DIGICEL (PNG) LIMITED

Submission to

NICTA

Consultation Paper on

Channelling plan for 2.6 MHz & Proposed TDD Synchronisation

19 June 2023

Executive Summary

Digicel welcomes this opportunity to participate in NICTA's consultation for the 2600 MHz band. This will ensure that NICTA has access to feedback on the very latest thinking about the 2600 band as practiced and experienced by Digicel in other markets around the world.

Digicel provided comprehensive feedback on earlier consultations related to this 2600 band. It is very encouraging to see that NICTA listened to the N41 feedback and advice from Digicel and other respondents in Papua New Guinea. This will ensure that a much better TDD based band plan, band 41, will be in place to maximise the potential for this band in Papua New Guinea.

However, Digicel is surprised to see that the proposed N41 band in Papua New Guinea will start at 2500 and finish at 2690. This is not the conventional or full definition of this N41 band, and national band plan limitations should be avoided. They only lead to confusion and can result in equipment issues. Digicel strongly advises that NICTA adopt conventional band limits for this N41 band in Papua New Guinea and implements the following N41 band definitions.

Start: 2496 MHz

Finish: 2690 MHz.

Despite repeated requests, as at the date of this submission Digicel has not been provided a copy of the TDD Synchronisation Guidelines 2023 which are referred to by NICTA. We remain hopeful that a copy will be provided by NICTA soonest so that we can comment on it.

Lastly, with the introduction of this new 2600 band in Papua New Guinea, Digicel respectfully urges NICTA to adopt a strict demand-basis for the award of any 2600 MHz spectrum. All spectrum allocations should be on an as-needed basis with no room now for legacy or equal spectrum reservations given spectrum is a valuable State resource.

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2 Introduction

Digicel welcomes this opportunity to participate in NICTA's public consultation on the "Draft Band Plan 2600 MHz" ("Draft Policy") and to provide feedback and comments as requested.

3 Background

The Draft Policy document is an attempt by NICTA to establish a robust and comprehensive 2600 MHz band plan in and for Papua New Guinea. The Draft Policy has resulted from an earlier consultation, and it is encouraging that most of the comments have been taken on board.

Digicel provides below further details and feedback on particular aspects of the Draft Policy.

4 Specific Comments on the Draft Policy

4.1 Benefits of a TDD Only Band Plan

Digicel believes that the chosen TDD only band plan, Band 41 from 2496 to 2690 will be a much better option for Papua New Guinea. This arrangement can commence life as a 4G-only band with easier transitions to 5G services as required.

- There will be no loss of spectrum to inter-system guard bands.
- Operators can deal effectively with traffic asymmetry.
- Average powers are lower in TDD systems, leading to reduced OOB emission issues.
- With 194 MHz of TDD spectrum, larger per operator allocations can be accommodated. This ensured the maximum possible spectrum efficiencies in Papua New Guinea.

4.2 TDD system Synchronisation in Papua New Guinea

TDD systems supporting multiple operators require common synchronisation policies. It appears that NICTA has compiled a proposed TDD synchronisation policy entitled "NICTA Draft TDD Synchronisation Guidelines, 2023". However, that document has not been provided to Digicel despite repeated requests. We hope to be afforded an opportunity to review and comment on it before NICTA takes any further step in this consultation process.

In the circumstances, Digicel is unable to complete its comments on this 2600 band consultation without being afforded an opportunity to review the draft synchronisation plan.

4.3 Spectrum Allocation Policies

Traditionally, spectrum has been allocated in Papua New Guinea on an equal basis to each operator. So bands are split evenly between Telikom PNG/bmobile (together, "Telikom") and Digicel and now including Vodafone. The 900 MHz band started on this basis with 11.6 MHz per operator but is now split evenly between Telikom and Digicel. The 1800 MHz band is similarly divided as is Band 28 with a provision of 15 + 15 MHz for each of 3 operators which are Telikom, Digicel and Vodafone.

