



RESPONSE TO COMMENTS REPORT

Public inquiry into the potential declaration of certain wholesale services in international connectivity markets

7th December 2012

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1 INTRODUCTION

In September 2012, NICTA published a discussion paper as part of its public inquiry regarding the potential declaration of certain wholesale services in international connectivity markets. Written submissions were received from:

- Digicel (PNG) Limited (Digicel);
- Telikom PNG Limited (Telikom);
- Telstra International (PNG) Limited (Telstra); and
- Mr Wully Ronald, a private citizen.

Those submissions were made available on NICTA's public register and supplementary submissions addressing some of the issues therein raised were received from:

- Telikom.

This report provides a summary of some of the comments and issues that were raised through these public consultations and NICTA staff's response to them. In general the consultation process has confirmed the proposed conclusions that NICTA staff identified in the discussion paper.

At Annex A is a draft recommendation to the Minister for the purposes of section 129 of the *National Information and Communications Technology Act 2009* (the Act) which reflects NICTA staff's views following the consideration of public consultation comments. NICTA invites interested parties to submit written comments on that draft recommendation by 4pm Monday 17th December 2012.

It is a matter for parties to determine the written comments they might wish to make, if any, on the draft recommendation. However NICTA staff would encourage parties to limit themselves to new material that they have not previously submitted, on the firm understanding that NICTA staff have carefully considered all materials and submissions provided to it to date.

2 OVERVIEW OF THE COMMENTS RECEIVED AND NICTA STAFF'S RESPONSE

The table below provides a summary of NICTA staff's response to some of the more significant comments made by respondents to the discussion paper. It is a summary and is not an exhaustive and detailed description of the issues raised or considered by NICTA staff. NICTA staffs have considered all submissions and the factual and legal points made by all respondents. The omission from the table below of one or more of the many matters raised by any of the respondents does not mean that NICTA staff failed to consider or take account of such matters.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
1	Telikom	Basis of the inquiry p.3	<p>'It seems that NICTA invokes subsection (2) of Section 127 as there is no evidence to fulfill the requirements of subsections (1) or (3) of Section 127. NICTA has to establish from the outset that this Public Inquiry has been authorized by NICTA, as that acronym is defined by the Act, through a duly constituted meeting of NICTA Members.</p> <p>Consequently, Telikom PNG submits:-</p> <ol style="list-style-type: none"> 1. that there is no legal basis for NICTA staff to initiate Public Inquiries under the Act; and 2. that unless NICTA establishes that this Public Inquiry has been duly authorized by NICTA, as that acronym is defined by the Act, through a duly constituted meeting of NICTA Members, this Public Inquiry must not be pursued; and 3. that since the process allowing for this Public Inquiry to be held commenced prior of 1st July 2012, which is contrary to Section 132 of the Act, this Public Inquiry is held contrary to the Act.' 	<p>As stated clearly in the discussion paper (e.g. on page 1 and in the inquiry terms of reference provided at Annex A to the discussion paper), the decision to initiate the public inquiry was made by NICTA. That decision was made pursuant to subsection 127(2) of the Act. NICTA instructed NICTA staff to prepare a discussion paper as required under section 232 of the Act. That discussion paper was published by, and with the authorization of, NICTA. That discussion paper reflects the analysis and views of NICTA staff because NICTA has not yet formed its view on the matters under inquiry and will not do so without first considering the comments and evidence submitted by stakeholders in response to the discussion paper.</p>
2	Telikom	Basis of the inquiry p.2-3	<p>'NICTA has commenced the inquiry into the need for declaration of certain services in international connectivity markets well before the 1st of July 2012, date in direct contradiction to the directives of section 132 (1) of the Act...section 132 clearly states that the declaration of services listed under it will not be considered before 1st July 2012, that is, it will consider [sic] declaration until that date or after this has also been highlighted in the discussion paper. Telikom PNG points out that the Public Inquiry on the subject matter commenced in May 2012, two months prior to the date that entitled NICTA to commence the process for declaration.'</p>	<p>Telikom is incorrect. Section 132 of the Act does not impose any obligations or constraints on NICTA. Subsection 132(1) states that: 'The Minister shall not declare the whole or any part of any of the following wholesale services under Section 130 before 1 July 2012 – (a) access to international gateway facilities; and (b) access to capacity on international communications cables; and (c) Access to capacity on international communications satellite links.'</p> <p>The Minister did not do so. NICTA did not recommend that he do so. Section 132 of the Act does not prevent either NICTA inquiring into the potential declaration of those services, or recommending (before 1 July 2012) that any of those services be declared (after 1 July 2012).</p>
3	Telikom	Basis of the inquiry p.3	<p>'NICTA is well within its rights to conduct an inquiry on the subject matter.'</p>	<p>Noted and agreed. However, this statement by Telikom appears to contradict Telikom's statement in 2 above that the commencement of the inquiry is in 'direct contravention' of the Act.</p>
4	Telikom	Basis of the inquiry p.2	<p>'Telikom PNG disagrees with NICTA staff's sole reliance on section 132 (1) using section 127 (2) (a) of [the Act] as reason</p>	<p>NICTA has not relied solely or otherwise on subsection 132(1) of the Act to initiate the present inquiry. It is clear from subsection 132(1) that the Act envisages the potential</p>

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			for the inquiry and as basis for staging this inquiry into the possible declaration of certain wholesale services in international connectivity markets in PNG.'	declaration of those specific services any time after 1 st July 2012. However, NICTA prioritised the international connectivity markets for analysis because problems there have the potential to constitute a bottleneck to effective competition developing in many different downstream wholesale and retail markets.
5	Telikom	General p.3	'Telikom PNG is concerned with the tone of the Inquiry as it has been subjected to scrutiny that is both harsh and oppressive in such that the inquiry being conducted is more to that of a complaint being laid against it and not of an inquiry that is being conducted on the basis of an exempted service that has expired under the Act and is subject to consideration as a declared service.'	NICTA staff disagrees and do not believe there is any reasonable basis for Telikom's concerns. NICTA staff also note that Telikom does not identify any specific examples or concerns.
6	Telikom	Basis of the inquiry p.2	'Telikom PNG notes that NICTA through its licensing arrangement has already declared wholesale services in that the licensing is technology neutral thereby allowing any interested operator/investor the freedom to choose the medium of providing such wholesale services.'	The operator licensing regime under Part III of the Act is separate from the wholesale access regime under Part VI of the Act. The licensing regime is not linked to the declaration of any wholesale services. NICTA has to date not recommended any wholesale services to the Minister for declaration under section 130 of the Act. There are currently only two declared services (both of which were deemed to have been declared by section 131), namely the Domestic Fixed Terminating Access Service and the Domestic Mobile Terminating Access Service.
7	Telikom	General p.3	'Telikom PNG finds no supporting evidence within the discussion paper to substantiate NICTA's overall claim that due to Telikom PNG's dominant SMP an abuse has resulted creating obstacles to competition.'	NICTA staff does not suggest in the discussion paper that an abuse of Telikom's SMP has occurred. The proposed service declarations are not being considered as punishment for any past action (that is the function of ex post regulation, which is not in contemplation here). NICTA staffs have found that Telikom has SMP in the market for wholesale capacity on, and access to, international fibre optics submarine cables. NICTA staffs have further concluded that, given the sources of Telikom's SMP, Telikom has both the commercial incentive and ability to use that SMP in a manner that would be very damaging to competition in that market and in various downstream wholesale and retail markets. (Note: to use SMP is to abuse it.) Accordingly, ex ante regulation in the form of the proposed service declarations is being considered as a means of mitigating those risks to the development of effective competition.
8	Telikom	General p.4	'Telikom PNG would like to state that it invested in submarine optic cable international access in 2009. This is a substantial investment by Telikom PNG.'	Noted. However, the relevance of those points to the matters under inquiry is unclear. Telikom has failed to say what point it is making.
9	Telikom	Market definition— submarine cable capacity market pp.5,12	'Telikom PNG does not agree with the conclusion drawn by NICTA [staff] in its identification of the relevant focal point as "wholesale capacity on, and access to, international fiber-optic submarine cables".' 'Telikom PNG disagrees with [NICTA staff's] conclusion that the relevant market is the national market for wholesale capacity on, and access to, international fiber-optic submarine cables...The current scenario where the wholesale international market is at, being a newly introduced market possess practical difficulties in the prediction of demand conditions, prediction of market entries including prediction of supply conditions, and we are of the view that we have a market that is new and dazzled in its novelty status, thus making the criteria for identification of the relevant	The focal product is the starting point for the market analysis process and should be the most narrowly-defined product set that is obviously in the defined market. The proposed focal product (wholesale capacity on, and access to, international fibre-optic submarine cables) was the appropriate starting point for the subsequent analysis. The criteria for the definition of the relevant market remain relevant and are commonly accepted internationally. Neither the criteria nor their application are altered by any perceived "dazzling novelty" of the market for submarine cable access. As was recognised by Telstra in its submission (at p.5), section 132 of the Act has already pre-determined that a relevant service is 'access to capacity on international communications cables' and Part VI of the Act only applies to supply by an operator licensee in PNG to other operator licensees in PNG, so by definition envisages the supply of such access between operator licensees on a wholesale basis. Thus the Act itself suggests that the relevant market is the national market for wholesale capacity on, and access to, international fiber-

