



DISCUSSION PAPER

**Public consultation on draft amended wholesale
pricing principles for broadband capacity
services, and international submarine cable
services**

Issued on 24 July 2020

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1 INTRODUCTION

- 1.1 On 18th February 2019, the Minister for Communications and Information Technology declared a number of wholesale services under section 130 of the *National Information and Communications Technology Act 2009 (the Act)* including the following:
- the international submarine cable transmission capacity service;
 - the international submarine cable gateway access service; and
 - the international submarine cable duct access service.
- 1.2 On 19th December 2019, following extensive consultation with stakeholders, NICTA gazetted a number of Determinations containing service-specific pricing principles, including Service-Specific Pricing Principles (Submarine Cable Services) Determination 2019, which relates to the three declared services mentioned above. The Determination came into effect on 1st January 2020.
- 1.3 The Determination included specific prices for only one of the three services, namely the international submarine cable transmission capacity service. NICTA assessed prices were based on the cost and demand associated with each of the four cable systems then operational or nearing completion, namely APNG-2, PPC-1, Kumul and Coral Sea Cable System (CS2).
- 1.4 In the period since 1st January 2020 NICTA has had access to better information than it had in 2019 on the costs of and demand for the international submarine cable transmission capacity service, as well as a fuller understanding than was possible in 2019 about the way in which the various submarine cable systems provide mutual back-up to enable the provision of a more robust and reliable service. For these reasons, NICTA proposes to amend the Determination insofar as it relates to this particular declared service. An amended Determination in draft form is enclosed as Annex A to this Discussion Paper pursuant to subsection 135(4) of the Act.

2 INVITATION TO MAKE WRITTEN SUBMISSIONS

- 2.1 NICTA invites interested parties to consider and comment on the amended draft determination. **Written submissions should be submitted via email to consultation.submsission@nicta.gov.pg and must be received by 4 pm on 24th August 2020.**
- 2.2 Copies of all submission received will be published on NICTA's Public Register consistent with the requirements on NICTA under subsection 229(3) of the Act. Additional procedural information is set out in NICTA's Guidelines on the submission of written comments to public consultations and public inquiries, which are available on NICTA Public Register (www.nicta.gov.pg). Any respondent that wishes to claim confidentiality over information that it submits as part of this consultation should follow the procedures described therein.

3 KEY ISSUES

3.2 The key issues, each of which is considered in turn below, are:

- a. Single price for all international submarine cable systems
- b. Maximum average price rather than maximum price
- c. Indicative prices
- d. Compliance
- e. Review
- f. Commencement Date

A. Single price for all international submarine cable systems

3.3 DataCo provides international capacity services in a manner that is contractually independent of the specific submarine cable system used to supply the service. This means that each of the four submarine cable systems that it operates provides back-up and mutual support for the service provided using the other systems. This makes for a more robust and reliable service overall, for the benefit of both DataCo as service provider and of the wholesale customers involved.

3.4 Therefore NICTA is now of the view that the service-specific pricing principles would be improved by combining the regulated prices into a single or common figure, rather than having separate prices based on the costs of and theoretical demand met on each of the four systems. The prices in Schedule 1 of the Determination have been amended to reflect this.

B. Maximum average price rather than maximum price

3.5 The current prices in Schedule 1 are expressed to be maximum amounts. On review, NICTA believes that this formulation does not allow sufficient room for DataCo, or any other provider of the wholesale service, to reflect the range of implicit volume discounts on a unit price (Mbps per month) basis that are normally encountered in commercial and regulated price schedules around the world.

3.6 If the current price was left as it is there are very real risks that the service provider (1) would be potentially exposed to unreasonable levels of arbitrage, which would provide unjustified economic rents to resellers; or (2) would be required to provide volume discounts at potentially unsustainable prices; or (3) a combination of these outcomes.