These allocations have absolutely no correlation with the spectrum requirements of the operators concerned. These allocations are more of a right with some operators underusing their allocations while others are screaming out for more spectrum to meet the demands in their networks. Some Papua New Guinean operators may not even be using spectrum set aside for them or been made available to them by NICTA, as is the case with Kumul Communications Limited ("KCL").

Papua New Guinea is now a mature network country with two operators approaching or exceeding 14 years, and a new entrant entering their second year. It is time that spectrum availability matched the requirements and demands of operators. There is no role for any sentiment that operators must have matched spectrum allocations irrespective of the network demands because, ultimately, this adversely impacts the consumers of Papua New Guinea.

International reports as well as domestic reports put Digicel's share of Papua New Guinea's mobile market to be in the low to mid 90% figures. So, with 3 million subscribers, this means the current competitors in Papua New Guinea to Digicel, Telikom will be operating with subscriber numbers in the couple of hundred thousand and maybe similar for Vodafone. These disparate subscriber bases simply cannot have the same spectrum demands to meet the requirements of its subscribers so why should they have the same spectrum allocations? To maintain such a mechanism is to discriminate against the consumers who choose to avail themselves of Digicel's network.

So now that a sensible and agreed 3GPP band structure has been decided for the 2600 MHz band in Papua New Guinea, Digicel respectfully urges NICTA to adopt a strict demand basis for the award of any 2600 MHz spectrum.

DIGICEL (PNG) LIMITED

Submission to

NICTA

Consultation Paper on

Draft 3500 MHz band Plan

19 June 2023

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1 Executive Summary

Digicel welcomes this opportunity to participate in the latest NICTA consultation for the 3500 MHz band. This will ensure that NICTA has access to feedback on the very latest thinking re the 3500 band as practiced and experienced by Digicel in other markets around the world.

Digicel provided comprehensive feedback on earlier consultations re this 3500 band. In summary:

1. Digicel believes that NICTA should adopt a needs-based approach to allocating spectrum in Papua New Guinea, instead of allocating equal amounts of spectrum to all licensed operators. All spectrum allocations should be fully justified, and a firm use it or lose it policy should be in place.
2. Digicel believes the N78 band approach is appropriate. However this should cover 3300-3600 giving rise to 300 MHz of possible spectrum, and the ability to support up to 3 x 100 MHz 5G channels. This will also ensure separation from the comprehensive C band services above 3600 MHz in Papua New Guinea.
3. In Digicel's respectful view, there is little role for the high band spectrum in Papua New Guinea. Perhaps a light touch licensing regime or a class licensing-based approach can be adopted in these bands. Maybe NICTA should examine the latest thinking and proposals for non-terrestrial networks as these, supported by appropriate comprehensive spectrum licensing, could play a significant role in Papua New Guinea.
4. Digicel totally rejects any NICTA policy to limit or cap spectrum allocations. All spectrum allocations should be on a needs basis with full justifications and commitment to rollout timescales, with enforcement by NICTA. Robust "use it or lose it" policies must be in place and there should be no legacy allocations which remain unused. If an operator needs, and can justify, whatever percent of the available spectrum, then it should be available to them and through them, the consumers.

2 Introduction

Digicel welcomes this opportunity to participate in the NICTA public consultation on the "Draft Band Plan 3500 MHz" ("Draft Policy") and to provide feedback and comments as requested.

3 Background

This Draft Policy document is an attempt by NICTA to establish a robust and comprehensive 3500 MHz band plan in Papua New Guinea. The Draft Policy has resulted from an earlier consultation, and it is encouraging that some of the comments have been taken on board.

Digicel provides below further details and feedback on particular aspects of the Draft Policy.

4 Specific Comments on the Draft Policy

Digicel has extensively reviewed the draft proposals for the 3500 band, and would like to provide the following feedback and comments on the draft document.

