



TELIKOM PNG LIMITED
“our communication company”

**SUBMISSION TO PUBLIC INQUIRY
DECLARATION OF WHOLESALE SERVICES IN
INTERNATIONAL CONNECTIVITY MARKETS**

Friday 19th October 2012

1. EXECUTIVE SUMMARY

The following submission is a response to the Public Inquiry into the need for the declaration of certain wholesale services in international connectivity markets in Papua New Guinea, the Inquiry is conducted by the National Information Communications and Technology Authority (hereinafter NICTA). The entirety of this submission is summarized as follows:

- 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 chose the medium of providing such wholesale services.
- Telikom PNG disagrees with NICTA staff's sole reliance on section 132 (1) using section 127 (2) (a) of the National Information Communications & Technology Act 2009 (hereinafter "the Act") as reason for the inquiry and as basis for staging this inquiry into the possible declaration of certain wholesale services in international connectivity markets in PNG.
- NICTA staff have fallen short of presenting a convincing argument of its definitions and conclusions of the wholesale capacity market on submarine fiber-optic cables being the "relevant market" for the purpose of the inquiry as NICTA had presented a case lacking evidence and based on assumptions and theory untested to the current market scenario in PNG.
- The wholesale capacity market on submarine fiber-optic submarine cable for international connectivity is a newly emerging market and should not be prematurely subjected to regulation.
- 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.
- Conclusions by NICTA staff on the non-existence of wholesale supply-side substitution and demand-side substitution are based on perception and hearsay that are very general, theoretical in nature and non qualitative opinions and insight into the dynamics of the PNG market.
- Telikom PNG argues contrary to NICTA's conclusions of satellite capacity being not substitutable, that there indeed exists an avenue for substitution in satellite capacity for today's scalable ICT networks more so with the introduction of internet protocol on satellites.

2. Prelude Legal Basis for Inquiry

The operation of section 132 *Exempt Services* under the NICT Act enabled Telikom PNG to carry on its services without hindrance within the time limit of the Act when the Act 2009 came into operation to the 1st of July, 2012.

The inquiry, the subject of this submission is now being conducted upon the expiration of the above date and focuses on the proposition of declaration of the exempted services. While NICTA is well within its rights to conduct an inquiry on the subject matter 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.

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.

Furthermore, whilst the process for declaration commences with a Public Inquiry before a recommendation is made to the Minister, 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 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.

NICTA has however, commenced the inquiry under s.127 of the Act, it derives the authority to carry out the inquiry under ss127 (1) and (2) of the Act.

Telikom PNG submits that NICTA can only hold Public Inquiry under Subsections (1), (2) or (3) of Section 127 of the Act. 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.

Consequently, Telikom PNG submits:-

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.
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.

Subject to the determination by NICTA of the above issues and without prejudice to its rights under the Act and Laws of PNG, Telikom PNG's Submission presented below.

3. TELIKOM PNG's SUBMISSION TO INQUIRY

Q1: Do you agree with NICTA staff's proposed conclusion that the relevant market is the national market for wholesale capacity on, and access to, international fiber-optic submarine cables? Please explain the reasons for your answer and support it with evidence where possible.

Telikom PNG does not agree with the conclusion drawn by NICTA in its identification of the relevant focal point as "*wholesale capacity on, and access to, international fiber-optic submarine cables*".

In using the Hypothetical Monopolist Test (HMT) and the associated Significantly Small but Non-Transient Increase in Price (SSNIP) test to determine the relevant market, NICTA claims that the wholesale supply-side substitution is currently inconceivable, and that although other international submarine cables exist in the Pacific with additional deployments in the region, NICTA is not aware of any plans for a third submarine cable to be landed in PNG.

At the moment there are two landed Fiber-Optic (FO) cables in PNG, both landed by Telikom PNG:

- i) APNG-2 cable landing at Ela Beach and,
- ii) PPC-1 spur landing at Madang.

Cable Branching Unit (BU) Availability for Second Cable Operator

It seems NICTA had not done enough researches 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 although Telikom PNG had not publicly announced its plans for use of the BU at Alotau.

NICTA should note that exclusive rights to use of the spare BU at Alotau are subjective and can be taken over by another operator upon expiry of the agreement between Telikom and Pipe Networks of Australia.

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.

Cable Landing Station (CLS) Facilities Availability for Second Cable Operator

Pipe Networks in their website (www.pipenetworks.com) offers willing operators within the vicinity of the PPC-1 Sydney to Guam cable route interconnection and landings into their respective landing localities or POPs. It even states their plans for the on-going developments of additional branching units along the route.

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.

Opportunities by Existing Australian Cable Networks

There are opportunities also abound for connecting to the Australian cable networks via Port Moresby alongside the current APNG-2 subsea cable to Sydney. 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.

