sharing Guideline**

These comments are directed to main provisions in the Guideline only.

### **4.1 Section 2: Background**

The guideline sets out the advantages and disadvantages that may result from sharing telecommunications towers. With the exception of towers that have been funded as part of a UAS Project Agreement, these remain matters for consideration by the operators who are considering tower sharing.

Paragraph 2.3 makes it clear that related facility and service access, including site access and co-location services, are included in the term “tower sharing” and not just access to the load-bearing capacity of a tower .

### **4.2 Section 3: Purposes of Guidelines**

The purposes of the guideline are to provide procedural clarity and to facilitate monitoring of the demand for tower sharing by NICTA.

There is no regulatory change in relation to mandatory tower sharing as a result of the guideline. If that occurs, it will be as a result of a separate public inquiry process undertaken by NICTA.

### **4.3 Section 4: Towers funded by UAS Fund**

This section sets out the deeming provisions in relation to the declaration of access to facilities funded in Project Agreements relating to the UAS Scheme. The clauses that NICTA requires in Project Agreements for towers and sties are also set out.

### **4.4 Section 5: Fair and Reasonable Terms and Conditions**

This section sets out the principles which will guide NICTA arbitration if it is required to rule on the fairness and reasonableness of terms and conditions that operators are negotiating for access agreements. In all cases – whether the facility is a tower, power, access road or other amenity – the key principles that the guideline references relate to the cost of establishing and maintaining the facility service and an appropriate way of allocating that cost between users of the facility. The guideline makes no mention of incremental costs associated with usage on the basis that this is not a fair and reasonable basis for sharing in these circumstances. The guideline suggests that NICTA should have regard to the standalone costs associated with establishing, operating and maintaining each type of facility, but is not suggesting that a standalone cost standard is appropriate for pricing access. Rather, the standalone costs involved

would likely provide some indication of the costs that facility users would bear if they were to recreate the facility or if they were the only user.

In relation to contract term (duration) no specific guideline of offered. However it is noted that for facilities funded under a UAS Project Agreement the Act deems wholesale access to be declared for the life of the facility.

#### **4.5 Section 6: Recording information**

Information on applications or requests for tower sharing remains limited and contested. To rectify the situation, NICTA will establish a register of Applications for Tower Sharing. All applications for tower sharing are to be registered by the licensed operator who is the access seeker. Appropriate records are to be retained by the parties to an application.

This process will enable NICTA to take follow-up action to require the intending access provider to provide information on how the application for access has been processed and resolved. This will be the case whether the application relates to a tower funded from the UAS Fund or not.

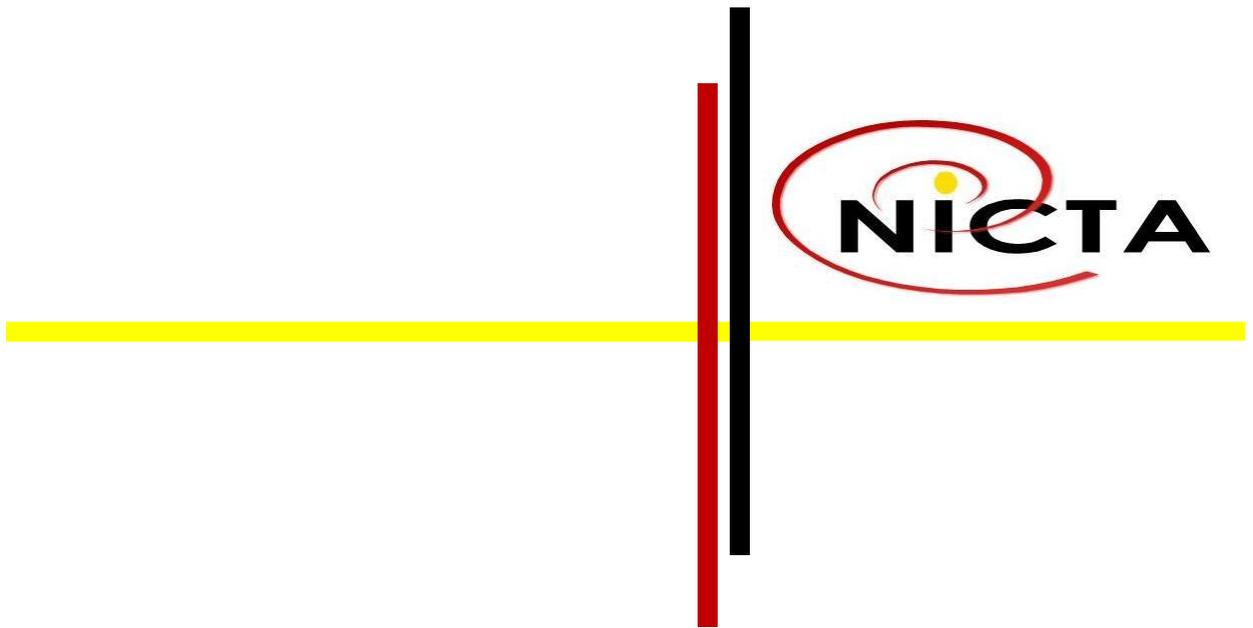
This procedure will provide a good source of reliable information on the demand for tower sharing and the areas in which the demand exists. If tower sharing services are to be declared at any stage the likelihood is that the declaration will apply to certain areas of PNG and not others, because the criteria for declaration may not be uniformly met across all parts of PNG.