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			market for the purpose of this inquiry strictly non-relevant and premature...'	optic submarine cables. NICTA staff note that Telikom did not propose an alternative definition of the relevant market.
10	Telikom	Market definition— submarine cable capacity market p.6	'It seems NICTA had not done enough researches [sic] into the subject matter to conclude that it is not aware of any plans for a third submarine cable to be landed in PNG. The fact that there is a spare Branching Unit (BU) at Alotau is evidence enough that plans have been conceived for a third landing at Port Moresby ...The contractual agreements between Telikom PNG and Pipe Networks of Australia had initially given Telikom PNG a three (3) year exclusive rights claim to the BU at Alotau and the three year period had come to an end as of June this year, opening up the BU for any licensed cable operator to consider. It is also to be noted that Telikom has the right to re-negotiate for extension of the exclusive rights period to suit its business.'	NICTA staffs are aware of the unused branching unit (BU#3) on PPC-1. In fact NICTA staff specifically asked Telikom about that branching unit in the data request that preceded the discussion paper. (In response to NICTA's staff request for an 'explanation of the reservation of the additional branch [on PPC-1] for future landing in Port Moresby and the circumstances that would trigger or justify such an expansion', Telikom responded 'No idea'.) The inclusion of the additional branching unit on the PPC-1 cable by Pipe Networks allows for future expansion; it does not constitute evidence of plans to establish a third landing point (or a second landing point for that particular submarine cable) in PNG.
11	Telikom	Market definition— submarine cable capacity market p.6	'CLS facilities currently owned by Telikom, considered appropriate for landing of a spur from the Alotau BU are in existence in the Port Moresby (CLS) Ela Beach Exchange hosting the APNG-2 cable landing terminal equipment. Options for landing of spurs from the Alotau BU however are not limited to the Ela Beach CLS alone but can also be landed at Alotau. Just as Telikom PNG CLS facilities are available for collocation and or co-sitting purposes at Port Moresby, it is also conceivable that the Telikom PNG Madang CLS is also available for the same purposes for other local operators who may want to enter and compete in the wholesale market.'	Telikom's preparedness to supply collocation and co-sitting services in both its cable landing stations is noted. However, Telikom does not comment on the terms and conditions under which Telikom is prepared to supply such services. A key consequence of a service being declared under Part VI of the Act is that its supply would become subject to the non-discrimination obligations in section 136 of the Act. This helps to ensure that competition occurs on a level playing field. In addition, the pricing of a declared service must be consistent with the General Pricing Principles specified in section 134 of the Act and any Service Specific Pricing Principles determine by NICTA.
12	Telikom	Market definition— submarine cable capacity market p.6	'Like the Madang cable landing station, adequate spacing is also available at the Ela Beach cable landing station for any co-location arrangements with other local operators.'	Noted.
13	Telikom	Market definition— submarine cable capacity market p.6	'Cost Barriers to Entry [have been] Eradicated. NICTA also claims that "in any case substantial investment would be required to land a third submarine cable in PNG and the lead time for such an endeavor would be well over one year". These claims by NICTA need to be qualified or they will not be taken seriously as contributing criteria for defining the relevant market.'	Telikom is incorrect to state that the costs of establishing oneself as a supplier in the national market for wholesale capacity on, and access to, international fibre-optic submarine cables have been 'eradicated'. Cost barriers remain and remain high. The absolute size of those barriers (i.e. the size of the investment necessary to entry the market, either by establishing a new landing for an existing cable or deploying an entire new submarine cable system) may have reduced over recent years just as most telecom-related network costs have. However, the costs remain high in absolute terms and in relative terms compared to other major telecommunications investments in PNG. With the exception of Telikom, it is generally accepted that investment in submarine cable facilities requires a substantial investment and lead times of multiple years. (Although NICTA staff note that Telikom's claims are effectively contradicted by its statements quoted in 8 above in which Telikom describes its investment in the lease of the Madang spur and construction of its Madang CLS as being 'substantial'.) By way of example, the PPC-1 cable system cost approximately US\$200 million and took two years to introduce (from concept to launch). NICTA staff estimate the cost of laying a 1,000 kilometre submarine cable from PPC-1 BU#3 in Alotau to Port Moresby to be in the vicinity of US\$30–35 million.

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				NICTA staff note that Telikom did not provide any evidence to support its claim that the costs of entry have either decreased or been 'eradicated'.
14	Telikom	Market definition—submarine cable capacity market p.7	'Currently, a number of point-to-point submarine cable projects are being planned for installation in the next five years or so to connect a number of smaller Pacific Islands to access the Southern Cross cable at Fiji...[A World Bank report says that] "PNG benefits from a similar position to Fiji...PNG is more likely to provide bandwidth to neighboring countries than benefit from their infrastructure"...The statement by the World Bank study places PNG in a very favorable position to market and sell international wholesale capacity to the neighboring Solomons and Vanuatu. Thus the market scenario for international wholesale capacity is there for the taking in PNG.'	Telikom is presumably referring to the point-to-point cable projects that are currently underway in: <ul style="list-style-type: none"> • Solomon Islands (US\$78m to link directly into a new BU#5 on PPC-1); • Tonga (US\$33m to link to the Southern Cross Cable Network (SCCN) at the existing CLS in Fiji); and • Vanuatu (US\$30m to link to the SCCN at the existing CLS in Fiji). NICTA staffs agree with the comment in the World Bank study quoted by Telikom that PNG has the potential to benefit from its direct connection to the PPC-1 submarine cable and that access to that cable system could be supplied to neighbouring countries. It is thus interesting that all three of these projects (and Solomons Islands in particular) preferred to bypass access to PPC-1 via Telikom's CLS in Madang or to link instead to the SCCN in Fiji. NICTA staff note that FINTEL's supply of access in Fiji to capacity on the SCCN, and the wholesale prices that it may charge, are regulated by the Fiji Commerce Commission. ¹ In any event, this does not provide any evidence in support of Telikom's claims that entry into the national market for wholesale capacity on and access to, international fibre-optic submarine cables is imminent or economic.
15	Telikom	Market definition—submarine cable capacity market p.8	'NICTA should encourage competition in the roll-out of extra international wholesale capacity taking advantage of the PPC-1 cable, then [sic] focusing on regulating the current international wholesale capacity market currently being developed by Telikom PNG.'	Based on information supplied by Telikom to NICTA staff in response to a data request, and as published (with Telikom's consent) in the discussion paper (at page 11), Telikom currently utilises only 4% of the total capacity that it leases on the PPC-1. (The available capacity on the APNG-2 cable is fully utilised however, about 47% of total capacity is not available due to technical reasons). Accordingly, the total existing capacity in the national market for wholesale capacity on and access to, international fibre-optic submarine cables is substantially underutilised. Under-utilisation of major infrastructural assets such as these is an important consideration to take into account when considering the efficiency objective in sections 124 and 128 of the Act. In addition, a glut of capacity is inconsistent with Telikom's unsupported assertion that there are a number of potential entrants waiting to enter the market or that they will do so imminently.
16	Telikom	Market definition—submarine cable capacity market p.9	'What is the likelihood of the DMO [Dominant Mobile Operator, i.e. Digicel] developing its own international wholesale capacity market for its own use and also for competition, we may ask?'	Based on Digicel's statements in its submission to this inquiry, there is no likelihood of that happening. Digicel states (on pages 8–9 of its submission) 'The capital and operational costs of deploying a new submarine cable in PNG within a five year period are...prohibitively expensive'. Submarine cable investments by a Digicel parent company in Haiti (which Telikom refers to on page 9 as evidence of 'imminent' market entry by Digicel in PNG) are irrelevant and do not provide any such evidence.
17	Telikom	Market definition—submarine cable capacity market p.10	'Telikom PNG had invested heavily in the PPC-1 cable and needs time to re-coup its investment. If there is ever going to be a likelihood of perceived monopoly, natural competition in the wholesale market will be a welcomed intervention as opposed to	This statement by Telikom appears to suggest that Telikom recognises that it has a monopoly in the national market for wholesale capacity on, and access to, international fibre optics submarine cables but that it needs that monopoly in order to enable it to recoup its investment. Further, competition is the better remedy to monopoly than regulation.

¹See *Price and Access Determination for Southern Cross Capacity & Network: Final Determination*, 4th June 2010

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			static regulation.'	<p>Declaration of a service does not prevent the recovery of an investment or the earning of a return on an investment. One of the General Pricing Principles is the cost recovery principle (s.134 (1) (a)) which provides that price of access to a declared service should 'be set so as to generate expected revenue from that declared service that is sufficient to meet the efficient costs of providing access to that declared service; and include a reasonable return on investment, over the economic life of the assets employed, commensurate with the regulatory and commercial risks involved.'</p> <p>NICTA staffs agree that competition is preferable to regulation. However, in the matter under inquiry, NICTA staffs consider that a particular type of regulation is necessary to enable a degree of competition in a number of markets.</p> <p>The particular type of regulation being considered is not 'static'. Declaration of a service subjects the supply of that service to certain principles in the form of the statutory non-discrimination obligations and the General Pricing Principles. The terms and conditions on which declared services are supplied must be consistent with those principles but otherwise they are as agreed bilaterally between the parties concerned, unless an agreement is not possible and NICTA is required to arbitrate an agreement. Consequently, the parties to the agreement have control over how static the supply arrangements are.</p> <p>As intended by the Act, NICTA staffs are concerned with the standard of effective competition, not 'natural competition', which has no clear or certain meaning.</p>
18	Telikom	Market definition—submarine cable capacity market p.10	'The over ruling of satellite capacity as alternative and substitutable for submarine optical fiber capacity is an understatement as more than 50% of all current commercial international links in PNG are via satellite.'	The statistic quoted by Telikom is misleading. Satellite links have been used by a range of organisations with relatively small capacity requirements. In the past, before the PPC-1 was commissioned other licensed operators had no choice but to use satellite for major carrier transmission purposes. There is some lower-capacity substitution that is possible for carriers using satellite, but international experience makes it very clear that substitutability is limited and that high speed and high capacity operations require cable technologies. Telikom's own experience and preferences contradict its claims. It is consistent with the conclusions adopted by NICTA staff that satellite remains as a transmission medium to the extent that it does in PNG because of impediments to sub-sea cable access via Telikom.
19	Telikom	Market definition—submarine cable capacity market p.10-11	'It is very clear that a direct substitution of satellite capacity of the optical-fiber capacity is not possible; however its use as alternative substitution capacity for scalable networks is one that can be considered within the scope of relevance to this inquiry, considering that PNG is a least [sic] LDC [least developed country] with moderate capacity needs.'	<p>Telikom claims here that access to satellite capacity is substitutability with access to capacity on submarine cables to such a degree that the two services exist in a single market is contradicted by Telikom later statement (at 86 below) that 'there is a national market for wholesale access to capacity on international communications satellites'. Access to satellite capacity cannot comprise its own market and at the same time be substitutable for access to capacity on submarine cables to such a degree that it also forms part of the latter market. It must be either one of the other.</p> <p>NICTA staff note that with the exception of Telikom, all other respondents to the discussion paper agreed with NICTA staff's conclusion that access to satellite capacity was not substitutable with access to international submarine cables to such an extent that the two comprised a single market. (NICTA staff note that at 91below, Telikom implicitly expresses a</p>

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				similar view.) NICTA staff's conclusion is consistent with the findings of regulators in other least developed countries in similar market analysis exercises, such as Bangladesh ² and Liberia, ³ both of which are officially categorised ⁴ as least developed countries (unlike PNG). The same conclusion has also been reached by the national regulatory authorities in many other countries including Bahrain, ⁵ Colombia ⁶ and Singapore. ⁷
20	Mr Ronald	Market definition—submarine cable capacity market p.1	'I agree that the relevant market is the national market for wholesale capacity on, and access to, international fibre optics submarine cables strictly on the condition that another Gateway licensee hooks up a new Madang Gateway Switch via PIPE optical fibre in Madang to take up traffic from subcontinent of North and South America including Europe, Asia and Africa. Service seekers have a choice between two gateway Operators, Telikom and a competitor (Licensee).'	The definition of a market for economic regulatory purposes is dependent on product, customer and geographic dimensions. To the same effect is the concept of market definition as the boundary of supply-side and demand-side substitution. It is not related to whether there are current or future competitors in the market. NICTA staff note that one potential outcome of the current inquiry process is that collocation in Telikom's CLS in Madang will be subject to the non-discrimination obligations and General Pricing Principles specified in the Act, which will create a more level playing field when it comes to accessing international fibre optic submarine cables or capacity on them.
21	Mr Ronald	Market definition—submarine cable capacity market p.1	'There are unused capacity on Madang PIPE (and Ela APNG2), NICTA needs to be sensitive to Telikom's needs/plans and in this case to discuss on 1-to-1 with Telikom to gauge their needs for 3-5 years growth and allocation of bandwidth for their need first and immediate needs for current trend of technology IP based and their migration into NGN. I believe Telikom just like any Operators in PNG have plans and are currently into progress in these areas of IP. The rest of the unused capacities Telikom can lease out.'	Based on the information provided by Telikom to NICTA staff, there is substantial unused capacity on the PPC-1 spur, whereas the APNG2 is highly utilised. (See 15 above.) Declaration of a service does not prevent the access provider from maximising its own use of the service or the facilities used to supply it. Subsection 136(4) of the Act specifically provides that the non-discrimination obligations would not apply (despite a declaration) if they would have the effect of '...preventing an operator licensee who already has a contractual right of access to the declared service from obtaining a sufficient amount of the declared service to be able to meet the operator licensee's reasonably anticipated requirements...or preventing the access provider from obtaining a sufficient amount of the declared service to be able to meet the access provider's reasonably anticipated requirements...'
22	Mr Ronald	Market definition—submarine cable capacity market p.1	'The long term solution to cater for growth as well [as] effective and fair competition is for NICTA to promote PNG market potential abroad in the international front and draw investors into the country. A new Gateway facility and landing of another submarine optical fibre preferably between LAE and Singapore to take up the Asian market is a must. This should be implemented within the next 5 years.'	This is something that NICTA could facilitate (e.g. though the grant of the necessary licences) but it is not NICTA's role or function to promote or engineer such an outcome. Any such market entry would be the result of market forces. If it is 'a must' as Telikom says then undoubtedly the market will respond, if it sees the opportunity the same way.
23	Telikom	Market definition—submarine cable	'The World Bank report also states that there is "Little or no competition because the Telikom PNG monopoly is reinforced by law on all services except for mobile voice" The onus is on	The ICT sector has been liberalised by the Government since that report was published. NICTA has a statutory responsibility to apply appropriate ex ante regulatory measures to promote effective competition in markets that are not competitive. NICTA staffs have found