4.1 Spectrum Allocation Policies

Traditionally, spectrum has been allocated in Papua New Guinea on an equal basis to each operator. So, some bands are split evenly between Telikom PNG/Bmobile (together, "Telikom") while other bands, 700 MHz and 2100 MHz accommodate Vodafone. The 900 MHz band started on this basis with 11.6 MHz per operator but is now split evenly between Telikom and Digicel. Band 28 with a provision of 15 + 15 MHz for each of 3 operators which are Telikom, Digicel and Vodafone. Band 3, 1800 MHz contains an allocation of 12.5 MHz which remains unused and should never be tolerated by NICTA. Respectfully, NICTA should be actively using its powers to recover this spectrum and allow it to be used by the deployed operators to the economic benefit of the people of Papua New Guinea. These allocations have absolutely no correlation with the spectrum requirements of the operators concerned. These allocations are more of a right with some operators underusing their allocations while others urgently need more spectrum to meet the demands on their networks.

Papua New Guinea is now a mature network country with two operators for approaching 14 plus years and a one-year old 3rd operator. It is time that spectrum availability matched the requirements and demands of operators. Respectfully, there is no role for any sentiment that operators must have matched spectrum allocations irrespective of their network demands, and Digicel submits further that Papua New Guinean consumers would agree.

International reports as well as domestic reports put Digicel's share of the Papua New Guinean mobile market in the low to mid 90% figures. So, with 3 million subscribers, this means the current competitors in Papua New Guinea to Digicel (Telikom and Vodafone) will be operating with subscriber numbers in the couple of hundred thousand. These disparate subscriber bases simply cannot have the same spectrum demands to meet the requirements of its subscribers so why should they have the same spectrum allocations.

Digicel urges NICTA to adopt a strict demand basis for the award of any 3500 MHz spectrum.

4.2 3500 Band Plan

NICTA's adoption of N78 as the band plan/channelisation plan for the 3500 MHz band in Papua New Guinea is the correct approach for this unique market.

Digicel understands the issues associated with C band - coexistence for satellite services. Indeed, as the holder of significant amounts of C band satellite spectrum, care must be taken to ensure the 5G use and satellite services use can happen in the same part of the spectrum. N78 is in fact defined from 3300 to 3800 MHz and Digicel believes that in Papua New Guinea, the defined N78 should start at 3300 and reach up to 3600. This leaves significant amounts of C band satellite service spectrum above 3600 MHz while also making available 300 MHz of 5G spectrum.

This Papua New Guinean definition of band N78 can accommodate up to 3 x 100 MHz 5G channels. As stated in Digicel's responses to the 800 MHz and 2600 MHz band consultations and repeated here, Digicel urges NICTA to adopt a spectrum award policy that ensures all spectrum in Papua New Guinea should be allocated on a needs basis only. There is no place in Papua New Guinea for legacy allocations or dividing up spectrum equally between operators, irrespective of their needs for the spectrum. All allocations must be on a needs basis with full justifications and commitments to rollout plans and timescales. Any failure to use any allocation should result in spectrum recovery under a "use it or lose it" policy and making unused spectrum available for other operators who need it.

On a final note, with respect to this 3500 MHz mid band spectrum, Digicel understands that there is significant unauthorised use of this band in Papua New Guinea. This spectrum is used to support PTP and PTMP links, often supporting corporate services. Respectfully, NICTA must ensure robust steps are taken to close down any such use of these bands so that they can be made available in an interference free manner to potential licensed users.

DIGICEL (PNG) LIMITED

Submission to

NICTA

Consultation Paper on

Market-Based Spectrum Assignments and Pricing in PNG:

A Consultation

19 June 2023

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1 Executive Summary

Digicel (PNG) Limited and Hitron Limited (together, "Digicel") welcomes this opportunity to participate in NICTA's "Market-Based Spectrum Assignments and Pricing in PNG: A Consultation" consultation process.

This topic in particular goes to the heart of a licensee's operations and hence Digicel has considered the consultation paper with great interest and, in part, concern.

Digicel is of the view that the current assignment process meets – and will continue to meet – the needs and demand of the people of Papua New Guinea, but it requires effective control and regulation by the National Information and Communications Technology Authority ("NICTA") using powers it already has. In that regard, Digicel respectfully disagrees that there is a need or demand for market-based assignments in Papua New Guinea.