#### **4.6 Section 7: Model Application for Tower Sharing**

It is a matter for the parties to establish their own requirements for applications to share their towers. However, sharing should not be precluded because such a document or form does not exist, nor should sharing be delayed while the contents required of an application are being determined and negotiated. In order to facilitate the process a model application is provided which may become a default set for use by access seekers who consider that they are being thwarted by existing processes, or lack of them.

NICTA has decided not to include a guideline on model sharing agreements at this time. Nevertheless it invites interested parties to discuss whether and when such a model might be needed, and, if so, the terms that it should contain.

## **ANNEX A: DRAFT TOWER SHARING GUIDELINE**



Guidelines on

## **Sharing of Telecommunications Towers**

*8 April 2019*

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## **5 EXECUTIVE SUMMARY**

These guidelines have been developed by NICTA to provide guidance on the process that access seekers should adopt when they seek to share towers and related ancillary services owned or operated by network operators.

The guidelines are intended primarily for the guidance of access seekers who seek to share towers that have been funded from the Universal and Access Service (UAS) Fund, but are intended to provide more general guidance in other situations as well.

In addition the guideline includes a model application template that may be used by access seekers in the absence of any procedure that has been implemented by network operators who own or control towers.

The guideline refers to the need for applications to be registered with NICTA when made by the access seeker.

Comments and inquiries relating to this guideline should be sent to Kila Gulo-Vui, Acting Director, Universal Access Secretariat on email [kgulovui@nicta.gov.pg](mailto:kgulovui@nicta.gov.pg) in the first instance.

## 6 Background

### 6.1 Advantages of Facilities Sharing

The objective of the *National Information and Communications Technology Act, 2009 (the Act)* is that the information and communications technology (*ICT*) industry contributes to the greatest extent possible to the long-term economic and social development of PNG, by various means including:

- providing a regulatory framework that promotes “the efficiency and competitiveness of the ICT industry in Papua New Guinea”;<sup>2</sup>
- “ensuring that ICT services of social importance are supplied as efficiently and economically as practicable”;<sup>3</sup> and
- “encouraging, facilitating and promoting sustainable investment in, and the establishment, development and expansion of, the ICT industry in Papua New Guinea, including via the exercise of facilities rights”.<sup>4</sup>

The policy incorporated in the Act recognises that social and economic development are linked to efficient and economic service provision, but, on the other hand, that the industry that provides the services in question needs to operate in a framework that encourages, facilitates and promotes sustainable investment. Under certain circumstances there may be and will be tension between social, economic and commercial imperatives. The regulatory framework needs to enable that balance to be worked through sensibly.

ICT service costs are directly impacted by network and platform capital and maintenance costs, and the efficient utilisation of network facilities is important for reducing the overall costs incurred by the industry. Network utilisation can be improved by reducing avoidable duplication of ICT facilities and driving the use of existing facilities towards maximum capacity. Sharing of facilities is one important way of addressing both of these things.