²International Telecommunication Union (2005), *Report to the Bangladesh Telecommunications Regulatory Commission (BTRC) on Significant Market Power*

³Liberia Telecommunications Authority (2001), *Public Consultation Document on the Licensing of the Cable Consortium of Liberia*

⁴See United Nation's Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLS) current list of least developed countries at www.unohrls.org/en/ldc/25/

⁵Telecommunications Regulatory Authority (2012) *Dominance determination for wholesale international services: draft determination*

⁶Commission de Régulation de Communications (2009), *Résolution no. 2065*

⁷IDA (2005), *Explanatory Memorandum to the Decision of the Info-communications Development Authority of Singapore on the Request by Singapore Telecommunications Limited for Exemption from Dominant License Obligations with respect to the 'International Capacity Services' Market*, paragraph 46

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		capacity market p.11	NICTA to liberalize the PNG market and not subject it to stringent market regulation.'	that the national market for wholesale capacity on, and access to, international fibre-optic submarine cables is not effectively competitive. The majority of respondents to this public consultation concur with NICTA staff's proposed conclusion. NICTA staff also note that Telikom quotes only an excerpt from a paragraph in the World Bank report. The full paragraph read as follows: '[There is] Little or no competition because the Telikom PNG monopoly is reinforced by law on all services except for mobile voice. As PNG Telikom is still a monopoly, prices remain high for fixed voice, for dial, ADSL and mobile Internet. With regards to mobile voice, regulation blocks Digicel [sic] development and no other competitor is allowed. <i>The owner of the International gateway is Telikom PNG and international traffic remains expensive.</i> ' ⁸
24	Telikom	Market definition— submarine cable capacity market p.11	'The Commission of the European Communities in its December 17, 2007 report in the Official Journal of the European Union recommends in its Commission Recommendations on Relevant Product and Services Markets within the Electronic Communications Sector, "The aim of the regulatory framework is to reduce ex ante sector-specific rules progressively as competition in the market develops".'	Bearing in mind that that the text quoted by Telikom is the expressed aim of the European regulatory framework (and not the PNG regulatory framework); NICTA staff nevertheless recognise it as a sound general regulatory principle. However, the progressive reduction of ex ante sector specific rules assumes that such rules have been introduced in the first place and that the conditions exist to allow their subsequent withdrawal. In the present case, NICTA staffs are examining the potential need for the introduction of a specific ex ante rule, i.e. declaration under Part VI of the Act. NICTA staff also note that section 3 of the Act notes in part that '...Parliament intends that the ICT industry in Papua New Guinea be regulated in a manner that recognises...to the extent that markets are not competitive, appropriate ex ante regulatory measures may be required to promote and maintain effective and sustainable competition...'. NICTA staff do not believe that the market for wholesale capacity on, and access to, international fiber-optic submarine cables is currently competitive. The World Bank (refer 23 above) and respondents to this inquiry concur.
25	Telikom	Market definition— submarine cable capacity market p.12	'The situation for NICTA is to promote the regulatory framework to entice competition at the wholesale operator's market level then [sic] be regulating at the retail end of the wholesale market as this can discourage possible operator ventures into providing competition for fear of a regulated bottom-line.'	This statement (considered in its correct context) suggests that Telikom fundamentally misunderstands the matter under inquiry. NICTA staffs are examining the prospect of introducing ex ante regulation at the wholesale level in a wholesale market (i.e. the national market for wholesale capacity on, and access to, international fibre-optic submarine cables). This is being done under Part VI of the Act, which relates only to wholesale access issues. NICTA staffs are not contemplating any form of regulation at a retail level (and in any event could not do so under Part VI of the Act).
26	Telstra	Market definition— submarine cable capacity market p.5	'Telstra agrees with the proposed conclusion that a relevant market is the national market for wholesale capacity on, and access to, international fiber-optic submarine cables.'	Noted.
27	Telikom	The three criteria test—submarine cable capacity market p.13–15	The claims of high and non-transitory barriers to entry by NICTA is an opinion that needs to be revisited by NICTA as it is one that is based on an old school of thought based on technologies and methodologies of the past that played a restricting role in opening up connectivity to a lot of LDC [least developed countries] in the world...The advances in digital modulation	Notwithstanding any reductions in the costs of investing in new submarine cable systems or links, and landing station infrastructure, the associated costs remain substantial, particularly in relative terms, and thus constitute a high and non-transitory barrier to entry. The factors that Telikom lists are important factors if they serve to reduce the costs and therefore prices in a competitive environment. NICTA staffs have also established that submarine cable access and connectivity are not competitive in PNG and that satellite is an inadequate

⁸World Bank (2009) *Regional telecoms backbone network assessment and implementation options study*, p.39.Emphasis added.

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			techniques, multiple access techniques and compression techniques gave rise to spectral and bandwidth efficiencies, economization of available spectrum and assignment of these limited resources to multiple uses...Available international satellite capacities thus can be considered commensurate and proportional to the capacity demands of PNG for fixed voice, mobile voice & SMS and broadband internet...Evidence points to the successful use of satellite capacity as the choice for international connectivity for a lot of operators like Digicel, Hitron, Daltron, Oceanic and others with thriving businesses in the mobile, internet and TV content distribution markets in PNG.	substitute. These conclusions have widespread support in the PNG industry. NICTA staff considered and dismissed the potential substitutability of satellite capacity during the market definition stage. Having defined the relevant market to be the national market for wholesale capacity on, and access to, international fibre-optic <i>submarine cables</i> , the claimed substitutability of satellite capacity is no longer a relevant consideration as satellites have (by this stage of the logic set out in the Public Discussion Paper) been excluded from the definition of the relevant market. Mere repeated and unsubstantiated assertions to the contrary by Telikom do not change that. NICTA staff also note Telikom's comment (at 90below) that 'there is a national market for wholesale access to capacity on international communications satellites', meaning that satellite capacity exists in a separate market to capacity of submarine cables.
28	Telikom	The three criteria test—submarine cable capacity market p.15	... [F]or NICTA to predict "lasting damages to competition and consumer welfare" is grossly myopic and devoid of confidence in its own ability to guide the market to safe waters in its infancy.'	Telikom partially quotes a statement made by NICTA staff in the discussion paper. The full statement is as follows: 'Ex post competition law is insufficient to resolve any likely market failure in a suitable timeframe – that is, within a timeframe that ensures minimum lasting damage to competition and consumer welfare'. It was made in the context of considering whether ex post competition law would be sufficient to address any competition problems that might arise in the national market for wholesale capacity on and access to, international fibre-optic submarine cables. NICTA staff are not predicting lasting damage in the absence of ex ante regulation but are identifying that there is a risk of lasting damage to competition and thus consumer welfare if participants in the market were entirely reliant on ex post competition law only to address any market failures that may arise in that market. This is because ex post competition law is reactive to specific abuses of market power and such abuses can inflict lasting damage to competition before they are identified, discontinued and punished under ex post competition law. The evidentiary requirements for ex post action are such that abuse can continue for a considerable time before the regulator is ready and able to intervene. In reaching that conclusion, NICTA staffs were neither myopic nor unconfident – just realistic. To the extent that the exercise of NICTA's statutory powers can be characterised as "guiding" a market (rather than, say, regulating a market in order to mimic competitive outcomes), the way in which NICTA staff are proposing to "guide" the market in the present case is through the Minister's declaration of certain services in that market. NICTA staffs are considering this action to avoid the risk of any abuse of market power inflicting lasting damaging to competition.
29	Telstra	The three criteria test—submarine cable capacity market p.6	'Telstra notes that the Act does not require NICTA to form a conclusion that a market is susceptible to ex ante competition regulation, hence this criteria is one that NICTA has imposed on itself outside the framework of the Act. Nonetheless, Telstra believes that the methodology adopted by NICTA is useful in informing NICTA's analysis of the declaration criteria and does enable NICTA to draw from international analysis and precedent.'	Noted. Although the application of the three criteria test is not a statutory requirement in that same that it is within European Union countries, NICTA staff consider it to be an important filter for determining whether a market is susceptible to ex ante regulation of dominance and thus an important (if non-mandatory) part of NICTA's process for determining whether it is necessary to consider ex ante regulation in the form of a recommended service declaration under Part VI of the Act (or for that matter a recommended retail service determination under Part VII). NICTA staff regards the application of the three criteria test in such circumstances as a regulatory best practice even though it is not specifically required of NICTA under the Act. There are many regulatory best practices that NICTA adopts that are not specifically required of it under law. The tenor of Telstra's comment suggests agreement.
30	Telstra	The three criteria test—submarine cable	'Telstra's agrees with NICTA staff's proposed conclusion that the market for wholesale capacity on, and access to, international	Noted.