3.7 A maximum average price is a preferred formulation. However, there are consequences. With maximum price levels all parties and the regulator can immediately see whether a particular price is compliant or not. With maximum average prices over an extended period compliance can only be assessed at the end of the period when total revenues and demand have been reported and the calculation of an average has been carried out. Given the changing pattern of wholesale demand in PNG, it is inappropriate to couch the price regulation in terms of periods shorter than those provided for in Schedule 1. However, both NICTA and the service provider will

be in a position to assess progressive average levels throughout the relevant time period.

3.8 NICTA has considered whether or not it is necessary to make further regulatory arrangements to control the way in which price/volume ratios are generated by service providers, and by DataCo in particular, around the average amounts in Schedule 1. On balance NICTA has concluded that it is not necessary – at least at this stage - for the following reasons:

- NICTA will require DataCo to submit a Reference Interconnection Offer in relation to its price schedule this and other declared services. That RIO will be subject to the review and approval processes set out in the Act, and those processes, rather than Schedule 1 of the Determination will provide the opportunity for regulatory oversight of the detailed price schedule that is proposed to be adopted.
- The price/volume ratios incorporated in a price schedule from the service provider will be, to some extent, moderated by the realities of the market. If the price schedule is tilted too far in favour of volume discounts for large capacity purchases with high unit prices for low capacity purchases, then resale and arbitrage, as a corrective response, will be encouraged. If, on the other hand, the price schedule provides inadequate large capacity volume discounts, large capacity wholesale customers will tend to restrict purchases resulting in lower revenues than otherwise for the service provider. This is a problem, because in this high fixed cost enterprise, service providers have an interest in maximising revenue, not maximising price.

C. Indicative prices

3.9 Schedule 1 to the Determination covers four time periods. The first is the period from the Commencement of the amended Determination until 31st December 2020, and second, third and fourth are the calendar years after that. The prices for the second, third and fourth periods are indicative only. This means that the average prices for those years are based on current forecasts of cost and demand and are included for guidance only. A service provider is only subject to compliance in the first time period with the maximum average price. The prices for subsequent time periods will only cease being “indicative” once improved estimates of cost and actual demand is known for the preceding time period, at which time forecasts can be reviewed as well.

3.10 What then is the value of including “indicative” prices in Schedule 1? They have a number of roles:

- They reflect the expectation based on best available information of the way that unit costs (and therefore wholesale unit prices) will trend having regard to forecasts of changes in cost and demand. The four submarine cable systems, in aggregate, have substantial potential to handle higher transmission volumes without commensurate increases in cost. Global demand for broadband capacity is growing strongly year on year driven by end-user increases in data-

intensive applications. This will increasingly apply to PNG as a result of greater penetration of appropriate customer premise equipment and handheld devices and as capacity constraints are removed.

- Service providers and wholesale customers may wish to have some guidance about the expected average unit price for capacity services that might occur in future years. This could be important for both business planning and for negotiating price clauses in service contracts that extend beyond the first period in Schedule 1.

D. Compliance

- 3.11 As already stated in paragraph 3.7 above, compliance relates only to the first time period in Schedule 1 and can only be definitely assessed at the end of that period once relevant revenues and wholesale demand is known. In each time period the compliance obligation will be to have average prices for the whole period that do not exceed the maximum for that period. However, compliance does not relate to any amount in Schedule 1 marked as “indicative”.
- 3.12 NICTA considers that the demand pattern for the declared service will be volatile and changing, certainly in the next few years. As a result, any shorter time periods for compliance than those shown in Schedule 1 will be inappropriate. However, it is open to providers of the declared service and NICTA to monitor unit prices on a progressive basis during each time period. This will be necessary for service providers because compliance is based on an average over the whole of the time period, not at a point in time at the end of that period.

E. Review

- 3.13 It will be necessary to review the Determination and Schedule 1 in particular as soon as possible after 31st December 2020 when costs and demand for 2020 are known and when forecasts of costs and demand for future time periods can be reviewed and amended as required. At that stage the maximum average price per Mbps per month for calendar 2021 can be determined and it will cease being indicative only.