Australia now boasts about five (5) cable landings, with most terminating destinations at Guam or Hawaii en-route to the USA, thus making interconnection to Australia a very lucrative business possibility for any new prospecting wholesale capacity suppliers.

Telikom PNG therefore does not adhere to any hint that its position as first-mover in the subsea FO cable wholesale market is stopping other operators other than Telikom PNG from seeking access to the BU at Alotau or from sharing the Port Moresby or Madang CLS facilities.

Cost Barriers to Entry 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.

A report by Michael Ruddy of Terabit Consulting Inc. draws legitimate views into the changing scenario of the affordability of fiber-optic cable technology to Least Developed Countries (LDC) and poorer nations. He notes *“Historically, fiber optic connectivity was not a viable proposition for poorer nations. Their traffic flows were characterized as “long and thin” – too far and too small to justify the*

construction of multi-million dollar cable systems, and adequately handled by satellite networks. - However, it appears that wiring these nations to the global grid has now become economically viable...”¹

Another report by the World Bank on “*Regional Telecom backbones...for a better Pacific Connectivity*”² further suggests that fiber-optic submarine cable access by small Pacific countries is now becoming more affordable and feasible, the notion riding on a host of positive key performance indicators attributable to:

- a) advances in technology,
- b) better economical positions and the,
- c) positive effect of globalization on global good-will.

Advances in Technology had seen decreases in fiber-optic cable prices in the last ten years including decreases in prices of associated electronic components, reflected further by decreases in internet subscription and usage costs.

Globalization and global-goodwill had worked to the advantages of small Pacific countries in good-will donations in monetary terms by the developed world towards the development of these LDCs making purchase of submarine cables very possible.

Also available are avenues for financial support that did not exist in the last ten or so years for small island nations to capitalize on.

Tapping into Increasing Cable infrastructures in the Pacific

Another factor contributing to the present positive scenario regarding access to submarine cables lies in the fact that the Pacific region now boasts a number of trans-Pacific submarine cables, the closest ones being the:

- i) Southern Cross, Sydney – Hawaii cable and the,
- ii) PPC-1, Sydney – Guam cable,

These two cables can enable connectivity to Australia, New Zealand and USA and in between are a host of possible peering points that can enable connectivity to the rest of Asia and beyond.

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.

¹ Undersea Cable Markets and the Developing World, Michael Rubby, 2007 Terabit Consulting Inc. (p.1)

² World Bank Report, Final Report 2009, Regional backbone network assessment and implementation options studies for a better Pacific Connectivity.

The World Bank report also states that *“PNG benefits from a similar position to Fiji: the country is already connected to fiber optic systems (APNG-2) and will soon benefit from a new generation system (PPC-1). PNG is more likely to provide bandwidth to neighboring countries than benefit from their infrastructure”*.³

PNG is already connected to the PPC-1 cable to Sydney and Guam and 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.

Bandwidth usage in the world increased in the last ten years to well over 50% due to increased usage of internet access services and of this increase in bandwidth the Asia Pacific Region registered over 50%. This shows the demand for bandwidth and thus capacity demand that existed and was carried in the trans-Pacific subsea cables in the Pacific Region of which PNG is part off.

It is predicted that the trends and forecasts for bandwidth demand and capacity for internet access for the Asia Pacific will be huge and for the South Pacific countries alone will be a leaping experience in capacity demand that PNG must tap into.

Strong Viability for Competition Intervention

NICTA should encourage competition in the roll-out of extra international wholesale capacity taking advantage of the PPC-1 cable, then focusing on regulating the current international wholesale capacity market currently being developed by Telikom PNG.

It is suggested that NICTA needs to research the capabilities of the PNG market in its present state and know its status to properly place any boundaries on what it can and cannot do.

Market indicators foresee intervention in the wholesale capacity market brought on by the convergence of fixed, mobile and internet services markets, setting a demand in capacity that will be further increased in the very near future upon the introduction and application of 3G, 4G and LTE technologies in PNG.

In it’s recently concluded Inquiry into “Retail Services Determination” NICTA has concluded in its determinations that there exist an operator in the PNG mobile market which *“has a substantial degree of power in the retail services and the evidence in support of this finding is clear and compelling”*⁴.

³ World Bank Report, Final Report 2009, Regional backbone network assessment and implementation options studies for a better Pacific Connectivity (p.135)

⁴ Recommendation Report, A report to the Minister recommending the introduction of a retail service determination, Issued by NICTA, Port Moresby on 5th September 2012

Now because mobile services and mobile capacity are synonymous and the same in the broader context, as “*mobile services*” ride on or in “*capacity*”; it can be seen that the lack of capacity can be detrimental to the product of mobile services. Technology convergence had seen the incorporation of internet access services to the mobile services platform and with the current mobile subscriber base on an exponential increase, one can only wonder at the dissatisfaction mobile customer masses can be, in accessing a mobile network that is deprived and stricken by lack of capacity.