### 6.2 Disadvantages of Facilities Sharing

Facilities sharing can have disadvantages and these are generally recognised both in the economic literature and in the Act itself. The disadvantages can include:

- Discouraging or reducing incentives for investment by network licensees. This may especially occur if there are mandatory sharing arrangements in place for a whole range of facilities, or if regulated terms and conditions for sharing do not enable investors to achieve a reasonable rate of return sufficient to satisfy shareholders.
- Constraining the exercise of facilities rights by network operators and others. The Act recognises that investment is dependent on a facilities rights regime, which it defines to mean “the right to construct, maintain, own, operate and/or otherwise make available one or more facilities”.<sup>5</sup> Sharing regimes may internationally or inadvertently constrain those rights.

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<sup>2</sup> Act, section 2(a)(ii)

<sup>3</sup> Act, section 2(b)

<sup>4</sup> Act, section 2(h)

<sup>5</sup> Act, section 4(1)

- Reducing the effectiveness of competition in ICT markets. This can occur in a number of ways as a consequence of poorly designed sharing policies including through reducing the differentiation or characteristics of services offered to the public, through reducing first-in and other competitive advantages of investors, through risk reduction for access seekers, and through equalising geographically service coverage of competitors. Generally, sharing policies tend only to apply to passive facilities, which have less impact of service differentiation.

In NICTA's view, the possible disadvantages of facilities sharing need to be carefully considered but, with care, can be rendered consistent with the aims in the Act that may be achieved through sharing.

NICTA also notes that in some jurisdictions there is significant sharing of facilities that is on a commercial two-way basis – that is, the commercial benefit is recognised when network operators are sometimes the access seeker and sometimes the access provider, depending on the location.

### **6.3 Specific Focus of these Guidelines**

These guidelines are not concerned with facilities in general. The detailed circumstances of investment in and sharing of facilities varies considerably depending on the type of facility concerned. These guidelines concerns tower sharing, and included in that term are not only sharing of the physical load-bearing capacity of towers, but also the sharing of:

- the site on which the tower has been erected;
- on-site shelters and accommodation;
- access roads;
- on-site power; and/or
- backhaul transmission enabling equipment installed on towers to inter-work with network equipment at other locations.

It is possible to have tower sharing arrangements that do not include the last two items on the list of facilities and services set out above. However in most cases the sharing is not able to achieve its purpose satisfactorily without inclusion of all of the items listed in the sharing agreement.

### **6.4 Issues for Tower Sharing in PNG**

There are a number of issues associated with tower sharing in PNG, including:

- Lack of clear process for access seekers to formally approach owners of towers to be potential access providers in respect of those towers;
- Lack of a clear obligation on owners of towers, other than UAS-funded towers, who are also licensed operators under the Act to formally respond to requests for sharing from access seekers, and, specifically, lack of an obligation to provide any reason for a decision denying access; and
- Lack of a registration arrangement providing for recording of or retention of documents about attempted tower sharing, either by individual tower owners who are licensed operators, or centrally by NICTA.

## **7 Purpose of the Guidelines**

### **7.1 Process Clarification and Monitoring**

The purpose of these guidelines are twofold:

- (1) to set out a process by which intending access seekers can request to share UAS funded towers; and
- (2) to enable NICTA and the industry to monitor and assess the demand for tower sharing in the sector so that a basis can be established for assessing the need, if any, of changes to the current practice which leaves most tower sharing as a matter for commercial agreement between the parties involved.

### **7.2 No Regulatory Change**

To avoid any doubt on the matter, the development of this guideline does not signal any regulatory change or any move to introduce any obligations to share towers and associated facilities, such as sites and access roads, over and above the limited extent to which such obligations exist at present. The guideline sets out the special sharing obligations that arise when sites and towers have been built with full or part funding from the Universal Access and Service Fund (*UAS Fund*).

## **8 Towers funded by UAS Fund**

### **8.1 Deemed Declarations**

The Act provides in Part VI for the declaration of wholesale services in circumstances where the particular wholesale service meets the competition and efficiency objectives set out in the Act. Once declared, the providers of the relevant wholesale services come under statutory obligations to make the service available to other licensed operators on a non-discriminatory basis.