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		capacity market p.6	fiber-optic submarine cables is susceptible to ex ante competition regulation.'	
31	Telstra	The three criteria test—submarine cable capacity market p.6	'Telstra is not aware of any industry plans to land a third submarine cable in PNG and it seems likely that demand in the foreseeable future would not support the construction of a third submarine cable. Moreover, the costs of cable system construction are very significant. Accordingly, PNG is likely to continue to be served by two submarine cable systems for the foreseeable future.'	Noted. NICTA staff also note that Telstra is an (outright and part) owner of a number of international submarine cable assets (outside of PNG)—such as the Telstra Endeavour cable, the Australia–Japan Cable (AJC), and the Australia–Singapore Submarine Cable-1 (ASSC-1)—and as such is likely to be well informed of any new plans for the deployment of new submarine cables or systems in the region.
32	Telstra	The three criteria test—submarine cable capacity market p.6	'While Telikom remains subject to the prohibition against taking advantage of market power contained in section 56 of the <i>Independent Consumer and Competition Commission Act 2002</i> (ICCC Act), Telstra has little confidence that this section could be effectively applied by the Independent Consumer and Competition Commission (ICCC) in the PNG context. Unlike NICTA, the ICCC has no power under the ICCC Act to issue desist orders and hence the ICCC or an operator would be required to commence litigation against Telikom to prevent certain conduct, potentially involving significant expense and time delay.'	Noted. A similar concern was reflected in NICTA staff's conclusions in the discussion paper that 'ex post competition law is insufficient to resolve any likely market failure in a suitable timeframe'.
33	Mr Ronald	The three criteria test—submarine cable capacity market p.2	'I agree [that the market for wholesale capacity on, and access to, international fibre-optic submarine cables is susceptible to ex ante regulation] on the condition that NICTA discuss 1-to-1 with Telikom on its plans, works in progress and status of its domestic network infrastructure since 90% of fixed line services (voice/data) is offered alone by Telikom with only about 12-15% voice/data penetration to the population of PNG. In light of LNG and other major mine and oil developments within PNG these are new and additional domestic markets requiring competitive services in terms of call rates, service reliability, accessibility and availability.'	NICTA staffs have followed very carefully the procedure set out in the Act. One-to-one deals, if that is what is being suggested have no place in a modern transparent regulatory regime. Telikom has had a full opportunity to consider the conclusions being put forward and to provide evidence and comment upon those conclusions. Unfortunately for the most part it has failed to support its assertions with evidence, or, in some cases, it has contradicted itself in the course of its submission. Importantly, there is no reason why the regulatory process should treat Telikom differently to other licensees in the way this inquiry is conducted. The comment seems to be suggesting that.
34	Mr Ronald	The three criteria test—submarine cable capacity market p.2	'Any service seekers interested in retailing services must be conscious of the commercial and technical aspects that will be involved. In so far as commercial aspects is concerned what would be the costs for co-sitting (or infrastructure sharing) of building space, network elements upgrades (power, Switch, radio/optical fibre, MDF/IDF) including software upgrades, Prepaid and Billing aspects. This includes operational costs in terms of maintenance (corrective and preventative) and administrative overheads. Based on these parameters would be determine the call charges and interconnect charges, settlement charges and rentals etc. In terms of technical aspects, the process and procedure in O&M, Network and circuit downtimes (ops-fails) and restorations and callouts including the support maintenance from Equipment suppliers (Vendors) abroad or	To the extent that such matters are relevant to the supply of any declared services that result from the present inquiry, they would be addressed in the terms and conditions of supply that would be negotiated between the access provider and access seeker pursuant to section 138 of the Act. Alternatively (or in addition) an access provider may set out such matters in a reference interconnection offer.

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35	Telikom	Telikom's SMP—submarine cable capacity market p.16	'NICTA has no proof of proving [sic] Telikom PNG's pricing irregularity, thereby nullifying any further claims for a perceived view of Telikom PNG exhibiting market dominance or being categorized as a Hypothetical Monopolist (HM) with powers to misuse its dominance for a significantly small non-transient increase in prices (SSNIP) that cannot be easily contended and rendered unprofitable.'	<p>To be clear, NICTA staffs do not believe Telikom to be a hypothetical monopolist. NICTA staffs believe that Telikom has significant market power in the market for wholesale capacity on, and access to, international fiber-optic submarine cables. Conceptually this is closer to Telikom being an <i>actual</i> monopolist, as NICTA's staff's conclusion is partly a consequence of the fact that Telikom is the only supplier in that market.</p> <p>As explained in the discussion paper, the factors that in aggregate led NICTA staff to that conclusion were:</p> <ul style="list-style-type: none"> • Telikom's control of essential infrastructure that is not easily duplicated; • Telikom's technological advantages and superiority arising from it control of that infrastructure; • The absence of potential competition; • The absence of or low countervailing buying power; and • Telikom's vertical integration. <p>NICTA staff's conclusion is not based on, or dependant on Telikom's pricing and does not need to be.</p> <p>SSNIP typically refers to a small but significant non-transitory increase in price, which is different in a subtle but important way from a 'significantly small' increase in price.</p>
36	Telikom	Telikom's SMP—submarine cable capacity market p.16	'NICTA [staff] admits to having no proof to forming a view of Telikom's significant market power...NICTA stated in the inquiry in s.4.4...that "NICTA staff did not have sufficient information on Telikom's pricing and profitability in the relevant market to form a view on the relevance or significance of this particular aspect". The proposed conclusion by NICTA [staff] that "Telikom has a position of market power...based on Telikom's commercial accessibility to the submarine cable is naive and inadequate by their own admission.'	<p>Telikom's comments are misleading and incorrect.</p> <p>NICTA staff considered the limited information available to it on Telikom's pricing of submarine cable capacity (together with pricing of satellite capacity). NICTA staff concluded that that information was neither detailed nor comprehensive enough to enable NICTA staff to form a view, one way or the other, as to the relevance or significance of Telikom's pricing and profitability in the assessment of the market for dominance. That means that Telikom's pricing and profitability is a factor that is neither evidence that indicates that Telikom has SMP nor is it evidence that Telikom does not have SMP.</p> <p>Regardless, NICTA staff's conclusion that Telikom has SMP in the national market for wholesale capacity on, and access to, international fibre-optic submarine cables is not based or dependent on Telikom's pricing and profitability (nor does it need to be). NICTA staff's finding is based on issues of market structure (identified in 35above). In such circumstances pricing does not need to be specifically considered. By way of example, a conclusion that a network operator has SMP in the market for the termination of calls on its own network would not consider, nor be based on; the prices that that operator charges for call termination.</p> <p>NICTA staff did not, and do not, believe that concluding that Telikom has SMP in the relevant market in part because of its exclusive access to the submarine cables is either naïve or inadequate. Indeed it is sole basis of many other regulators' conclusions regarding SMP in equivalent markets in other countries (e.g. in India.)</p>
37	Telikom	Telikom's SMP—submarine cable capacity market p.16	'Telikom PNG is willing to discuss in detail Telikom's investment and interest in the submarine cable access.'	Noted. Telikom's cooperation with the present inquiry is appreciated.
38	Telikom	Telikom's SMP—submarine cable capacity market	'Telikom reiterates that its decision to invest in leasing of submarine cable capacity for international access is a commercial decision for its long term business strategy.'	Noted. However, the reasons for Telikom's past investment decisions have no bearing on whether or not it has SMP in the national market for wholesale capacity on, and access to, international fiber-optic submarine cables.

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		p.16		
39	Telstra	Telikom's SMP—submarine cable capacity market p.6-7	'Telstra agrees with NICTA staff's proposed conclusion that Telikom has a position of significant market power in the market for wholesale capacity on, and access to, international fiber-optic submarine cables... Telstra also agrees with the five factors identified by NICTA staff [and mentioned above at 35] as particularly compelling.'	Noted.
40	Telikom	Telikom's SMP—submarine cable capacity market p.16	'The statement by NICTA [staff] that "Telikom is the only licensee that is authorized (by the relevant owners of the submarine cables) to operate a landing station..." demonstrates NICTA's misunderstanding of the commercial environment surrounding contractual agreements between cable vendors or operators and cable leasers as in the case between Telikom PNG and Pipe Networks of Australia...[T]here are no external limitations influencing PIPE's ability to lease and sell capacity to any interested party it chooses to... Therefore it can be concluded that Telikom PNG's claims to the capacity it now leases on the PPC-1 cable are subjected to the contractual agreements it has with PIPE and is in no way limiting to PIPE's business interest, considering the fact that it is and will be to PIPE's interest to fully sign up all available capacity now sitting spare on the PPC-1 cable.'	NICTA staff's statement is correct. As things currently stand, no entity in PNG other than Telikom PNG is authorised to land the PPC-1 cable in PNG. (Telikom does not dispute NICTA staff's comment as it applies to the APNG-2 cable). NICTA staffs recognise that Pipe is able to lease capacity directly to Operator Licensees in PNG. However, the only way a licensee could physically access and utilise any such leased capacity is either by building its own cable landing station or by gaining access through Telikom's existing facilities. The former is prohibitively expensive and an inefficient duplication of infrastructure. Hence the inquiry is examining whether the latter should be made a declared service. NICTA staff note that Telikom declined to provide NICTA staff with a copy of its Construction and Maintenance Agreement with Pipe Networks when requested to do so ⁹ prior to NICTA staff's preparation of the discussion paper. Consequently NICTA staffs do not believe that Telikom is a position to complain about any alleged misunderstanding of the 'contractual arrangements between cable...operators and cable leasers...'
41	Telikom	Telikom's SMP—submarine cable capacity market p.17	'The notion that Telikom is in control of essential infrastructure that cannot be easily duplicated is a cart before the horse scenario as the wholesale market had not being given the opportunity to thrive naturally by attracting wholesale operators and competitors... Therefore duplication of the essential submarine infrastructure by an emerging dominant mobile player to compete in the international wholesale capacity market is a palatable fact that may eventuate sooner than expected.'	As explained in the discussion paper, NICTA staff conducted a forward looking analysis of the market for wholesale capacity on, and access to, international fiber-optic submarine cables covering the two year period ending 31 st December 2014. NICTA staff concluded that it was not likely that any current or potential participant in that market will establish a new cable landing station in PNG during that period. That view was confirmed by both Digicel and Telstra in their responses to the discussion paper.
42	Telikom	Telikom's SMP—submarine cable capacity market p.18	'Telikom PNG's vertical integration is one that can be seen as essentially a catalyst for competition and should be allowed to thrive.'	Telikom's vertical integration was considered in the context of NICTA staff's assessment of market dominance. As explained in the discussion paper (at page 32 ¹⁰): 'Vertical integration may give an advantage to the integrated firm over its competitors because control of the upstream or downstream markets may make new market entry more difficult. Vertical integration potentially creates conditions for leverage of market power from an upstream market to a downstream market due to both the incentive and ability for vertically integrated firms to limit entry into downstream markets. Further, vertically integrated multi-product operators may also have an unfair competitive advantage over their competitors if they are in a position to bundle products in way that may either not be able to be replicated by

⁹This was not a request made by NICTA under section 246 of the Act.

¹⁰In turn drawing from Body of European Regulators for Electronic Communications (BEREC) (2005) *Revised ERG Working Paper on the SMP concept for the new regulatory framework*, ERG (03) 09rev3, September 2005, p.6-7.