Looking at the described scenario paints a picture that needs to be acknowledged by NICTA as one with all the potentials of strong intervention into the wholesale capacity market by the current DMO who is now faced with the options of upgrading its current 2G mobile network to 3G and possibly to LTE which would be twice to triple the current capacity for international connectivity is required.

The current Dominant Mobile Operator (DMO) in PNG had recently acquired a local ISP operator for its internet business which is currently relying on a hybrid of satellite and a leased half-STM International Private Line Circuit (IPLC) capacity.

The acquisition of the local ISP by the DMO in PNG is an indication of the DMO’s bid for stronger participation in the internet access services market in direct competition against Telikom PNG’s setting up of its ISP retail business.

What is the likelihood of the DMO developing its own international wholesale capacity market for its own use and also for competition, we may ask?

The likelihood for this option is very positive in its realization considering that the DMO had set a precedent that can be used to predict its business strategy for PNG that can be taken to have a very strong possibility for duplication in PNG, given the very non-dissimilar country profiles of PNG and the Caribbean countries.

The DMO had announced in March 2012, according to the Submarine Cable Almanac Website⁵, “*the delivery of a US\$16m 200km undersea cable which will link the country (Haiti) to the world via internet connectivity... The project which is being undertaken in conjunction with Columbus Networks, the undersea fiber-optic cable network provider in the Pan Caribbean Americas region, and Alcatel-Lucent (Euro next Paris et NYSE : ALU) will dramatically expand the range and quality of fixed and mobile broadband services and content delivered throughout the country*”.

⁵ Submarine Cable Almanac, Issue 3, August 2012, Digicel leads project to deliver high-capacity undersea cable for Haiti

NICTA needs to understand that the Telecommunications market in PNG is thriving with strong rivalry from all fronts by the DMO and the above gives a direct suggestion of imminent intervention in the current international wholesale capacity market in the not too distant future.

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 static regulation.

Therefore, it is the opinion of Telikom PNG that the wholesale capacity market on submarine fiber-optic cables is a newly emerging market and therefore should not be prematurely subjected to the inappropriate obligations of rigid regulation but allowed time for the natural intervention of competition.

The untapped subscriber and potential customer base in PNG is huge, making innovation for new markets an untappable whole new dimension waiting to be taken.

We have seen an operator emerging as a dominant player in the mobile services market with strong acquisitions into the internet services access market, which is reason enough for a positive conclusion inclined at a very possible intervention by this dominant player into the wholesale capacity market both domestically and internationally.

Existence of Demand-Side, Supply-Side Substitutability

What about wholesale demand-side, supply-side substitution claims by NICTA that “Accordingly, NICTA staffs do not consider the international access via satellite can realistically be considered an effective supply-side substitute. To the extent that it may be - for limited applications – the substitution would not be a material constraint on the operator concerned”.

These claims to a certain degree concur with the general global notion on the restrictions of satellite capacity on a one to one basis compared to fiber-optic capacity.

The analysis and assessment of satellite capacity on an even equal ground with fiber optic capacity must be done within the confines of a relevant market defined for LDC of which PNG is part off and not be confused with market definitions for developed countries.

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.

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 LDC with moderate capacity needs.

In consideration of all the LDC countries in the Pacific, PNG is listed by the World Bank as a “*high-demand*”⁶ country in terms of population density, but features very low penetration levels in both fixed and mobile voice and low internet penetration levels compared to the rest of the Pacific countries.

Bandwidth capacity demands for PNG are also low compared with the other Pacific countries. The World Bank report⁷ put average single-user capacity demand and usage for broadband internet at 64Kbps for 2007 and a projected average capacity demand usage of 192Kbps for 2017, which are much lower than current average capacity usage for high-demand countries like Fiji and New Caledonia.

Satellite compression technologies enable satisfactory transmission for fair and adequate broadband data services proportional to traffic conditions in PNG as a LDC and more than adequate for the carriage of convenient ICT services.

As such there exists an avenue for substitution of the wholesale capacity market as opposed to the counter conclusions by NICTA.

Why is Competition an issue in PNG?

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*”⁸.

The onus is on NICTA to liberalize the PNG market and not subject it to stringent market regulation.

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*”⁹.

⁶ World Bank Report, Final Report 2009, Regional backbone network assessment and implementation options studies for a better Pacific Connectivity (p.4)

⁷ World Bank Report, Final Report 2009, Regional backbone network assessment and implementation options studies for a better Pacific Connectivity (p.39)

⁸ World Bank Report, Final Report 2009, Regional backbone network assessment and implementation options studies for a better Pacific Connectivity (p.39)

⁹ Official Journal of the European Union, 28.12.2007, Commission Recommendation of 17/12/2007 on relevant product and service markets within the electronic communications sector susceptible to ex

The situation for NICTA is to promote the regulatory framework to entice competition at the wholesale operator's market level then 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.