F. Commencement Date

- 3.14 The draft Determination at Annex A shows the Commencement Date as 1st September 2020. This date is prospective and appears to be achievable after allowing for the current consultation period. However, there are other possibilities stakeholders may wish to consider, and NICTA invites comment on whether other dates might be preferred and, if so, the reasons why.

ANNEX A: DRAFT AMENDED PRICING PRINCIPLES FOR THE INTERNATIONAL SUBMARINE CABLE SERVICES

DRAFT

**SERVICE-SPECIFIC PRICING PRINCIPLES
(SUBMARINE CABLE SERVICES)
DETERMINATION 2019 as amended**

National Information and Communications Technology Act 2009

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

PART I – PRELIMINARY

1 Name of Determination

This Determination is the *Service-Specific Pricing Principles (Submarine Cable Services) Determination 2019 as amended*.

2 Commencement

This Determination commences on the 1st September 2020 (*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) “**maximum average price**” means the maximum weighted average price that an access provider may charge in total for the submarine cable transmission capacity service during the period in which the maximum price applies.
 - (c) “**physical colocation**” means a point of between the access seeker’s network and the access provider’s network that is located inside a cable landing station;
 - (d) “**submarine cable service**” means –
 - (i) an international submarine cable transmission capacity service;
 - (ii) an international submarine cable gateway access service; and/or
 - (iii) an international submarine cable duct access service.
 - (e) “**virtual colocation**” means a point of interconnection between the access seeker’s network and the access provider’s network that is located outside the cable landing station, and may be notionally part-way along a physical link. This location may be adjacent to the station or at a reasonably distant location, depending on the options available. In this case, the access seeker's equipment is connected to the cable landing station by a link between the virtual colocation point and the cable landing station.

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 following services declared by the Minister under section 130 of the Act –

- (a) the international submarine cable transmission capacity service;
- (b) the international submarine cable gateway access service;
- (c) the international submarine cable duct access service.

PART II – PRICING PRINCIPLES

Division 1 – Submarine cable services

5 Price related terms and conditions for the submarine cable services

- (1) A total service long run incremental cost (TSLRIC+) analysis or a fully allocated cost (FAC) analysis is an appropriate costing methodology to inform NICTA of the efficient costs of supplying a submarine cable service.
- (2) To determine the efficient costs of supplying a submarine cable service, NICTA may (without limitation) do any of the following –
 - (a) use one or more cost models that have been prepared by or for –
 - (i) NICTA;
 - (ii) an access provider; and/or
 - (iii) an access seeker,that have been made available to and accepted by NICTA for this purpose;
 - (b) adjust the actual costs claimed by an access provider or access seeker to reflect –
 - (i) productive efficiencies available in the operations of the access provider;
 - (ii) scale and scope efficiencies available to the access provider; and
 - (iii) other efficiencies available to the access provider,that should, in NICTA’s opinion, be shared with access seekers;
 - (c) determine the economic life of the assets employed in the supply of the service based on –
 - (i) the practice of the access provider in the use and replacement of similar assets in Papua New Guinea;
 - (ii) the economic lives accorded to similar assets by other regulatory authorities in other countries; and/or
 - (iii) the practices of other network operators in the use and replacement of similar assets in Papua New Guinea and other countries;
 - (d) determine a reasonable return on the access provider’s investment over the economic life of the assets employed in the supply of the service taking into

account any concessionary donor or similar finance and based on the actual risks and returns accepted by providers of debt and equity capital to –

- (i) the access provider; and/or
 - (ii) other network operators providing equivalent services in Papua New Guinea or in other countries that, in NICTA's opinion, are reasonably similar to Papua New Guinea; and
- (e) determine the efficiencies that shall be taken into account having regard to –
- (i) information provided by the access provider in relation to its own costs and potential efficiencies;
 - (ii) information provided by other operator licensees in relation to their costs and potential efficiencies in Papua New Guinea; and/or
 - (iii) benchmarked information from countries that, in NICTA's opinion, are reasonably similar to Papua New Guinea; and
- (f) take into consideration relevant international benchmarking studies to the extent that doing so is consistent with the Act and to Section 134 in particular, both for the purposes of final arbitration of disputes relating to wholesale access and for interim determinations under Section 146.