In Digicel's view, NICTA's proposal will give rise to wholly unacceptable insecurities and uncertainties which will have to be factored into a licensee's operations given the peculiar circumstances of Papua New Guinea. It will result in uncertainties around spectrum renewal, spectrum award, license fee levels, business and finance planning as well as forecasting, for instance. Given the recognised high costs of deployment in Papua New Guinea, the proposal – if introduced – will affect investment decisions. Respectfully, this should not be allowed to occur in Papua New Guinea where there is already a desperate need for properly financed, incentivised and resourced operators.

Section 1.4 on page 4 discloses NICTA's belief that a market basis would "more efficiently" allocate spectrum. In Digicel's view, nothing could be further from the truth. Market forces have no history of efficiently allocating spectrum, but they do result in those with big budgets acquiring spectrum. There is no, or no sufficiently demonstrated, correlation to being able to efficiently implement this spectrum.

Digicel agrees with the NICTA statement in section 1.7 on page 4, that some operators holding spectrum under administrative rights are "hardly providing" services to Papua New Guinea's consumers. This, however, is a direct result of NICTA's inability to deploy the full range of current powers available to it under the *National Information and Communications Technology Act* 2009 ("Act"). In comparison to other international regulators, NICTA enjoys wide ranging powers, and in some cases considerably stronger powers, that should be invoked to ensure effective use of spectrum. These include implementing and ensuring effective and viable targets are achieved, implementing robust use-it-or-lose-it policies and ensuring spectrum is awarded to those operators that need the spectrum and can justify the allocation. This is in preference to any legacy rights or allocating spectrum equally between very unequal operators. Respectfully, as an example, Digicel's achievements over the past 15 years cannot be compared to the feeble achievements of Telikom in the same period.

Section 1.12 mentions NICTA actively considering market-based assignments and suggests that this is best practice in spectrum management around the world. Digicel respectfully disagrees. Market based assignment does not always ensure effective or fair distribution of spectrum. It only ensures that those with the financial backing can obtain spectrum but says absolutely nothing about their ability to deploy that spectrum.

Careful consideration should be given to the case of Kumul Communications Limited ("KCL") with a 12.5 MHz allocation in Band 3. NICTA assigned the spectrum to KCL, and despite KCL having absolutely no deployment in Papua New Guinea (effectively sitting on the spectrum) NICTA failed or refused to take any meaningful step to recall the spectrum for the benefit of the people of Papua New Guinea. As at the date of this submission, it is unclear whether KCL have the apparent means to deploy, or the status of the subject spectrum holdings.

It is important to note that spectrum costs are only part of the combined costs of network deployment and operation in Papua New Guinea. This market has extremely high OPEX costs, certainly compared to most of its neighbours. This is due to issues such as the high degree of off-grid working, logistics with refuelling and maintenance as well as the high level of network vandalism and the associated security and repairs costs.

All aspects of an operator's costs must be deliberately considered before any statements are made about market-based assignment being better than the status quo. The former has the very real potential to significantly add to operator's costs and this will ultimately impact Papua New Guinean consumers.

Digicel recognises the 11 mobile spectrum bands listed as high definition spectrum ("HDS"). With careful consideration between presently competing operators, this is more than enough spectrum to ensure that the 3 main operators in Papua New Guinea can have access to adequate spectrum allocated on an administrative basis. The 700/800/900 bands can ensure adequate low band for 3 operators; likewise, the mid bands.

In any case, it is a mandatory requirement of s.36 of the Act that NICTA first determine that there is a shortage of spectrum (which Digicel denies) before it can adopt market-based allocations. Apart from some current issues with band 3 due to NICTA's inability to effectively police the current allocations, there is – in Digicel's respectful view – more than enough spectrum across the 11 HDS bands listed.