The questions of demand-side substitution and supply-side substitutions have been analyzed above with all conclusions pointing to the possible availability of these markets in the absence of regulation, and in response to a SSNIP by a hypothetical monopolist.

The fact that an operator with dominant influence and power or a DMO is already in existence in the PNG mobile and broadband Internet access markets only reaffirms our hinting at the current wholesale market being conducive for natural intervention and competition without the intervention of static regulation.

Conclusion

In conclusion Telikom PNG disagrees with NICTA's conclusion that the relevant market is the national market for wholesale capacity on, and access to, international fiber-optic submarine cables for the reasons given above.

The current scenario where the wholesale international market is at, being a newly introduced market poses 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 market for the purpose of this inquiry strictly non-relevant and premature, including the application of the three test criteria for ex ante regulation.

ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the council on a common regulatory framework for electronic communications networks and services, (sec.1)

Q2: Do you agree with NICTA staff's proposed conclusion that the market for wholesale capacity on, and access to, international fiber-optic submarine cables is susceptible to ex ante competition regulation?

Telikom PNG does not consider the premise within which the market for wholesale capacity on, and access to, international fiber-optics submarines cables is suitable to Ex Ante Regulation.

In light of what NICTA proposes to do, i.e., open up access to submarine cables at the landing station to encourage economic growth with the sole objective to direct the market activity towards a more socially oriented outcome.

Do High and Non-Transitory Barriers to Entry Exist?

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 in the world, PNG being part of the LDCs.

We have seen in the discussion of the relevant market above that a lot of factors are at play in the global scenario that are tantamount to eradicating barriers to entry into the wholesale capacity market in PNG.

Technological advances have played a vital role in the lowering of prices for the acquisition of fiber-optic material and their associated electronics.

Modern day innovations in the practice of undersea fiber-optic cable (short and long haul) installations with modern day project management methodologies have enabled huge savings in CAPEX compared to high CAPEX loadings of yester years due to old technologies and outdated methodologies.

Therefore cost barriers to entry should not be used at all as barriers to entry into the wholesale capacity market in PNG.

Recent developments in the Pacific region have seen more subsea fiber-optic cable options becoming available for PNG.

Telikom PNG's own submarine cable infrastructure developments at Madang and Ela Beach add on to the already existing submarine cable infrastructures available to other cable operators wishing to venture into the PNG wholesale capacity market.

Satellite Capacity substitutability

The claims that *“There is no trend towards effective competition behind the barriers to entry”* and that satellite capacity being limited is *“not a credible substitute for international fiber-optic cables, except possibly in the remotest locations”* is an unqualified statement by NICTA on the question of substitutability of submarine capacity by satellite capacity.

PNG like other least developed countries has capacity bandwidth requirements that are moderately suitable for carriage via satellite capacity.

As alluded to earlier, the turn of this century had seen leaps in satellite technology innovations to cater for broadband internet.

The advances in digital modulation 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.

Bandwidth capacity requirements by LDCs also vary in nature to their geographical locations and topographical up-make.

PNG unlike other LDCs boasts one of the roughest terrain ever seen on the surface of this planet making the job of connectivity of towns, stations, and villages most difficult.

It is through years of experience in providing telecommunications to PNG’s length and breadth that Telikom PNG’s view of the fiber-optic cable not becoming the technology of choice for connectivity within PNG is a view that needs to be embraced.

Given the limitations of fiber-optic cables in PNG, design requirements for domestic bandwidth will have to incorporate scalable hybrid networks based on satellite and terrestrial radio technologies as basic mediums for connectivity.

The question of how much capacity is required for the domestic PNG market must be addressed in light of limitations set on domestic backhauling capacity by the limitations of fiber-optic cable deployment in PNG.

The nature of backhauling capacity in PNG should reflect on international wholesale capacity connectivity to PNG.

Thus satellite capacity becomes an important substitution for fiber-optic cable capacity in consideration of PNG's condition.

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.

Ex Post Competition Law

NICTA also concludes that *“Ex post completion 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”*.

Telikom PNG questions whether NICTA had done market surveys to understand key drivers and indicators prevalent in the PNG international wholesale market or whether NICTA does have the foresight to read how things will turn out in retrospect of the recent entry of Digicel into the PNG market.

Lessons from mobile deregulation are there for the learning, the greatest one being of the versatility of the PNG market in the face of changes and the unpredictability of this versatility factor.

That is, the PNG market has all the positive signs of a very flexible market but the uncertainties of where it will finally end up are also hugely unpredictable due to its novelty as a newly emerging market.

Therefore for 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.

Conclusion

The above discussions confidently point out to NICTA that a text book like and theoretical application of the *“Three Criteria Test”* for ex ante regulation may not hold water for NICTA's anticipated design, purpose and outcome.

Therefore based on the above we do not agree that the market for wholesale capacity on, and access to, international fiber-optic submarine cables is susceptible to ex-ante regulation.