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				competitors due to a lack of corresponding wholesale products, which in turn might increase the cost of entry.'
43	Telikom	Telikom's SMP—submarine cable capacity market p.18	'A claim of Telikom PNG's technological advantages and superiority arising from its control of the infrastructure is a positive one fundamental to Telikom PNG's success in the international wholesale market. However it should be understood that technological superiority is not mandatory on Telikom PNG alone but is a marketable profession spread through-out the world, which can be engaged or tapped into by any new operator into the international wholesale capacity market.'	NICTA identified Telikom has having a technological superiority and advantage in the market for wholesale capacity on, and access to, international fibre-optic submarine cables. That advantage arises from Telikom's ownership and control of the two cable landing stations that currently exist in PNG. NICTA staffs do not have a view on whether that technological advantage is a positive or negative attribute of Telikom. NICTA staffs have considered it only in the context of assessing whether Telikom has SMP and have concluded that it is a relevant factor and one that indicates SMP. NICTA staffs recognise that technological advantages can be temporary; as was noted in the discussion paper (at page 31) '... [T]echnological advantages might only be temporary and may therefore not be a permanent source of SMP'. However, within the two year period of NICTA staff's forward-looking assessment, NICTA staff concluded that Telikom's current technological advantage is likely to persist over the period and reinforce Telikom's SMP.
44	Telikom	Telikom's SMP—submarine cable capacity market p.18	'Whether Telikom PNG will enjoy "economies of scale" being a first-mover in the international wholesale market is again disputable. Upgrades will always come at a cost and considering the revenue Telikom PNG will make out of the submarine cables compared to its operational expenses will always be a challenge.'	Telikom appears to have misunderstood NICTA staff's comments regarding economies of scale. On page 15 of the discussion paper, NICTA staff state that 'Telikom is likely to benefit from economies of scale relative to any new entrants or potential competition (e.g. capacity upgrades on the existing cables could be achieved at a much lower price than equivalent capacity provided by landing a third cable in PNG)'. Further discussion appears on page 31: 'Economies of scale are common where the production process involves high fixed costs...Economies of scale on their own do not create entry barriers—given a certain level of demand, technology and cost function, competitors can exhaust the same economies if they are able to produce the same volumes. However, economies of scale can de-facto amount to an entry barrier if further factors—such as sunk costs...—exist so that economies of scale create an asymmetry between one operator and its competitors. If this is the case, economies of scale can act as a barrier to entry as well as an advantage over existing competitors.' As Telikom's 'substantial' investment costs in its CLS are sunk, it enjoys potential economies of scale relative to any new entrant. Using the example of capacity that was mentioned in the discussion paper, if a new entrant wished to introduce 20 Gbps of additional international capacity into the market for wholesale capacity on, and access to, international fibre-optic submarine cables, it would need to secure the necessary IRU with PIPE and then either land an additional spur in PNG or secure access through Telikom's existing CLS in Madang(the terms of which may be discriminatory in the absence of the declaration of that particular service). In contrast, if Telikom wished to supply 20 Gbps of capacity in the market, it would need only to secure an additional 10Gbps IRU from PIPE and possible purchase some additional IT equipment within its CLS. Telikom could thus achieve the same result at a substantially lower cost than the new entrant. That cost advantage can deter potential new entrants, which in turn reinforces Telikom's SMP. NICTA staff also note that Telikom's suggestion that it does not earn significant revenue relative to its operational expenses is seemingly at odds with Telikom's comments elsewhere in its submission (e.g. at 14above) that the market for wholesale capacity on, and access to, international fiber-optic submarine cables is a very attractive one (i.e. offering high returns) for competitors to enter and with low entry costs. Also in this context if Telikom's operating costs are high it might be to do with it operating procedures and overall efficiency. This point has not been discussed by Telikom at all, and Telikom assumes that its costs must

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				automatically be recovered irrespective of efficiency. Such an assumption is inconsistent with regulatory economic best practice.
45	Telikom	Telikom's SMP—submarine cable capacity market p.19	'SMP in the wholesale market has no real meaning as it does not equate to SMP of the retail revenue market resulting from usage of wholesale links for internet and mobile traffic where it matters most.'	NICTA staffs do not know what this is intended to mean. However, for the avoidance of doubt, it is with SMP in wholesale markets that best practice is most concerned. For convenience and to avoid any doubt, SMP in wholesale markets means that the wholesale service provider has the ability to raise prices or reduce production without the need for undue concern about the reactions of its competitors and customers. The elements of the concept of SMP are the same whatever market is being considered. However in this consultation NICTA staffs are only concerned with the relevant wholesale market.
46	Telikom	Telikom's SMP—submarine cable capacity market p.20	Telikom PNG does not agree with [NICTA staff's conclusion that Telikom's SMP is potentially harmful] for the following reasons: 1. Telikom PNG has never at anytime refused to supply or deny access to any access capacity seeker based on the perceived notion of its SMP position. 2. Currently both old and new operators operating in the PNG market have access to the submarine fiber cable on case by case commercial arrangements with Telikom. Prices offered by Telikom PNG are based on volume uptake with a sliding scale price model. 3. Telikom's investment in fiber is commercially based on a leasing arrangement as opposed to outright ownership. Telikom does not own any cable. 4. Telikom chooses to use fiber optic submarine cable as an alternative means to provide international access. Other operators and new entrants choose IP based satellites.	As explained in the discussion paper, NICTA staff concluded that given the sources of Telikom's SMP in the market for wholesale capacity on, and access to, international fiber-optic submarine cables, Telikom has both the commercial incentive and ability to abuse its SMP in a manner that would be very damaging to competition in that market. (N.B. to use SMP is to abuse it.) The particular potential abuses that NICTA staff identified were: 1. a refusal to supply/denial of access, which can raise rivals' costs and lead to the foreclosure of downstream retail markets to competition; 2. excessive pricing, which has negative welfare effects in the form of allocative inefficiencies; and 3. Anti-competitive price discrimination, which can impose margin squeezes or raise rivals' costs in downstream retail markets, thereby foreclosing those markets to competition. In addition, further consideration by NICTA staff has identified another potential problem in the form of: 4. Quality discrimination, ¹¹ which can rise rivals costs and potentially foreclose downstream retail markets to competition. Those conclusions were based on accepted economic theory and international regulatory best practice. They are risks that exist as a consequence of Telikom's SMP. Telikom's past behavior (i.e. not having previously denied access) does not mean that Telikom does not have the ability to do so or that there is no risk that it may do so in the future. Similarly, Telikom's current pricing arrangements do not diminish the fact that Telikom has the ability to set prices above economic costs (i.e. above the competitive level) and sustain excess profits for an appreciable time. Nor do they guarantee that Telikom will not engage in excessive pricing behavior in the future. Telikom's reasons no.3 and no.4 are irrelevant. Telikom did not comment on the issue of price (or quality) discrimination between the services it offers/supplies to wholesale customers and those that it supplies to its downstream business operations.
47	Telikom	Telikom's SMP—submarine cable capacity market	'Telikom's pricing is based on bench marking with other regional offerings of the same product along the lines of building long term relationships with its customers and a return on its	NICTA staff note that Telikom did not submit any such benchmarks. It is thus unclear who Telikom is benchmarking itself against, the circumstances of those parties/markets or whether Telikom's prices are being set high, low or equal to the benchmark prices.

¹¹In this respect, NICTA staff note the comments by Digicel on pages 7–8 of its submission that: 'Digicel sources the majority of its transmission requirements for its data services from satellite providers given the prohibitive pricing of Telikom's wholesale IP-transit offering and the poor quality of service associated with the latter offering. This is illustrated by the fact that critical issues such as service outages take between 24 and 72 hours to rectify, while minor issues such as packet drops of five per cent stake in excess of seven days to rectify with no proactive rectification updates'.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
		p.21	investments.'	
48	Telikom	Telikom's SMP—submarine cable capacity market p.21	The current uptake of services from Telikom on its investments in the subsea cable is a direct contradiction to the statement "Absence of or low countervailing buying power".	<p>The meaning of Telikom's comment is unclear as it does not explain what particular services it is referring to nor how their uptake proves the existence of high countervailing buying power.</p> <p>On page 15 of the discussion paper NICTA staff said '... [G]iven the absence of suitable alternatives, customers have little leverage on which to establish effective countervailing power. Access to their networks on a wholesale basis [i.e. interconnection] is subject to regulation which also prevents the formation of countervailing buying power in that area. It is the case that some licensee demand could be transferred to satellite on a self-supply basis. However [given the relative inadequacies of satellite as a substitute]...wholesale self-supply would be self-defeating and not a basis for effectively leveraging buying power.' That is, the power that might otherwise be countervailing is theoretical and not real and therefore cannot be wielded to demand a better deal from Telikom in the market for wholesale capacity on, and access to, international fiber-optic submarine cables.</p> <p>NICTA staff also note that, given the information they provided in response to NICTA staff's data request, it does not appear than any of Telikom's existing wholesale customers account for a large proportion of Telikom's total output compared to the proportion accounted for by self-supply by Telikom.</p>
49	Telikom	Telikom's SMP—submarine cable capacity market p.22	'...Telikom PNG considers that an SMP [finding] does not in itself imply an abuse of that dominance or market power'.	NICTA staffs agree. The present inquiry is concerned with the risk of an abuse of SMP and the risk that Telikom will use its SMP exists, regardless of whether or not it has used it previously. After all it is the role of any commercial organisation such as Telikom to operate to maximise the benefit of its shareholders and to use the advantages that it has in that process. SMP is a big advantage. The risk of its being used is material.
50	Telikom	Telikom's SMP—submarine cable capacity market p.21	'Telikom agrees that today Telikom PNG is the only subsea cable access provider in PNG. This is a business decision made by Telikom and there is nothing stopping other operators doing the same.'	Given the relevant market has been defined as the national market for wholesale capacity on, and access to, international fiber-optic submarine cables, this statement by Telikom recognizes Telikom's 100% market share and in effective its position of SMP in that market.
51	Telikom	Telikom's SMP—submarine cable capacity market p.22	'Telikom PNG has not in any way created any barrier to effective competition in the market...'	Although Telikom may not have intentionally established any barriers to effective competition, certain actions by Telikom have had that effect. For example, its investment in cable landing stations for the reasons explained in 44above. NICTA staffs recognise that such effects are of a secondary order, but in assessing the effectiveness of competition in a market, the reasons why factors indicative of SMP came into being are not relevant. For example, SMP inherited as a consequence of a historical position of statutory monopoly and government ownership is irrelevant to determining whether or not SMP exists or is potentially harmful to competition.
52	Telstra	Risk of harm from Telikom's SMP—submarine cable capacity market p.7	'Telstra agrees with NICTA staff's proposed conclusion that Telikom's SMP in the market for wholesale capacity on, and access to, international fiber-optic submarine cables is potentially harmful to the development of effective competition in that market. Telstra agrees with the analysis undertaken by NICTA [staff] in relation to the potential problems arising from Telikom's SMP....'	Noted.
53	Mr Ronald	Risk of harm from Telikom's SMP—submarine cable	'In the absence of competitors in International access and gateways facilities I agree [that Telikom's SMP in the market for wholesale capacity on, and access to, international fibre-optic	This comment conflates Telikom pricing at a wholesale level (which is of primary relevance to the matters under inquiry) with Telikom's pricing in retail markets (which is not relevant to