Section 164(c) of the Act places a duty on NICTA to provide a responsive and flexible approach but it does not expressly speak to market-based spectrum pricing. NICTA has more than enough powers presently to deal with the matters it has flagged as a concern, and should it choose to use its powers as an effective regulator should, Digicel believes it will meet its obligations using administrative spectrum pricing.

2 Introduction

Digicel welcomes this opportunity to participate in the NICTA public consultation on the "Market-Based Spectrum Assignments and Pricing in PNG: A Consultation" ("Draft Policy") and to provide feedback and comments as requested.

3 Background

The Draft Policy document is an attempt by NICTA to establish robust and comprehensive spectrum assignment policies in and for Papua New Guinea. Digicel provides below further details and feedback on particular aspects of the Draft Policy.

4 Specific Comments on the Draft Policy

4.1.1 High Demand Spectrum ("HDS")

Digicel notes the HDS definition of 12 spectrum bands comprising one VHF TV band and 11 Mobile network bands.

As an existing user of VHF Band 3 in Papua New Guinea, Digicel can confirm a total inefficient use of the band by existing users. Existing users include religious groups who either do nothing with the band or use it very inefficiently. This is at the same time that broadcasters are or were seeking additional channels, but NICTA seemingly abdicated its spectrum management responsibilities and failed to use its extensive and comprehensive powers to stop this happening. As a consequence, broadcasters switched to DTH services rather than DTT services and most likely will remain so. It is very possible that there may be little or no continued or future use of this band.

The mobile bands comprise spectrum from 450 MHz to 3500 MHz and this is to support 3 operators in Papua New Guinea. This is a very significant amount of spectrum, and with appropriate NICTA management and inter operator co-operation, this is more than enough spectrum to support 3 operators without any demand exceeding supply. Consequently, when looked at through the mandatory supply -v- demand lens imposed by s.36 of the Act, makes market-based assignment inappropriate.

Looking at the 700, 800 and 900 bands together, this is over 100 MHz of FDD spectrum and more than enough to accommodate 3 operators and their requirements for low band spectrum. It is not unusual in other countries to see one operator in one of the bands, another with allocations across 2 of the bands and maybe one operator,

perhaps with legacy GSM requirements in all three bands. Carrier aggregation will easily address any trunking efficiencies. This spectrum enjoys very favourable propagation characteristics and is an essential part of any coverage strategies in Papua New Guinea. Working together with NICTA, it should be possible for Papua New Guinean operators to have access to adequate amounts of low band spectrum. Again, demand does not exceed supply.

Band 3 contains 75 MHz and again is more than enough in most countries to accommodate 3 operators provided no spectrum hoarders such as KCL are present. Band 3 can also be considered jointly with Band 1 and its 60 MHz of FDD spectrum to provide a total of 135 MHz of favourable mid band spectrum. The 2300 band or band 40 comprises 100 MHz of TDD spectrum and is very popular in some countries including Australia, while band 41 comprises almost 200 MHz. Again, the combination of bands 40 and 41 leaves 3 operators with an enormous amount (almost 300 MHz) of TDD spectrum. The 3500 band structured as band N78 and comprising up to 300 MHz of TDD spectrum tops off the mid band allocations.

With respect, Digicel submits that it is not credible to say that over 100 MHz of spectrum below 1 GHz, a total Band 1 and 3 combined spectrum capability of 135 MHz, almost 300 MHz of band 40 and 41 together and topped off with up to 300 MHz at 3500 is not enough to support 3 operators in Papua New Guinea. It can and will, and means that any market-based assignment processes are not justified or nor permissible under s.36 of the Act.

4.1.2 Section 36 *National Information & Communications Technology Act* 2009

Section 36 of the Act provides:

> *36. VALUABLE STATE RESOURCES.*
>
> *(1) For the purposes of this Section "valuable State resources" means –*
>
> *(a) either –*
>
> *(i) a group or type of numbers or spectrum that NTCTA considers the demand for which is likely to exceed supply; or*
>
> *(ii) satellite orbital slots; or*
>
> *(iii) content licenses that are designated in regulations to be valuable State resources due to numerical limits on their allocation; or*
>
> *(iv) such other things as a prescribed by the regulations to be a valuable State resource for the purposes of this Section; and*

(b) in respect of which NICTA considers that an auction, tender, commercial negotiations, or market-based allocation process ("relevant allocation process") would allocate that valuable State resource more efficiently than under NICTA's standard allocation process.