Q3: Do you agree 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? Please explain the reasons for your answer and support it with evidence where possible.

Telikom PNG disagrees on the grounds that NICTA has no proof of proving 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.

NICTA admits to having no proof to forming a view of Telikom's significant market power

NICTA stated in the inquiry in s.4.4 in its "*Analysis of the market for dominance*" 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 that "*Telikom has a position of market power in the market for wholesale capacity ...*" based on Telikom's commercial accessibility to the submarine cable is naive and inadequate by their own admission.

Telikom PNG is willing to discuss in detail Telikom's investment and interest in the submarine cable access.

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.

The prior discussions on the "*relevant market*" are hereby solidified by the below discussions giving weight and proof to the imminent rising and emerging of a substitutable market in support of Telikom PNG's stand.

Open Policy for Cable licensee Operators

The statement by NICTA 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.

Pipe Networks being a cable operator of PPC-1 is an operator operating the PPC-1 cable as a *non-Common Carrier* meaning its operations are not subjected to the scrutiny of regulation normally imposed on rates and business practices of and on Common Carriers.

This tells us that there are no external limitations influencing PIPE's ability to lease and sell capacity to any interested party it chooses to.

The only limitation influencing its ability to choose business partners lie within itself, i.e. within its own framework and business processes and plans and any operator wishing to partner with PIPE can do so as PIPE'S door is open for negotiations.

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.

The claims by NICTA therefore lack innovation and insight.

Justification of Telikom's Pricing Model

Telikom PNG's categorization as a general (common) carrier subjects it to the regulatory measures of its local regulatory body which in the case of PNG subjects it to NICTA's regulation.

Contractual agreements between Telikom PNG and PIPE are binding and being cost-based points to favor PIPE's ability to recover its investment, taking minimum account of how the costs will affect Telikom PNG but having faith on the pass-on rippling effects of good pricing.

In other words Telikom PNG entered into a contract weighted heavily against itself in terms of costs implications on a fair return on investment (ROI) for Telikom PNG.

Telikom PNG entered into a contractual agreement with Pipe Networks Australia for lease of a 10Gbps capacity both ways to Sydney at the Southern end and a 10Gbps to Guam on the Northern end.

The fact that Pipe Networks is not a Common Carrier had meant a lot to Telikom PNG's experience in the setting of wholesale pricing for retailing of its leased capacity from PIPE.

Telikom PNG's wholesale pricing model reflected very much on PIPE's pricing model, based on world best pricing methods and practices, considering existing competition from the Southern Cross cable.

The introduction of the PPC-1 subsea cable to Guam and USA had actually created competition with existing wholesale capacity on the Southern Cross cable, whose effect saw decreases in broadband internet access rates to Australian and New Zealand customers, a cause expected to also ripple down on broadband internet access rates to PNG customers.

It is on this premise that Telikom PNG wholesale prices have being set and therefore a safe conclusion on the fairness of Telikom PNG wholesale prices can be reached.

We also note that wholesale prices for international access on the APNG-2 cable have also being derived using the same cost based methodology in line with the general "*cost recovery principle*", a method promoted in the "*General Pricing Principle (GPP)*" for pricing of declared services.

It is therefore the trusted opinion of Telikom PNG that its wholesale prices are fair and justifiable.

Duplication, a Non-Issue

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 been given the opportunity to thrive naturally by attracting wholesale operators and competitors.

The scenario for 3G broadband internet services had just taken off in mid 2011 with the upgrading of the Digicel and Bemobile networks to 3G capabilities and beyond and more time is needed for the customer base to catch up.

For a population of its size PNG's full realization of the 3G and 4G capacities will drive the demand for capacity beyond current bandwidth usage and demand.

We also point to the rising of a DMO in the GSM mobile market in PNG who had set a precedent in Haiti by announcing the delivery of a submarine fiber-optic cable *to be* undertaken in conjunction with Columbus Networks, of the Pan Caribbean Americas Region, with the aim to dramatically expand the range and quality of fixed and mobile broadband services and content delivered throughout Haiti.

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.

PNG's unpredictable market sense as pointed above will see entrants into the wholesale capacity market in the not too far future and pre-mature regulation may only do harm to the market then promote growth of the market.

Vertical Integration

Telikom PNG's vertical integration is one that can be seen as essentially a catalyst for competition and should be allowed to thrive.

Technological Superiority

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.

Economies of Scale

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.

Conclusion

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.

The wholesale market is a very finite and limited market, if not a very un-lucrative one also and dominant services providers in the mobile and internet retail markets will always have the upper hand.

Therefore based on the above discussion Telikom PNG does not agree with NICTA’s conclusion that Telikom PNG has a position of significant market power in the market for wholesale capacity on, and access to, international fiber-optic submarine cables.

Q4: Do you agree 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? Please explain the reasons for your answer and support it with evidence where possible.