The efficiency objective is concerned with promoting the economically efficient use of the facilities used to supply ICT services,<sup>6</sup> and requires consideration of whether access to the service is technically feasible, the legitimate commercial interests of the access provider, and the incentive for investment in the facilities concerned.<sup>7</sup>

The competition objective is concerned with the promotion of competition,<sup>8</sup> and with enabling competitors to access the inputs that they need to provide competitive services and choice in the market. The criteria for fulfilment of the competition objective include that access to the wholesale service in question is necessary for effective competition in at least one market other than the market for the wholesale service itself, and that the wholesale service is supplied in whole or in part via a facility that cannot feasibly be substituted via another facility, as a matter of commercial reality.<sup>9</sup>

There are two forms of declaration established by the Act, “deemed declarations” by direct provision of the Act itself and declaration by the Minister. Amongst the wholesale services that are deemed by the operation of the Act are “all facilities access services that may be supplied by means of any facility constructed under a Project Agreement for the life of that facility.”<sup>10</sup>

### **8.2 Project Agreements**

Project Agreements are the agreements that NICTA is required to execute with the successful bidder for a UAS Project,<sup>11</sup> and include a minimum set of provisions set out in the Act, including “such other matters as determined by NICTA”.<sup>12</sup>

### **8.3 Clauses required by NICTA in relation to UAS-funded Towers and**

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<sup>6</sup> Act, section 124(1)(b)

<sup>7</sup> Act, section 124(2)

<sup>8</sup> Act, section 124(1)(a)

<sup>9</sup> Act, section 128(b)

<sup>10</sup> Act, section 131(b)

<sup>11</sup> Act, section 115(1)

<sup>12</sup> Act, section 115(2)(d)

## Sites

NICTA has considered the clauses that should be included in the Project Agreements and also in the Request for Tenders that apply to Projects involving the establishment of towers and has determined that the following clause, or some variation of it adapted to the circumstances will be included in those cases:

### 48. Non-Exclusivity, Interconnection, Infrastructure Sharing<sup>13</sup>

48.1 The Contractor shall not have any exclusive rights to provide public telecommunications voice and data services within any of the locations to be served under this project.

48.2 The Contractor must permit interconnection of its network and services to all other public telecommunications networks and services, current or future. As provided in Section 115 of the National ICT Act 2009, the Contractor acknowledges its statutory obligation in Section 131(1) (b) to provide facilities access services in relation to any facility constructed as part of the Contract. In addition, the Contractor agrees that all services (including but not limited to interconnection and access services) provided by the Contractor in a region for which a subsidy is received under the Contract shall be treated for the life of any facilities subsidized under the Contract as if they were declared services under Part VI of the National ICT Act 2009. The Contractor must permit mobile services subscribers of any other operator licensed by NICTA to provide mobile telecommunications services in Papua New Guinea to have roaming service supplied by the facilities subject to this contract. The Contractor agrees to provide interconnection to support such roaming at a point of interconnection at the nearest feasible node in that operator's mobile network, and to transit voice and data traffic across its own network to and from that point of interconnection on fair and reasonable terms which shall be determined by NICTA if not agreed between the Contractor and the operator concerned.

48.3 The Contractor shall construct its network infrastructure and facilities to permit other licensed telecommunications operators to share access to such infrastructure on an equitable cost basis. This shall include making provision for installation and connection of additional equipment and facilities at the Contractor's installations, including any communications towers, base stations, and electric power systems.

Clause 48.3 makes it clear that site sharing includes the sharing of communications towers, base stations and electric power systems.

Sharing of towers and sites in remote areas without the means to connect to the rest of an operator licensee's network is of little use. For that reason Clause 48.2 above has been amended recently to make it clear that the access provider is required, if requested by the access seeker, to provide roaming service to the nearest feasible network node in the access seeker's mobile network.

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<sup>13</sup> Clause 48 in Project Agreement RFT for Greenfield Sites

## **9 Fair and Reasonable Terms and Conditions**

### **9.1 General**

The matter of fair and reasonable terms and conditions for access is a matter for commercial negotiation and agreement between the parties. There are two exceptions to this:

1. If access to towers and related facilities and services are wholesale services declared by the Minister under Section 130 of the Act; or
2. If the towers and related facilities and services are funded or part-funded from the UAS Fund as a UAS Project.

In the case of these exceptions failure of the parties to agree on terms and conditions of access could result in arbitration by NICTA.

Outlined below are some comments on the way NICTA would typically approach arbitration in such cases.