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
		capacity market p.2	submarine cables is potentially harmful to the development of effective competition]. In terms of pricing I disagree, I believe Telkom is applying same tariff (call rates) for STD and IDD calls originating from the domestic telephone switch regardless of whether calls are over domestic terrestrial or satellite links. This is considering they pay a hefty amount into satellite transponder rental fees and the call rate is the same for both terrestrial and satellite routing of domestic calls.'	the current inquiry).
54	Mr Ronald	Risk of harm from Telkom's SMP— submarine cable capacity market p.2	'The way forward is to open up new markets in light of oil and gas boom including mining as per the low penetration of voice/data in the country. Wholesaling and retailing will enable voice/data penetration however the Telkom's domestic core network infrastructure needs to be assessed and upgraded to cater for increased traffic, reliability, redundancy and accessibility. Proper traffic forecasting based on traffic measurement by Telkom on the existing network is a must as well considering the new markets so the network can be properly dimension to cater for wholesaling/retailing. Obsolete technology with respect to network elements needs replacement if Suppliers/Vendors no longer support them. So there needs to be capital re-investment in these areas for both Telkom and "Would-be Service Providers". NICTA needs to sit 1-to-1 with Telkom first and discuss this also as a matter of Telecom confidentiality.'	These are matters for Telkom and not within the scope of the present inquiry. They are simply not relevant in the way they have been put forward.
55	Digicel	Candidate services for potential declaration— submarine cable capacity market	'It is more appropriate to identify candidate wholesale services that are most likely to be sought by an access seeker in PNG having regard to the definition of a wholesale service under the Act rather than begin the process with the definition of a relevant market.'	NICTA staffs disagree. A desire that NICTA consider the declaration of a particular (actual or potential) wholesale service for which there is demand might be the prompt that initiates the establishment of an inquiry. For example, if NICTA received a request under subsection 127(2) (b) of the Act or a written direction from the Minister under section 230 of the Act. However, the inquiry process through which NICTA determines whether or not to recommend that the Minister declare that service is necessarily more comprehensive. Consistent with international best practice (while still remaining consistent with the requirements of the Act) the process that NICTA staff are employing in this inquiry (and will continue to employ in any future exercises) is: <ul style="list-style-type: none"> (a) Define a relevant market; (b) Consider whether that market is susceptible to ex ante regulation; (c) Identify whether SMP exists; (d) Consider whether that SMP is potentially harmful to competition or consumers; (e) Identify candidate services for potential declaration and then refine that list based on consideration of the likely demand for specific services (or combinations thereof); (f) Consider the shortlist of candidate services (i.e. those for which there is likely demand) against the declaration criteria (N.B. this consideration is a preliminary consideration by NICTA staff for the purposes of the discussion paper and consultation); (g) Give initial consideration to the types or nature of the service specific pricing principles that might be appropriate in the event that the shortlist of candidate services are declared by the Minister; and

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
				<p>(h) Give initial consideration to any matters relating to the technical and operation quality of the supply of the short listed candidate services by an access provider.</p> <p>Although the Act requires that NICTA only do steps (f) (and (g) in the event of declaration), NICTA staff believes that this framework and process adds additional rigour to NICTA staff's analysis of the relevant issues. This is particularly so in light of the recognised international best practice that such regulation should only be introduced where and when competition is not effective,¹² and the manner in which Parliament envisaged the sector would be regulated (as reflected in section 3 of the Act).</p>
56	Telikom	Candidate services for potential declaration—submarine cable capacity market p.22-23	'Telikom PNG is of the view that the introduction of technology neutral licensing by NICTA and the advent of technology to IP has nullified the proposed definitions... The two candidate services identified for potential declaration has [sic] become a virtual reality. This means that any accessibility to bandwidth and capacity only requires internet connectivity either through a fixed accessibility or by means of a mobile accessibility.'	The comment assumes that technology neutrality in licensing means that the characteristics of services as valued by the market should be overlooked. In fact market perceptions of the service being offered and the needs those services meet are critical for market definition and for SMP analysis.
57	Digicel	Candidate services for potential declaration—submarine cable capacity market p.5-6	<p>The name of the candidate services and their proposed definitions lack specificity and should be revised:</p> <p>(a) 'end-to-end Madang to Sydney/Guam/West Coast of United States of America and Sydney to Guam/West' [sic] capacity on PPC-1 at 'wavelength level, Layer 1 (SDH), Layer 2 (Ethernet) and/or Layer 3 (IP-Transit) and for varying requested capacity levels (e.g. DS3, STM-1, STM-4, STM-16, STM-64)';</p> <p>(b) 'capacity on Telikom submarine cable spur from Madang to PPC-1 at Layer 1 (SDH) and Layer 2 (Ethernet) and for varying requested capacity levels (e.g. DS3, STM-1, STM-4, STM-16, STM-64)';</p> <p>(c) unbundled PPC-1 / Telikom spur wholesale access services including:</p> <p>i. access to capacity on Telikom submarine cable spur from Madang to PPC-1 at 'wavelength level, Layer 1 (SDH), Layer 2 (Ethernet) and/or Layer 3 (IP-Transit) and for varying requested capacity levels (e.g. DS3,</p>	NICTA staffs appreciate Digicel's desire for specificity in any services recommended for declaration. NICTA staffs have sought to address this matter in the draft recommendation at Annex A and would welcome feedback if Digicel (or any other party) still has concerns about a lack of specificity in service definitions.

¹²See for example chapters 1–2 in International Bank for Reconstruction and Development / The World Bank, *InfoDev*, and The International Telecommunication Union (2011) *Telecommunications Regulation Handbook*, which among other things notes that '[R]egulation should only focus on those parts of the ICT sector where there is a clear need for regulation (that is, where effective competition is not feasible) and should only be a temporary measure' (p.33)

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			<p>STM-1, STM-4, STM-16, STM-64)</p> <p>ii. access to the cable landing station of Telikom at Madang including physical and/or virtual collocation (including building space, power, environmental services, security, site operation and maintenance, etc), interconnection, and grooming services</p> <p>(d) wholesale access to any branching unit owned and/or operated by Telikom;</p> <p>'IXP services offering transit/peering model, domestic traffic and interfacing with the other Internet Service Providers for IP related services'.</p>	
58	Telikom	Candidate services for potential declaration—submarine cable capacity market p.4 (cross submission)	(e) 'Telikom PNG does not agree with the Digicel submission on the redefining of the definitions of wholesale services...'	Noted.
59	Digicel	Candidate services for potential declaration—submarine cable capacity market p.6	A reference to an "international gateway" facility leads to ambiguity as it is not defined in the Act while there is no universally agreed definition from a technical and or legal perspective, regardless of the definition in the <i>National Information and Communications Technology (Operator Licensing) Regulations 2010</i> .	The <i>National Information and Communications Technology (Operator Licensing) Regulations 2010</i> (the Regulations) defines an international gateway service as 'a network service which provides interconnection between a domestic network and an international gateway'. The Regulations define an international gateway as 'an equipment, whether hardware or software, in a network which interfaces that network with an international network'. A facility is defined in the Act to mean 'an element or combination of elements of physical infrastructure (including any line, equipment, apparatus, tower, mast, antenna, tunnel, duct, pit, pole or other structure or thing) used principally for, or in connection with, the provision of a network service, but excluding any customer equipment'. NICTA staffs do not believe that a universally agreed definition of a term is necessary. The draft recommendation at Annex A incorporates (by reference) the definitions of those key terms established in the Act and the Regulations. NICTA staff believe that those definitions are sufficient but welcome further comment on the matter with reference to the draft recommendation at Annex A.
60	Digicel	Candidate services for potential declaration—submarine cable capacity market p.6	'Use of the phrase 'access to international gateway facilities' would mean satellite gateway facilities would be included within the declaration.'	NICTA staffs disagree. The phrase was used as part of a proposed name for a particular service, namely 'Wholesale access to international gateway facilities at submarine cable landing stations in PNG'. The proposed definition of that service was: 'A facilities access service that enables an access seeker to interconnect its facilities to the international gateway facilities of an access provider that are located in the access provider's submarine cable landing station.' When considered in its context, it is clear that the use of the phrase 'international gateway facility' would not result in access to an international gateway facility that is part of a satellite system falling within the definition of the proposed declared service. In any event, NICTA staff have revised the proposed service definitions and in doing so have put this matter beyond doubt.
61	Telstra	Candidate services for potential declaration—submarine cable capacity market	'The end points of the 'network service' should be more clearly identified as they otherwise could include literally any points within PNG and any points outside PNG (including, for example, an end-to-end service from a home in PNG to a home in Australia).'	NICTA staffs agree and have revised the proposed service definitions accordingly.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
		p.7		
62	Telstra	Candidate services for potential declaration—submarine cable capacity market p.7	'Where NICTA [staff] defines a service to include services provided over facilities located outside PNG territorial waters, NICTA is effectively asserting extra-territorial jurisdiction to regulate those facilities (as is permitted by section 6 of the Act). Telstra submits that such jurisdiction should be extended no further than the cable landing station of the relevant submarine cable in that foreign jurisdiction. Beyond this, NICTA will be unnecessarily impinging on the regulatory sovereignty of the country within which the cable lands (e.g., Australia or Guam).'	It was not NICTA staff's intention for the draft service definition to have any extra territorial application. The specification that one of the two geographic points (between which communications or data are carried) being located outside of PNG was intended only to reflect the international nature of the service (as distinct from a national nature). However, NICTA staffs believe that Telstra's suggestion is a prudent approach and have reflected it in the draft recommendation at Annex A for further comment.
63	Telstra	Candidate services for potential declaration—submarine cable capacity market p.7-8	'The Part VI access regime only applies to operator licensees in PNG. It may be possible for a cable ownership arrangement to be structured such that the operator licensee in PNG only supplies part of the cable capacity. For example, Telikom may only supply the 'half circuit' into 3PNG, such half circuit defined by reference to a nominal mid-point in the cable that is located outside PNG territorial waters. The service definition should address such arrangements.'	NICTA staffs believe that Telstra's suggestion is a prudent approach and have reflected it in the draft recommendation at Annex A for further comment.
64	Telstra	Candidate services for potential declaration—submarine cable capacity market p.8	The definition should expressly confer a right of interconnection to the submarine cable and a right to deploy facilities in available space within the cable landing station or gateway exchange (including routers, switches, cross-connects and backhaul cables).	The declaration imposes an obligation on access providers. It does not confer rights on access seekers, except as the corollary of the obligations imposed. NICTA staff believe that section 136(5) (a) of the Act provides sufficient protection of an access seeker's ability to install such equipment. If this matter is of particular concern, NICTA staff would welcome receiving further comments on this aspect of the draft recommendation at Annex A.
65	Telstra	Candidate services for potential declaration—submarine cable capacity market p.7-8	'Telstra proposes that interconnection in PNG should occur either at the cable landing station, or at the nearest gateway exchange to that cable landing station, or at any other gateway exchange in PNG. In the latter two scenarios, backhaul from the cable landing station to the relevant gateway exchange would be included within the service. Telstra has defined a 'gateway exchange' as an exchange at which interconnection is already provided by the access provider to any other network licensee, being an exchange at which network interconnection can demonstrably already occur...'This would give an access seeker the option of either interconnecting as close as possible to the cable landing station, or as close as possible to its own network operations. Including backhaul from those locations to the cable landing station in the definition of the declared service would ensure Telikom can not impede access to international connectivity by providing access to backhaul transmission on unreasonable terms.	NICTA staffs recognise the value of more explicitly providing for the supply of virtual collocation and, with it, the supply of backhaul from the virtual collocation site to the cable landing station. NICTA staff also note that Digicel (at 57 above) sought the explicit inclusion of virtual collocation in the service definition (albeit in a different manner). NICTA staffs have reflected Telstra's suggested changes and definitions in the draft recommendation at Annex A for further comment. In doing so though, NICTA staff have proposed only that the virtual collocation site be at the nearest gateway exchange (i.e. one at which Telikom is already interconnected to a network licensee) to the relevant cable landing station and have not provided for access seekers to nominate any exchange in PNG. However, the parties may agree on an alternative site.
66	Telikom	Potential declaration of backhaul—submarine cable capacity market	'Telikom PNG is of the view that the backhaul capacity market is already an open market with enough fair competition by a number of backhaul capacity carriers, therefore it does not agree with NICTA's proposition for declaration at this point in time.'	Telikom has misunderstood the statements made in the Discussion Paper. NICTA staff did not propose the declaration of national backhaul. As was clearly stated in the Discussion Paper (on page 17) 'NICTA staff are not at this stage proposing that backhaul services be considered for potential declaration but would be interested in receiving comments from