Telikom PNG does not agree with this conclusion for the following reasons:

- a) 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.
- b) 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.
- c) Telikom's investment in fiber is commercially based on a leasing arrangement as opposed to outright ownership. Telikom does not own any cable.
- d) 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.

TELIKOM's Response to its perceived SMP Position

SOURCE OF DOMINANCE	NICTA's Assumption of Potential Abuse of Dominance by Telikom	Telikom's Response
Control of infrastructure not easily duplicated	Refuse to supply and denial of Access	Telikom PNG has not denied nor has it ever refused to supply access to its competitors'
Technological advantages and superiority		<p>All Satellites that have a footprint coverage of PNG are internet protocol based (IP). These are very advanced systems. Customers like mining companies, banks and some international organizations in PNG have opted to use these technology solutions with licensed international operators now operating in PNG. These customers have moved away from Telikom.</p> <p>The introduction of technology neutral licensing by NICTA and the advent of technology solutions toward internet protocol has given opportunities for globally renowned operators to set up operations in PNG using other means, therefore the argument of technological advantages and superiority is being neutralized.</p>

Absence of competition	Excessive Pricing	<p>International accessibility has been deregulated by NICTA thus the presence of the many telecommunications operators in the PNG market today providing direct access to their offshore modern technology hubs/nodes or switches.</p> <p>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 investments.</p>
Absence of or low countervailing buying power		<p>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” . Telikom welcomes NICTA to provide evidence of such.</p> <p>Technology neutral licensing and advancement in technology solutions provides customer choices. Telikom provides both satellite and submarine optic fiber cable. There is nothing stopping interested operators to acquire or implement submarine fiber optic cable independent of Telikom.</p> <p>However, 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.</p>
Vertical Integration	Anti-competitive price discrimination	<p>Telikom acknowledges that it is a vertical integrated organization. Since the introduction of competition Telikom has been transforming itself in line with Government’s intentions of deregulating the telecommunications market. Noting that Telikom had been a government department, heavily unionized now is facing competition Telikom started its reforms ensuring that there is a balance between providing services and managing situations that could be very disruptive. Inclusive in the reform process is the separation of wholesale and retail. Government had tasked IPBC to look into this area.</p> <p>However, Telikom under its own initiative have introduced competitive pricing both on its wholesale front and retail front. This is evident from the uptake</p>

		<p>of services by corporate organizations and Telikom’s competitors accessing the submarine optic fiber cable.</p>
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In addition to what is stated above Telikom PNG considers that an SMP does not in itself imply an abuse of that dominance or market power.

Telikom PNG’s right to access a submarine optic fiber cable is a strategic commercial decision made by Telikom at the time when Telikom discovered that a project of laying submarine fiber cable between Sydney and Guam was progressing and entering into and crossing PNG waters.

This investment is purely a commercial decision based on foresight of the future. To have access to the submarine fiber cable Telikom was not given ownership rights but was offered an “Indefeasible Right of Use” (IRU) for fifteen (15) years paid up-front.

Telikom PNG has not in any way created any barrier to effective competition in the market other than ensuring that the services it provides through this investment is commercially viable to both Telikom PNG and any other operator operating in PNG who would want to access the systems.

It has always been Telikom PNG’s endeavor for a win-win long term business relationship and at the same time positively contributes to stimulating economic activity for PNG as a nation.

Telikom PNG’s relationship with its current submarine cable providers is based on a contractual obligation taking into consideration viability of an investment over a recovery period of fifteen (15) years as stipulated in the IRU agreement.

Q5: Do you agree with NICTA staff’s proposed definitions of the two candidate services identified for potential declaration? If not, please set out and explain your amendments to alterative definition.

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. Globally, operators that have leapfrogged their technology solutions to NGN and internet protocol have created for themselves endless boundaries of opportunities, for example Telstra is a global player in the telecommunications and ICT arena and does not require to physically install its switches all over the world but to strategically have its points of presence in areas where it chooses.

The advent of the internet protocol has basically created virtual presence anywhere and not necessarily in a defined geographic location.

The two candidate services identified for potential declaration has 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.

Q6: Is there a need for NICTA to consider the potential declaration of wholesale capacity on national backhaul services? Please explain the reasons for your answer and support it with evidence where possible.

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.

It is a fact that a lot of existing backhaul capacity is for self-supply purposes, and costs of providing and maintaining these links are grossly subsidized by those operators in their retail services prices.

Due to the substantial number of existing operators, the retail services market is a very competitive one.

However, recent activity involving the emerging of a significantly dominant player in the mobile market had compromised the competitiveness of this market with the dominant mobile operator using its market base security to increase its retail services rates beyond and above normal competition prices.

Telikom PNG would also like to point out that for a small sized economy the PNG retail services market already looks saturated with the existence of three mobile markets and a very competitive ISP internet access market (consisting of more than five ISPs), these two streams of services being the main consumers of backhaul capacity and bandwidth.