### **9.2 Charges for sharing UAS-funded Sites and Towers**

The standard clauses in UAS Project Agreements do not provide for the setting of facilities access charges or ancillary service charges, such as for roaming, in advance, or on a standardised or uniform basis. The policy of the Act is to enable commercial agreement between the parties in these circumstances, and only in the event of an access dispute, such as about the feasibility of access or over terms and conditions of access might NICTA become involved as an arbitrator. This is the “negotiate-arbitrate” model for access dispute resolution.

In the case of tower sharing and roaming arrangements there are additional reasons why it is inappropriate to establish charges ex ante:

- Towers and sites vary considerably and the costs of establishing and operating them are location-specific, and consequently sharing charges will vary to reflect these variations
- The payments to customary or other owners of land will vary considerably from place to place, and these costs will need to be reflected in access charges
- Where roaming capability is provided together with interconnection (or backhaul) to an agreed point of interconnection the costs will be dependent on the network resources used to provide the service, and these resources will depend on the interconnection provided

### **9.3 Principles for Arbitrating on Tower Sharing and Related Access Charges**

The Act does not specify the specific pricing principles that NICTA will employ when determining tower facilities sharing disputes that have been referred to it for arbitration. The general pricing principles that are outlined in Section 134 would apply to the extent that they are relevant to tower sharing. As a matter of principle charges will reflect cost and cost

causation and the following factors will be taken into consideration to the extent that the circumstances of the case warrant:

- (a) Where the facility is a tower:
- The capital cost of the tower and the cost of maintaining the tower in operating condition
  - The relative use of the tower's load-bearing capacity by the parties sharing the tower
  - Additional costs borne by the tower owner as a result of sharing the tower – costs that would not otherwise have arisen
  - The relative value of the height and positioning on the tower of the access provider's, access seeker's and third party (if any) equipment in the specific circumstances
  - The stand-alone cost of constructing a new tower on site
- (b) Where the ancillary services include power:
- The costs of installing and operating power generating and metering equipment
  - The existence of separate metering on site
  - The relative usage of all parties of shared power on site
  - The stand-alone costs of establishing a new on-site power generation or mains power connection
- (c) Where the ancillary services include road access:
- The existence of alternative road access
  - The costs of establishing and maintaining the road access provided by the access provider
  - The stand-alone costs of establishing a new road access to the site
- (d) Where the ancillary services include the roaming and backhaul:
- The total service long run incremental costs of using existing facilities on site for roaming
  - The total service long run incremental costs of using existing links for backhaul to a point of interconnection with the access seeker's network
  - The costs for interconnection with the access seeker's network elsewhere in PNG

## **9.4 Scope of Services**

The scope of services would depend on the terms of the declaration of the relevant wholesale services by the Minister in the case of a section 130 declaration, and on the scope of UAS Project and the contractual terms in the Project Agreement where there is full or part funding from the UAS Fund.

## **9.5 Contract Term (duration)**

The contract term is a matter for the parties in the first instance.

In the case of access to facilities that come within the terms of Ministerial declaration, NICTA would take into consideration factors that promote the competition and efficiency objectives set out in Part VI of the Act. Even a short term may be accepted provided that the access provider is not left with costs that cannot be recovered except over a longer term.

In the case of towers and ancillary services that have been funded from the UAS Fund as a UAS Project, the Act provides that the declaration applies for the life of the facility.<sup>14</sup>

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<sup>14</sup> Act. Section 131(1)(b)

## **10 Recording Information**

As already noted, there is no system in place that enables the recording of formal requests for sharing of facilities of any kind, including the sharing of towers and tower sites. At present information about specific access requests is anecdotal at best. This situation does not enable reliable conclusions to be drawn about the extent of and prospects for tower and site sharing of any kind.

To rectify the situation, NICTA will establish a register of Applications for Tower Sharing. All applications for tower sharing are to be registered by the licensed operator who is the access seeker. Appropriate records are to be retained by the parties to an application.

Having registered an application NICTA may then take follow-up action to require the intending access provider to provide information on how the application for access has been processed and resolved. This will be the case whether the application relates to a tower funded from the UAS Fund or not.