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
		p.21		licensees on this particular aspect before finalizing a view.' In any event, after considering other respondents comments in response to the discussion paper, NICTA staff have proposed an amended service definition in the draft recommendation at Annex A that would have the effect of declaring national backhaul services between a cable landing station and the site of a virtual collocation. Further comment on this proposal is invited.
67	Telikom	Potential declaration of backhaul—submarine cable capacity market p.23	'It is a common understanding that a market which is self-supplied cannot be considered a market at all as it becomes part of the resulting retail services market, thus giving this market no status or grounds for subjection to ex ante regulation.'	This is not a common understanding at all. In fact it is incorrect. Clearly if the only supplier self-supplies and does not offer competitive terms to other wholesale users then it is clearly a market for consideration. There is no requirement to address the issue via retail market analysis at all as suggested in the comment.
68	Digicel	Potential declaration of backhaul—submarine cable capacity market p.7	'Digicel agrees with NICTA [staff's] conclusion that there is no need to consider the potential declaration of wholesale capacity on national backhaul services.'	Noted. However, in developing the draft recommendation at Annex A based on all the feedback received to the discussion paper, NICTA staff have included the declaration of backhaul specifically to/from the point of any virtual collocation site within the relevant service definition. NICTA staff would welcome feedback on this very limited and specific declaration of backhaul services.
69	Telikom	Declaration criteria p.24	'Telikom reiterates that the declaration criteria in section 128 of the Act have not been fully satisfied as per the objectives of the Act. e.g. the criterion that the declaration will further the achievement of the objective set out in Section 124 has already achieved with the introduction of technology neutral licensing and the choices that customers are now privileged to.'	Telikom misunderstands the declaration criteria and in particular the competition objective. The objectives identified in section 124 of the Act are not objectives that are simply intended to be achieved once and then disregarded. The declaration criteria (among other things) requires that consideration be given to how, if at all, the declaration of a particular service would further the achievement of those objectives. In any event, as stated clearly in section 124 of the Act, those objectives are the objectives of Parts VI and VII of the Act only. Licensing is under Part III of the Act.
70	Digicel	Declaration criteria p.7	Access or increased access to each of the Declared Wholesale Services (proposed by Digicel at 58 above) is necessary for the promotion of effective competition in 'the retail market for the provision of narrowband and broadband access services to end users in PNG'.	Noted.
71	Telstra	Declaration criteria p.9	'Telstra agrees with NICTA staff's proposed conclusion that the declaration of the two services above would satisfy all of the declaration criteria in section 128 of the Act.'	Noted.
72	Digicel	Declaration criteria p.8	Telikom controls a true essential facility...without such access [to Telikom's submarine cable and associated assets] Digicel and others are foreclosed from providing new, speedier and innovative solutions and from meeting pent-up demand from consumers and business users. Without access, the poor metrics currently charactering broadband access cannot improve in PNG and the national broadband objectives of the PNG government be met.	Noted. NICTA staffs have reached a similar conclusion.
73	Digicel	Declaration criteria p.9	Each of the Declared Wholesale Services (proposed by Digicel at 57 above) are supplied in whole or in part by a facility that cannot feasibly be substituted, as a matter of commercial reality, via another facility in order to supply those services	Noted.
74	Digicel	Declaration criteria	Declaration of the Wholesale Services [proposed by Digicel at 57	Noted.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
		p.9-10	above] would not materially compromise the incentives for efficient investment in any facility over which the Declared Wholesale Service may be supplied...Further investment [by Digicel] in domestic broadband services in now being constrained as a result of the failure of Telkom to provide access to the ... Wholesale Services [proposed by Digicel at 58 above] on reasonable terms.	
75	Telikom (cross submission)	Declaration criteria p.8	'Telikom PNG disagrees [with Digicel's comment at 74 above as declaration 'would materially compromise Telkom's PNG investment.'	NICTA staff note that Telkom has not attempted to substantiate this claim in any way during the course of the inquiry.
76	Telikom	Declaration criteria p.25	'Facility access in a prescribed location is no longer an issue with the advent of modern technology. The current providers of wholesale access in and out of PNG have their facility access in other parts of the world accessible via the enormous capability of internet protocol (IP), example in the NGN environment facility access to soft switches is a non issue with respect to geographical location, the same goes with wholesale access.'	Telikom's comment is very confused. It is made in the context of a declaration criterion that says 'in the case of wholesale services that are facilities access services, increased access to the wholesale service would avoid inefficient replication of underlying facilities that may be efficiently shared' (s.128(c)(iii)). As such the relevant facilities are situated in PNG. That is, in order for a wholesale customer in PNG to obtain access to an international gateway facility at one of Telkom's submarine cable landing stations in PNG, it is necessary for Telkom to supply a facilities access service at that CLS (or at an alternative location within PNG in the case of virtual collocation).
77	Telstra	Declaration criteria p.9	'The competition objective is expressed to be "subject to" the efficiency objective. In this manner, if there is any conflict between the efficiency objective and the competition objective, it is the efficiency objective that prevails. [This approach] appears to be intended to promote greater infrastructure- based competition in PNG rather than services-based competition.'	Noted and agreed.
78	Telstra	Declaration criteria p.9	'The criterion in section 128(b)(i) of the Act requires that access or increased access to the wholesale service (as a consequence of declaration) must be "necessary for the promotion of effective competition in at least one market other than the market for the wholesale service"...In order to correctly apply this test, NICTA should define at least one other market within which competition is promoted and identify the causal mechanism by which this would occur. Telstra believes that the relevant markets will be those downstream retail markets that are dependent on access to international connectivity, such as the market for the supply of global internet access into PNG.'	Agreed. NICTA staff did complete a separate market definition exercise for this purpose but did not set out that definition in Figure 5 on page 18 of the Discussion Paper as that table was intended only to present a summary of NICTA's staff's conclusions. (The 'retail market for internet access was specifically identified in that table as one of the relevant downstream markets.)
79	Telstra	Declaration Criteria p.9	'Telstra agrees with NICTA's conclusions in relation to the application of the criterion in section 128(b) (ii) of the Act [which relates to supply via a facility not feasibly substituted by another].'	Noted.
80	Telstra	Declaration criteria p.9-10	Telstra agrees with NICTA's conclusions in relation to the application of the criterion in section 128(c)(i) of the Act [which relates to incentives for efficient investment].	Noted.
81	Telstra	Declaration criteria p.10	Telstra agrees with NICTA's conclusions in relation to the application of the criterion in section 128(c)(ii) of the Act [which	Noted.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			relates to technical feasibility].	
82	Telikom (cross submission)	Declaration criteria p.10	Telikom 'reserves its comments' on the issue of technical feasibility of access and section 129(c)(ii) of the Act.	NICTA staff note that Telikom has decided not to comment or contribute to the public discussion regarding the technical feasibility of access to the services proposed for declaration in the context of the declaration criteria despite having the opportunity to do so. It is also unclear for what later use or occasion Telikom is reserving its comments.
83	Telstra	Declaration criteria p.10	Telstra disagrees with NICTA's conclusion in relation to the criterion in section 128(c)(iii) of the Act, namely whether increased access would avoid inefficient replication of underlying facilities that may be efficiently shared. NICTA [staff] has stated that declaration would avoid inefficient replication of submarine cable landing stations. However, this statement is inconsistent with an earlier comment by NICTA [staff] that submarine cable landing stations cannot be practically duplicated. Telstra believes that the key point here is that submarine cable landing stations are facilities that cannot be duplicated in the context of a particular submarine cable, hence they must necessarily be shared in the PNG context. In effect, it would be inefficient (and practically impossible) to require an access seeker to build an entire new submarine cable.	In the discussion paper, NICTA staff noted their conclusion that declaration criterion in section 128(c)(iii) of the Act is met as increased access to the candidate service in question (i.e. wholesale access to international gateway facilities at submarine cable landing stations) '...would avoid inefficient replication of the association facilities, in particular the submarine cable landing stations themselves'. NICTA staffs now recognise that the use of plural terms confused the point that NICTA staffs were making which is, as Telstra identifies, that it is inefficient to replicate a CLS in relation to a particular submarine cable. This point will be more clearly presented in the Recommendation Report.
84	Mr Ronald	Declaration criteria p.3	Mr. Ronald agrees that the declaration of wholesale capacity on and access to, international fibre-optic submarine cables would satisfy all of the declaration criteria. However, he does not believe that the declaration of wholesale access to international gateway facilities at submarine cable landing stations would satisfy the declaration criteria. 'An earlier declaration without proper discussion with Operator Telikom would be premature considering the detail scopes of works that would involve in hardware expansion to Gateway Switches to cater for POI links, need for building space, power, transmission links/towers. The need for software upgrades on Switches and other network elements must be considered and this [is] where overseas Suppliers/Vendors who have exclusive and proprietorship rights of Equipment software packages and patches comes into play.'	The issues that Mr. Ronald raises are not relevant to the declaration criteria. (They relate to the matters necessary to fulfill a request for access to the particular service, not to the general technical feasibility of supplying the service.)
85	Mr Ronald	Declaration criteria p.4	'There would be unavoidable indirect costs incurred by Operator Telikom and must be fairly captured for any tasks as categorized under "Non-discrimination obligation" as defined in Section 136. The issues on administrative and overhead costs relating to POIs must be incorporated in commercial Interconnect Agreement so both parties must agree on cost sharing. These costs are labour costs relating to O&M of links and other Party's equipment, extraction of billing information (CDRs) and other tasks as requested by other Party. Parts 3(c) and 6 Section 136 requires an addendum to incorporate this matter.'	The issues that Mr. Ronald raises are not relevant to the declaration criteria and are adequately covered by the General Pricing Principles (e.g. within the definition of cost-based pricing in subsection 134(2) of the Act).
86	Telikom	Declaration criteria p.26	'Telikom PNG maintains its overall position that it opposes the declaration of the [proposed] wholesale services and maintains	Telikom misunderstands the reasons why declaration is being considered and the grounds on which it would be recommended for introduction. Ex ante regulation in the form of the