For this scenario the notion of self-supply of capacity is a good one for backhaul connectivity given the tough PNG terrain conditions being a factor against the use of Service Level Agreements (SLA) and the selling of backhaul capacity.

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.

NICTA would do well by leaving this market alone.

Therefore applying the conditions for declaration based on the declaration of a relevant market, declaration of SMP position and the declaration for ex ante regulation may fall short of meeting the specific criteria for each declaration for this market.

The issue of substitution and alternatives for backhaul capacities is a non issue.

Similarly there are no foreseeable high and non-transient barriers like cost barriers etc, to entry in the backhaul capacity market which means fair competition in that market can be realized.

The only scenario where this market can be declared will be based on the emerging of a monopoly like-power out of the current market players or operators.

Q7: Do you agree with NICTA staff's proposed conclusion that the declaration of the following two services would satisfy all of the declaration criteria in section 128 of the Act:

- **Wholesale capacity on, and access to, international fiber-optic submarine cables; and**
- **Wholesale access to international gateway facilities at submarine cable landing stations**

Telikom PNG does not agree with the conclusion drawn as tabulated by NICTA.

However, Telikom PNG is of the view that the actions already taken by NICTA to deregulate international connectivity in line with the overall technology neutral licensing of providing telecommunication services, the overall objective in section 124 of the Act has already been achieved with the promotion of effective competition and economically efficient use of technology.

This is notable from the choices customers are making moving away from Telikom PNG and working with other providers.

Telikom reiterates that the declaration criteria in section 128 of the Act have not been fully satisfied as per the objectives of the Act.

	DECLARATION CRITERIA	WHOLESALE CAPACITY ON, AND ACCESS TO, INTERNATIONAL FIBRE-OPTIC SUBMARINE CABLES	WHOLESALE ACCESS TO INTERNATIONAL GATEWAY FACILITIES AT SUBMARINE CABLE LANDINGS
A	The declaration will further the achievement of the objective set out in Section 124.	Already achieved with the introduction of technology neutral licensing and the choices that customers are now privileged to.	
B (i)	In relation to the competition objective, access or increased access to the wholesale service is necessary for the promotion of effective competition in at least one market other than the market for the wholesale service	<p>Telikom is of the view that access or increased access to the wholesale services is being achieved indirectly through the provision of technology neutral licensing along with existing competitors directly participating commercially with Telikom's current set up. However, some customers have chosen to deal directly with international service providers licensed in PNG to have direct wholesale access apart from going through Telikom PNG, examples are the mining companies, country embassies or the respective High Commissions and banks.</p> <p>Telikom's retail competitors are currently using and increasing their access to the wholesale service, example Digicel, Datec, Daltron, etc.</p>	
B	Competition Objective: <i>"wholesale service is supplied</i>	Telikom welcomes the introduction of technology neutral licensing that NICTA has already introduced. Such decisions by NICTA en-	

(ii)	<p><i>in whole or in part via are facilities that cannot feasibly be substituted, as a matter of commercial reality, via another facility in order to supply that wholesale service” ...</i></p>	<p>couraged many international players to consider investments in PNG. The number of players now accessing the international market directly to and from PNG is a testament to this which means substitution of access is readily possible. Telikom PNG chose to invest in optical fiber as its means to provide services internationally based on commercial decisions. The introduction of technology neutral licensing and the advent of technology in the area of internet protocol provide the same opportunity to any other investing operators. Therefore the issue of providing service through a facility that cannot feasibly be substituted as a matter of commercial reality is a non issue.</p> <p>Telikom does not own any subsea optical fiber marine systems, however, Telikom had invested in accessing the available subsea optical marine system namely PPC 1 and APNG 2.</p>
C (i)	<p>In relation to the efficient objective, declaration would not materially compromise the incentives for efficient investment in any facility over which the wholesale service may be supplied.</p>	<p>Telikom is of the view that through its endeavor in technology neutral licensing NICTA has indirectly satisfied the objectives stipulated in the Act to encourage competition and more choices for the customer and at the same time provide an opportunity for healthy investments.</p> <p>The challenge for Telikom in its current investment in wholesale services is to recover its investment within the thirteen year IRU agreement it signed with its current fiber optics cable wholesale service provider.</p>
C (ii)	<p>In relation to the efficient objectives, 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.</p>	<p>AS above</p>
C (iii)	<p>In relation to the efficiency objective, in the case of wholesale services that are facilities access services, increased access to the wholesale service would avoid inef-</p>	<p>As above.</p> <p>In addition 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</p>

<p>efficient replication of underlying facilities that may be inefficiently shared.</p>	<p>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.</p>
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Q8: In the event that either or both of the candidate services are declared by the Minister, what price and/or non-price related terms and conditions do you believe that NICTA should set out in the associated service specific pricing principles? Please support your answer with reasons and evidence where possible.