## **11 Model Application for Tower Sharing**

To assist the process of seeking access NICTA has developed a Model Application for access at Annex A to this Guideline which may be used by potential access seekers to seek access from tower owners. The purpose of the Model Application is to ensure that the information which may reasonably be sought by the access provider is included at the outset. The purpose of the Model Application is not to displace any application that the access seeker wishes to make or the form of such an application. Nor is it to suggest that additional information might not be required in some situations to facilitate the process.

## Annex A – Model Application for Tower and Site Sharing and related ancillary services

Applicant	[Applicant's company name]
Application to	[Tower owner's name]
Operator Licence Number	[Number]
Address for Correspondence	[Address for Correspondence –including an email address]
Contact details in relation to this application	[Name, Position, Phone contacts, email contact]
Tower Site	[Location Name and details of Latitude and Longitude and other detail enabling the site to be identified.]
Tower Access Required	<ul style="list-style-type: none"> <li>• [Number of antennas to be mounted]</li> <li>• [Antenna type and identification in each case]</li> <li>• [Antenna technical details, including radiofrequency details, relevant authorisations for use, etc]</li> <li>• [Position on tower]</li> </ul>
Date of Access	[From ..... To .....(or continuing for a term of years, etc)]
Power requirements	
Road access requirements	
Backhaul and interconnection requirements for roaming	<p>[Capacity of link required]</p> <p>[To point of interconnection located on applicant's site at.....(site location and other details)]</p> <p>[Dates and duration of backhaul and interconnection access, if different from dates of access to tower]</p>
Other comments	
Signed and dated	

**ANNEX B: DRAFT SERVICE-SPECIFIC PRICING  
PRINCIPLES FOR UAS-FUNDED TOWERS**

**SERVICE-SPECIFIC PRICING PRINCIPLES (ACCESS  
TO UNIVERSAL ACCESS AND SERVICE FUND FUNDED  
TELECOMMUNICATIONS TOWERS)  
DETERMINATION 2019**

*National Information and Communications Technology Act 2009*

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The NATIONAL INFORMATION AND COMMUNICATIONS TECHNOLOGY AUTHORITY makes this Determination under section 135 of the *National Information and Communications Technology Act 2009*.

Dated [DATE]

[Name]

[signature]

Member

*Charles Punaha*

[signature]

Member

National Information and Communications Technology Authority

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**PART I – PRELIMINARY**

**1 Name of Determination**

This Determination is the *Service-Specific Pricing Principles (Access to Universal Access and Service Fund Funded Telecommunications Towers) Determination 2019*.

**2 Commencement**

This Determination commences on the day it is notified in the National Gazette (*commencement date*).

### **3 Interpretation**

- (1) Subject to subsection (2), unless the context otherwise requires, terms used in this Determination have the same meaning as in the Act.
- (2) In this Determination, unless the context otherwise requires –
  - (a) “*Act*” means the *National Information and Communications Technology Act, 2009*;
  - (b) “*tower*” has the same meaning as given to “telecommunication transmission tower” in the Act;
  - (c) “*UAS*” means universal and access service.

### **4 Determination**

The National Information and Communications Technology Authority determines, pursuant to section 135 of the Act, that the service-specific pricing principles specified in Part II are to apply to the facilities access services that may be supplied by means of any facility constructed under a UAS project agreement, such services being deemed to be a declared service under paragraph 131(1)(b) of the Act and including all or any of the following services –

- (a) access to the site on which the tower has been erected;
- (b) access to on-site shelters and accommodation;
- (c) use of access roads to the site;
- (d) access to and use of on-site power; and
- (e) access to backhaul transmission to enable equipment installed on towers to inter-work with network equipment at other locations.

## **PART II – PRICING PRINCIPLES**

### **5 Price related terms and conditions**

- (1) Charges imposed on access seekers shall reflect the costs incurred by the access provider in providing the service, including a reasonable risk-adjusted return on the assets employed. Access charges should therefore reflect costs and cost causation.