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			that it has not abused its perceived SMP position to create harm and barriers to competition of the matters the subject of this Inquiry, nor has it contravened any of the provisions of Section 136 of the Act	declaration of certain wholesale services is being examined to <i>prevent</i> the exercise of SMP, not as a punishment for any past actions. Pursuant to section 129 of the Act, NICTA would only recommend such an intervention if NICTA was satisfied that the statutory declaration criteria would be met by the proposed declaration. Section 136 of the Act only applies to suppliers of declared services and only in relation to their supply of a declared service. Telkom is only currently subject to section 136 of the Act except in its capacity as a supplier of the domestic fixed terminating access service (DFTAS). Whether or not Telkom has previously contravened the non-discrimination obligations in relation to its supply of the DFTAS is irrelevant in this inquiry.
87	Digicel	Access terms p.3	'Digicel strongly consider that not all access seekers should be permitted to obtain unbundled access to international capacity on Telkom's submarine cables or to its cabling landing station. The Act permits, and good regulatory governance encourages, NICTA to distinguish between access seekers that have made substantial investments in telecommunications infrastructure in PNG and those that have not made such investments. The latter access seekers should not be permitted to undermine sustainable investment in PNG. Access seekers that have not made investments in telecommunications facilities in PNG of greater than US\$250 million would not be entitled to access the full suite of declared wholesale access services. Instead, they would be entitled to access a more limited number of services e.g. international transit carriers with [sic] would only be permitted to access bundled—and not unbundled—PPC-1 capacity services from Telkom.'	NICTA staffs disagree and do not believe that such a consideration is either reasonable or relevant in determining whether or not an operator licensee is entitled to access a declared service. NICTA staff note that the circumstances that determine whether an operator licensee is an access seeker (for the purposes of Part VI) are clearly described in section 125 of the Act. NICTA staff also note the intention reflected in recommendation 3.1 of the <i>Experts' Report on National ICT Policy: Phase 2 Reforms</i> , which stated: 'Wholesale access and interconnection obligations should be applied to regulated 'declared' services and facilities, not particular regulated entities. All relevant licensees should be subject to, and benefit from, such regulation.' ¹³
88	Telikom (cross submission)	Current access p.7 and 9	'Telikom's wholesale capacity has been extended already to over twenty corporate organizations ['ranging from the mining industry, banking industry, Fisheries industry, Tourism and Education'] who are currently utilizing these services provided by Telkom for their international services. Telkom maintains its position that there is o need to declare International Access facilities'.	The organisations that Telkom identifies are presumably retail customers of Telkom. (If not then those organisations would appear to be in contravention of sections 49 and 50 of the Act.) The present inquiry is focused on access to wholesale services.
89	Telikom (cross submission)	Effect of declaration p.7	'Telikom PNG submits that it is willing to extend to Digicel and for that matter any access to the fiber on terms and conditions that are commercially acceptable to Telkom PNG and other parties. In the event that such terms and conditions are not agreeable then parties can refer the matter to NICTA for arbitration as was the case in the Domestic Access Agreement.'	Telikom is incorrect and its submission misunderstands the arbitration provisions under the Act. NICTA may only arbitrate a dispute about access to a declared service. If the services to which Telkom is referring are not declared services, then no party is able to 'refer the matter to NICTA for arbitration'.
90	Telikom	Market definition—satellite capacity market	'Telikom PNG notes the entrant of the many new players and choices done by corporate organizations that were Telkom's customers before that there is a national market for wholesale	NICTA staffs understand this comment to mean that Telkom agrees that there is a national market for wholesale access to capacity on international communications satellites. That being the case, it is contrary to Telkom's view that the market for wholesale capacity

¹³Free hills and Concept Economics (2009) opacity.

No.	Submission	Reference or subject	Summary of comment	NICTA staff's response
			access to capacity on international communications satellites as a direct result of the deregulation initiated by NICTA.'	on, and access to, international fibre-optic submarine cables is not a relevant market because of the substitutability of satellite capacity services for submarine capacity. A product must be in one or the other market; it cannot be in both. So if there is a separate market for access to satellite capacity (as Telkom appears to suggest here) then it follows that there must be a separate market for access to submarine cable capacity.
91	Telstra	Market definition— satellite capacity market p.11-12	'Telstra agrees with NICTA staff's proposed conclusion that there is a national market for wholesale access to capacity on international communications satellites.'	Noted.
92	Digicel	Three criteria test— satellite capacity market p.6	'Digicel agrees at this time with NICTA [staff's] proposal to conclude that wholesale access to satellite transmission should not be susceptible to en ante regulation by NICTA.'	Noted. Though to be clear, NICTA staff found that the market was not susceptible to ex ante regulation at this time. NICTA staff did not express a view as to whether or not that market <i>should be</i> susceptible to ex ante regulation.
93	Telstra	Three criteria test— satellite capacity market	'Telstra agrees with NICTA staff's proposed conclusion that the market for wholesale access to, and capacity on, international communications satellites is not susceptible to ex ante competition regulation. However, NICTA has not linked this conclusion to the declaration criteria that NICTA is required to apply under sections 128 and 129 of the Act. In order to comply with section 129(1) (b) and section 129(2) (b) of the Act, NICTA is required to "publish a report identifying...NICTA's analysis of the extent to which the declaration criteria are met". The Discussion Paper does not analyze the extent to which the declaration criteria are met for the satellite services, but rather simply concludes that the market is not susceptible to ex ante regulation. Telstra submits that in order to comply with the requirements of the Act, NICTA should apply its conclusions in light of the statutory criteria.'	As NICTA staff concluded that the market for wholesale access to, and capacity on, international communications satellites did not satisfy the three criteria test, NICTA staffs have not considered whether or not the declaration of any specific services within that market would satisfy the declaration criteria. That is, as NICTA staffs have concluded that that particular market is not susceptible to ex ante regulation; NICTA staffs have not taken the consideration of that market any further under the terms of the present inquiry.
94	Digicel	Inquiry process p.11	'NICTA should publish all submissions in response to its Discussion Paper and allow those that have made submissions to submit additional comments on these third party submissions.'	That is NICTA's standard approach to public consultations and, in part, a requirement of the Act. As stated in section 4.1 of NICTA's <i>Guidelines on the submission of written comments to public consultations and public inquiries</i> 'Submissions will generally be treated as public documents and published on NICTA's public register in accordance with subsection 229(3) and clause 43(1) (k) of the Act unless the respondent has asserted a claim for confidentiality in relation to part(s) or all of the submission and that claim is accepted, in whole or in part, by NICTA pursuant to guideline (5)'. This procedure was adopted for the present inquiry and will be adopted for future inquiries also. NICTA staff note that Digicel did not submit any additional comments on any other party's submission.

ANNEX A: DRAFT TERMS OF THE RECOMMENDED DECLARATION

Wholesale Service Declaration No. 1 of 2013

National Information and Communications Technology Act 2009

The Minister for Communications and Information Technology makes this declaration under section 130 of the *National Information and Communications Technology Act 2009*.

Dated 2013

Minister

[DRAFT—Not for signature]

Wholesale Service Declaration No. 1 of 201x

1. Name of declaration

- (1) This declaration is the *Wholesale Service Declaration No. 1 of 201x*.

2. Commencement and expiry

- (1) This Declaration commences 30 calendar days after the date on which it is notified in the National Gazette.
- (2) The date this Declaration commences shall be the Commencement Date.
- (3) This Declaration expires on the day before the fifth anniversary of the Commencement Date unless it is varied or revoked earlier pursuant to Section 130 of the Act.

3. Interpretation

- (1) In this Declaration, unless the contrary intention appears:

“Act” means the *National Information and Communications Technology Act, 2009* and includes any regulations made under that Act;

“Cable landing station” is a Site at which an international fibre-optic submarine cable is available on shore for the purpose of accessing transmission capacity on the cable. For the avoidance of doubt this includes the cable landing stations located at Ela Beach and Madang;

“end point” means a nominal point at a Cable Landing Station or international gateway Switching Centre in a foreign jurisdiction that is used to demarcate an end of a service;

“mid point” means a nominal point along an international fibre-optic submarine cable that is used to demarcate an end of a service, normally if is supplied in the form of a half circuit;

“point of interconnection” means a location in Papua New Guinea which is a physical point of demarcation between the Access Seeker’s Network and the Access Provider’s Network;

- (2) Each of the following terms used in this Declaration has the meaning given to it by the Act:

- Access
- Access Provider
- Access Seeker
- Facilities Access Service
- International Gateway
- Network
- Network Service
- Operator Licensee
- Site
- Switching Centre
- Wholesale service

4. Declaration

- (1) The following Wholesale Services are hereby declared:
 - (a) the international submarine cable transmission capacity service; and
 - (b) the international submarine cable gateway access service.

5. Service descriptions

- (1) The international submarine cable transmission capacity service is a Network Service:
 - (a) for the carriage of any combination of voice communications and/or data via an international fibre-optic submarine cable between:
 - (i) a Point of Interconnection located at the Access Provider's Cable Landing Station; or
 - (ii) the Access Provider's Switching Centre that is nearest to that Cable Landing Station and which contains a Point of Interconnection between the Access Provider and an Operator Licensee; or
 - (iii) the Access Provider's Switching Centre the use of which for this purpose is mutually agreed to by the Access Provider and the Access Seeker; and
 - (iv) a Mid Point or End Point; and
 - (b) with any unit of transmission capacity.

- (2) The international submarine cable gateway access service is a Facilities Access Service that provides an Access Seeker with such access to, or use of, the Facilities of an Access Provider at the Access Provider's:
 - (a) Cable Landing Station; or
 - (b) Switching Centre that is nearest to the relevant Cable Landing Station and which contains a Point of Interconnection between the Access Provider and an Operator Licensee; or
 - (c) Switching Centre the use of which for this purpose is mutually agreed by the Access Provider and the Access Seeker;

as is necessary to enable the Access Seeker to interconnect its Facilities to an international fibre-optic submarine cable.

- (3) For the avoidance of doubt:
 - (a) the international submarine cable transmission capacity service and the international submarine cable gateway access service are separate Wholesale Services;
 - (b) the international submarine cable transmission capacity service includes the supply of backhaul transmission capacity to the extent that such is necessary to connect an Access Seeker's Facilities at a virtual collocation Site to the Access Provider's Facilities in a Cable Landing Station;
 - (c) the international submarine cable gateway access service enables an Access Seeker to:
 - (i) Access the International Gateway Facilities of an Access Provider including, but not limited to, physical network infrastructure;
 - (ii) physically collocate its Facilities if technically feasible in any available space within the Access Provider's Cable Landing Station;
 - (iii) virtually or physically collocate its Facilities if technically feasible in any available space within

- the Access Provider's nearest Switching Centre that contains a Point of Interconnection;
- (d) if an Access Provider supplies an international submarine cable transmission capacity service with a particular transmission capacity from:
- a. a Cable Landing Station that is under its control; or
 - b. a Switching Centre near to a Cable Landing Station under its control;

then, subject to the constraints of the relevant submarine cable capacity available through contract or ownership to the Access Provider, the Access Provider shall be deemed to be able to supply international submarine cable transmission capacity services with other transmission capacities.