Telikom PNG maintains its overall position that it opposes the declaration of the wholesale services in which it was granted an exemption from up to the 1st July, 2012, to suggest price /non price related terms and condition would give the contrary view.

Q9: In the event that either or both of the candidate services are declared by the Minister, what are the factors relating to the technical and operational quality and timing' of the supply of the candidate services that access seekers would expect to be covered and protected by section 136 of the Act?

Telikom PNG maintains its overall position that it opposes the declaration of the wholesale services and maintains 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 and therefore refrains from further comment to this part of the Inquiry.

Telikom welcomes competition however, Telikom is also mindful that any investments undertaken by any operators would have to be commercially viable.

The choice to invest remains with the operators, therefore, Telikom encourages consideration for such return on investment.

Q10: In the event that either or both of the candidate services are declared by the Minister, is there a need for NICTA to add detail to the requirements of section 136 of the Act (e.g. by way of a guideline)? If so, what should that additional detail address and why?

Telikom PNG maintains its overall position that it opposes the declaration of the wholesale services and maintains that it has not abused its potential SMP 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 and therefore refrains from further comment to this part of the Inquiry.

Telikom is of the view that NICTA has allowed more access to other interested operators to enter this market.

Telikom also notes that the entry of more operators have given opportunity for users of the services to demand for better quality services through service level agreements.

Q11: Do you agree with NICTA staff's proposed conclusion that there is a national market for wholesale access to capacity on international communications satellites? Please explain the reasons for your answer and support it with evidence where possible.

Telikom PNG notes the entrant of the many new players and choices done by corporate organizations that were Telikom's customers before that there is a national market for wholesale access to capacity on international communications satellites as a direct result of the deregulation initiated by NICTA.

The advent of technology in the area of satellites has made it possible for accessibility in this technology medium.

Q12: Do you agree with NICTA staff's proposed conclusion that the market for wholesale access to, and capacity on, international communications satellites is not susceptible to en ante competition regulation?

Telikom is of the view that access to satellite is already deregulated where Telco's, ISPs, mining companies and banks have direct connectivity to Satellite providers such as Digicel, Bmobile , Global, Hitron, Datec, Remington, Telstra etc.

Telikom PNG understands that most of these satellites are state of the art systems being internet protocol (IP) based therefore, this would reflect to better bandwidth efficiency thus, lower costs.

Q13: What are the factors that contribute to the relatively high price of international calls into PNG? What can NICTA do to encourage reduction in those call prices?

Telikom PNG considers the following contributory factors such as cost of originating a call from another country which unfortunately is not determined by Telikom is a prominent factor, in addition to this; all operators have their own cost elements and pricing strategies that are utilized.

However the following are considered as essential factors and include:

1. Pricing Criteria of the distant Operator
2. In payment Terminal rate as a cost component on the retail price
3. Our termination rate is US\$0.30/min where as Digicel rate is higher and we understand it is in the vicinity of US\$0.50/min.

If NICTA wishes to, it can further investigate the reasons for the higher call rates of calls into PNG and can inform the relevant overseas Regulatory bodies and raise the concern.

Q14: Do you agree with the view of NICTA staff that the domestic termination in PNG of an international inbound call is covered by the existing declarations of the Domestic Mobile Terminating Access Service and the Domestic Fixed Termination Access Service? Please explain the reasons for your answer.

Telikom PNG does not agree to this view as these are two separate networks with their own CAPEX/OPEX cost elements.

The CAPEX or Capital cost would be referred to as the initial investment (start-up) on the Mobile network and Fixed network and the OPEX is the Operating expenses on the upkeep of the service. The Operating expenses include; power, wages, fuel, rental, satellite cost, etc to keep the network running to provide service.

Thus, the two classes of rates for Domestic Fixed service referred to as Fixed termination Rate (FTR) and Domestic Mobile service referred to as Mobile Termination Rate (MTR), the current domestic FTR; K0.09/min Peak/ K0.07/min Off-peak and MTR; K0.26/min Peak /K0.22/min Off-peak which cannot cover the current In pay rate of US0.30/min (K0.67/min) for International Inbound calls.

TELIKOM PNG in pay charges is separate from domestic as we have a CAPEX cost on the cable investment that carries these traffic.

These were the settlement rates determined by previous ICCG for settlement for domestic/ national traffic passed between Telikom PNG, Digicel and Bemobile.

The termination rate for International Inbound call for fixed line is US\$0.30/min (K0.67/min). This is referred to as the In pay rate which is charged to International Carriers, Telstra, Optus, Pactel and TNZ whom we have direct voice circuits with, for their oversea calls into PNG.

Telikom understands that the current termination rate for International Inbound call for mobile is US\$0.50/min (K1.11/min).

It is to be noted that the fixed line termination rate is lower than the mobile termination rate however, when one considers the day to day operations of a fixed line network as opposed to a mobile network it is expensive to maintain a fixed line network.

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