Division 2 – International submarine cable transmission capacity service

6 Additional price related terms and conditions for the international submarine cable transmission capacity service

- (1) The price of the international submarine cable transmission capacity services may be different in terms of the price per megabit per second for services of different transmission capacities provided (1) that the extent of any such difference in price shall be no more than is reasonably warranted by the cost of providing service and/or accepted price differentials in accordance with common international practice; and (2) that any such prices are included in a Reference Interconnection Offer that has been accepted by NICTA pursuant to Section 142 of the Act.
- (2) The maximum average price per megabit per second per month for the supply of the international submarine cable transmission capacity service is specified in Schedule 1 in relation to each period set out in that Schedule.
- (3) For the purposes of assessment of compliance with this Determination the weighted average price chargeable for the international submarine cable transmission capacity services shall be determined using the following method:

- (a) For each wholesale customer (access seeker) the capacity (in Mbps) that has been sold for the relevant period shall be determined;
 - (b) For each wholesale customer the chargeable revenue attributable to the capacity in sub-paragraph (a) in Kina shall be determined;
 - (c) The aggregate of all capacity to all wholesale customers during the period shall be calculated;
 - (d) The aggregate of all chargeable revenue amounts for all wholesale customers attributable to the capacity total in sub-paragraph (c) shall be calculated;
 - (e) The weighted average price for the period in terms of Kina per Mbps per month shall be calculated by dividing the figure in sub-paragraph (d) by the figure in sub-paragraph (c) and then further dividing that amount by the number of months in the period.
 - (f) if the amount calculated in sub-paragraph (e) is equal to or below the maximum average price for the period in Schedule 1, there shall be compliance, otherwise not.
- (4) It shall be the responsibility of the wholesale service provider to provide NICTA with the information, especially the price charged and capacity sold to each access seeker(s), required to undertake the calculation described in paragraph (3) within 30 days of the completion of the period in question.
- (5) If NICTA requests in writing, the wholesale service provider shall provide NICTA with the information set out in paragraph (4) on a monthly basis for so long as NICTA may require. NICTA may also seek at any time the details of individual new and existing customers should verification of data be required.

Division 3 – International submarine cable gateway access service

7 Non-price terms and conditions for the international submarine cable gateway access service

- (1) Subject to availability of suitable accommodation and supporting facilities, the choice between physical colocation and virtual colocation as part of the international submarine cable gateway access service shall be determined by the access seeker.
- (2) An access provider shall ensure that all collocated equipment that is controlled by the access provider has adequate separation from other facilities to ensure safety of plant and personnel. An access provider may charge the access seeker to recover the cost of such separation.

SCHEDULE 1 – MAXIMUM AVERAGE PRICES

The maximum average price for the international submarine cable transmission capacity on a lease basis for each year covered by this Determination shall be –

Time period	All international submarine cable systems Kina per Mbps per month
Commencement Date to 31 st December 2020	K 209
1 st January 2021 to 31 st December 2021	K 198 (indicative)
1 st January 2022 to 31 st December 2022	K 145 (indicative)
1 st January 2023 to 31 st December 2023	K 104 (indicative)

Notes:

- 1: The maximum average prices are for all international submarine cable systems, specifically APNG-2, PPC-1, Kumul (insofar as it is used for international capacity services) and Coral Sea Cable Systems.
- 2: Maximum average price amounts for the annual periods from 1st January 2021 are indicative only. NICTA will review each of the amounts shown as soon as possible during Q1 of the period to which it relates taking into account all relevant considerations including actual demand for the service in the previous period. The first review will take place as soon as possible in Q1 of 2021.
3. A mandatory review of the maximum average prices shall be undertaken in Q1 of 2022.