- (2) Where the cost of capital is relevant to determining an access charge the cost of capital employed should be adjusted to reflect that the cost of funds provided from the universal access and service fund is zero.
- (3) Operating and maintenance costs shall be shared on the basis of the proportion of costs caused by each party – that is, by the access provider and the access seeker(s).
- (4) Operating and maintenance costs include costs incurred for payment of rent to customary owners, site security and protection, and other on-going costs directly attributable to each specific site. Indirect costs and overheads, such as the costs associated with the access provider’s headquarters operations and back office functions shall not be included without the express approval of NICTA.
- (5) Access charges may be once-only where costs are incurred in order to establish the access or to facilitate the access involved, and these costs may be recovered by the access provider from the access seeker.
- (6) Access charges may be on-going, reflecting the on-going access and use of the facility and related services. These charges may be imposed on an annual, quarterly, monthly or other periodic basis as the parties may agree, but they shall be, for the purposes of this Determination, calculated on an annual basis.
- (7) Depreciation components in access charges shall be calculated on the basis of the expected cost of replacement of the tower at the end of its economic life without any assumption that the replacement tower will be funded from the universal access and service fund at that time.

**6 Additional price related terms and conditions for access to towers and use of sites**

- (1) The once-only charge to the access seeker for access to a tower and use of a site should be based on the following formula –

$$OOAC = A + B$$

where:

- (a) *OOAC* is the Once Only Access Charge;
  - (b) *A* is the costs incurred by the access provider to prepare the tower and site to enable sharing and use by the access seeker; and
  - (c) *B* is the costs incurred by the access provider to relocate or alter its equipment on the tower or site to facilitate sharing by the access seeker.
- (2) The annual access charge to the access seeker for access to a tower and use of a site should be based on the following formula –

$$AAC = (WACC + D + OPEX) * SF$$

where:

- (a) *AAC* is the Annual Access Charge;
- (b) *WACC* is the weighted average cost of capital for the capital incurred in establishing the tower and site after adjustment for the UAS Fund contribution;
- (c) *D* is the annual depreciation to provide for replacement of the tower at the end of its economic life;
- (d) *OPEX* is the annual operating and maintenance cost directly attributable to the operation of the tower and site; and
- (e) *SF* is the sharing factor for the site and the tower which will be based on the proportion of the total utilised load bearing capacity of the tower used by the access seeker.

## **7 Additional price related terms and conditions for access to onsite shelters and accommodation**

- (1) An access charge applies if the access seeker requires shelter or accommodation for equipment in existing facilities operated by the access provider on the site.
- (2) The annual access charge should be determined using the following formula –

$$AAC = OPEX * SF$$

where:

- (a) *AAC* is the Annual Access Charge for each shelter or building used by the access seeker;
- (b) *OPEX* is the annual operating and maintenance cost directly attributable to each shelter or building used by the access seeker; and
- (c) *SF* is the sharing factor for each shelter or building which will be based on the proportion of the total utilised space in the shelter or building used by the access seeker, allowing for appropriate spacing between equipment for maintenance access and safety

## **8 Additional price related terms and conditions for use of access roads**

The annual access charge for the access seeker to make use of an access road should be determined using the following formula –

$$AAC = OPEX * SF$$

where:

- (a) *AAC* is the Annual Access Charge for use of the access road;
- (b) *OPEX* is the annual operating and maintenance cost directly attributable to keeping the access road in a usable condition, including payments of rent to customary landowners; and
- (c) *SF* is the sharing factor for the road which shall be based on likely usage, a proxy for which is the proportion of the total number of antennas that the access seeker has on the tower.

## **9 Additional price related terms and conditions for access to power**

If the access seeker is sharing power provided by or to the access provider then the following principles shall apply –

- (a) The charge to the access seeker should be based on metered usage at the rate per kilowatt hour payable or incurred by the access provider;
- (b) The cost of establishing separate metering shall be borne by the access seeker;
- (c) if the access seeker decides that the cost of establishing separate metering is out of proportion to the costs of power consumption at the site the access seeker may agree with the access provider on an alternative means of charging for its power usage based on the power usage rating of the manufacturer of the equipment it has on site.

## **10 Additional price related terms and conditions for access to backhaul transmission**

- (1) The costs associated with establishing points of interconnect on the site in question and at the remote network node shall be borne by the access seeker.
  - (2) The costs of using the backhaul transmission facility shall be based on a transit fee per unit of traffic (whether per Megabit or voice minute or both). If the parties have included such charges in a general interconnection agreement between them, in which case those charges shall apply.
  - (3) If there is no interconnection agreement between the parties covering backhaul then the parties may agree on a backhaul fee that is based on the total service long term incremental cost (TSLRIC) standard.
-