Given the approaching 1 GHz of radio frequency spectrum available to operators in Papua New Guinea ranging from 450 MHz to 3500 MHz, the demand cannot exceed supply and trigger a requirement to introduce and use a market-based assignment process. In cases where single bands may not support 3 operators, there are creditable options as seen in other countries, to use adjacent spectrum or combinations of adjacent bands.

Careful cooperation and coordination between the 3 operators in Papua New Guinea, supported by NICTA making full use of its existing regulatory powers, will ensure this is possible.

4.1.3 Impact of Market Based Spectrum Assignments

Papua New Guinea is a particularly unique market in which to deploy mobile phone networks. This is true when compared to neighbours as well as other similar countries across the world. In fact, it is arguable that there are no direct comparisons to Papua New Guinea in terms of topology, demography, geography, population distribution, logistical access (or not), all of which gives rise to very challenging radio environments.

The humid atmosphere and tropical, difficult topology means shorter coverage ranges and a requirement for more base stations to achieve significant coverage levels. The construction of these sites in Papua New Guinea is challenging and, in many cases, involves helicopter construction works, extensive off-grid working, the use of expensive satellite links and/or the construction of microwave link chains and so forth. Per site construction costs in Papua New Guinea can be double and more the cost of site works elsewhere in the world. Maintaining these sites is also a challenge with ongoing access issues. Helicopter access for maintenance and faults, all at significant cost is the norm for many sites. Add to this the vandalism costs and other security costs and Papua New Guinea is a very expensive place to deploy, build, maintain and operate mobile phone network infrastructure.

The decision to deploy and expand these networks is a careful balance of costs and benefit and returns, and the last thing that any serious operator or indeed the consumers of Papua New Guinea need, is the wholly unnecessary cost challenges associated with the introduction of market-based assignment mechanisms including any associated tender, bid or auction processes.

Despite NICTA's statement at section 3.7 about not wanting to raise significant fees, it will happen. This is the very likely outcome of such auction and tender processes if NICTA proceeds, and the consumers of Papua New Guinea will be the ultimate losers.

With respect, Digicel sees no reason to introduce market allocation processes with any resulting cost increases in Papua New Guinea.

4.1.4 NICTA Using Existing Powers.

Digicel agrees with NICTA's statement in section 1.7 on page 4 that some operators holding spectrum under administrative rights are *hardly* providing services to Papua New Guinean consumes.

There is absolutely no excuse for this given the wide-ranging regulatory powers that NICTA presently has at its disposal. Everything from setting coverage and performance targets, to full oversight of performance and achievements and ultimately the right and ability to recover any unused or hoarded spectrum. The current KCL position, holding 12.5 MHz of unused prime band 3 spectrum is – with respect – simply indefensible. With respect, this is a direct result of NICTA's failure to use the full range of current powers available to it in the Act and its subordinate regulations.

In comparison to international regulators, NICTA holds a wide range of powers and in some cases considerably stronger powers that should be used to ensure effective use of spectrum. These include powers for implementing and ensuring effective and viable targets are achieved, implementing robust use-it-or-lose-it policies and ensuring spectrum is awarded to those operators that need the spectrum and can justify the allocation of its required spectrum. This is in preference to any legacy rights or allocating spectrum equally between very unequal operators. In no way can Digicel's achievements over the past 15 years be compared to the feeble achievements of Telikom.

Digicel believes that NICTA should now fully use its comprehensive regulatory powers to effectively manage existing spectrum bands and allocations in Papua New Guinea, ensure interference-free use so that networks do not suffer capacity or performance issues, and maintain perfectly adequate administrative and apparatus based spectrum allocation mechanisms.

5 Answers to Specific Consultation Questions

5.1 Question 1:

Digicel does not agree on the principle of designation High Demand Spectrum (HDS). This is unnecessary and unjustifiable. As explained in section 4.1.1, there is more than enough spectrum available to support 3 operators in Papua New Guinea and the emergence of a 4th is very unlikely.

5.2 Question 2:

Digicel does not agree with NICTA's proposed definitions as there is no need for such definitions in Papua New Guinea.

5.3 Question 3:

Under no circumstances should any spectrum be issued on a market-based in Papua New Guinea. There is simply no need and any section 36 test to facilitate such use will fail. Contrary to section 3.4, Digicel is not aware of any justification for the introduction of this allocation mechanism.

5.4 Question 4:

No. Any such designation is unnecessary and therefore unjustifiable.

5.5 Question 5:

Digicel does not agree with any of the presented NICTA rationale for spectrum pricing on a market basis. There is more than enough spectrum, almost 1 GHz of usable spectrum from 700 MHz up to 3500 MHz, that if properly managed and administered by NICTA, can when allocated on an administrate basis, meet the demands of Papua New Guinean consumers.

5.6 Question 6:

There is no need to introduce market-based allocation processes in Papua New Guinea nor to receive the associated market-based spectrum fees. The current apparatus and administrative allocation processes are perfectly adequate, and serve Papua New Guinean consumers well. Current fees received from operators in Papua New Guinea should be more than adequate to cover NICTA's costs given they would be, in our estimates, approaching PGK20,000,000 annually.

In any case, under s.36 of the Act, what happens to any market derived fees is clearly laid out as:

> *(2) NICTA may allocate valuable State resources, in accordance with any procedures for the relevant allocation process as set out in the rules, subject to any regulations, but shall pay the proceeds of the relevant allocation process as follows –*
>
> *(a) NICTA may retain an amount from those proceeds equal to the aggregate of –*
>
> > *(i) the reasonable costs that NICTA incurred in undertaking that relevant allocation process; plus*
> >
> > *(ii) an amount equal to the standard charges that would have been recovered by NICTA for the allocation of the valuable State resource if NICTA had followed its standard allocation process; and*
>
> *(b) NICTA shall pay all remaining proceeds of the relevant allocation process as follows*
>
> *–*
>
> > *(i) 50% into the Universal Access and Service Fund; and*
> >
> > *(ii) 50% into the Consolidated Revenue Fund.*

5.7 Question 7:

Digicel maintains that the current administrative and apparatus license approaches should be maintained, as it cannot see any justification for the introduction of a market-based approach to spectrum allocation. As set out at 4.1.1 above, unless NICTA can demonstrate that demand is likely to exceed or has exceed supply (which Digicel submits is not the case), the introduction of any such process would be a beach of s.36 of the Act.

6 Miscellaneous

In Annexe 1, section 1.3 under Lots mentions new entrant community licenses assigned on a regional basis.

Digicel does not believe that this would be an effective or efficient way to allocate spectrum. Instead, it would result in parts of often very critical spectrum being set aside and left unused, as rolling out such networks is expensive and often beyond the means of such organisations and bodies. We refer to the case of KCL and their allocation in band 3 and their inability to finance any network rollout. Instead, such spectrum could be used to benefit the consumers of Papua New Guinea and derive valuable spectrum fee income too.

Digicel believes private or community networks are not realistic options in Papua New Guinea. Instead, Digicel believes that it would be more prudent to consider some of the other approaches suggested in various APT PPDR and other private network guidance and advice documents. A cooperation agreement with an existing commercial mobile operator would be a far more effective plan to achieve these networks. In addition to conventional MVNO approaches, the latest 3GPP releases support features to allow the sharing of commercial networks while enjoying guaranteed quality of service levels, pre-emption, and priority access, benefiting from hardened networks as well as a quick to market approach. Such networks are now being deployed elsewhere in the world with a very significant undertaking, the ESN network already operational in the United Kingdom.