Response to MCIT / PTD Spectrum Roadmap Consultation

Myanma Posts and Telecommunications

Yangon

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1. Executive Summary

Myanma Posts and Telecommunications (MPT) welcomes this opportunity to respond to the MCIT / PTD Spectrum Roadmap consultation. MPT believes that spectrum policy is vitally important for national economic development and the growth of commerce and also to support the improvement of Myanmar citizens' and consumers' daily life.

Penetration and use of cellular telephone and broadband communications are supported by effective and efficient national assignment of spectrum. For this reason, MPT supports the widest consideration of spectrum policy by Government, the regulator, industry and civil society.

Need to increase spectrum assigned to mobile operators in Myanmar

MPT believes that there is strong justification to substantially increase the amount of International Mobile Telecommunications (IMT) spectrum assigned to existing cellular operators in Myanmar:

- Leading developed (and developing) markets[1] already have substantially more IMT spectrum assigned and in use by mobile operators, than Myanmar;
- With limited fixed communication infrastructure Myanmar has a heavier dependency on wireless networks than more developed, and many developing, nations. Wi-Fi off-load is also less available in Myanmar than in other markets. Consequently, the need to assign spectrum is greater;
- Assigning substantially more spectrum will grow Myanmar's national network capacity, improve national mobile cellular network coverage and contribute to economic and social transformation.

MPT requests MCIT/PTD prioritize early assignment of 1800 MHz and 700 MHz spectrum to existing cellular operators

- MPT supports assignment of 1800 MHz IMT spectrum in late-2016 / early-2017. 1800 MHz spectrum provides coverage and capacity for urban and suburban network deployment and is recognized internationally as the core roaming band for Long Term Evolution (LTE) technology. The global terminal ecosystem for the 1800 MHz band is well developed and MPT will be able to deploy commercial 1800 MHz LTE infrastructure rapidly once the band is assigned.
- MPT also supports assignment of 700 MHz IMT spectrum in 2017-2018. This will provide improved: in-building penetration, urban and suburban capacity and rural coverage including of rural forest and partial mountain areas. MPT strongly supports spectrum assignment of spectrum using the full regional APT 700 MHz band-plan to ensure maximum long-term economic benefit to Myanmar.

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[1] See, for example, http://www.plumconsulting.co.uk/pdfs/Plum_Jan2014_harmonised_spectrum_for_mobile_asean_south_asia.pdf.

MPT advocates assignment of spectrum to existing cellular operators at fixed prices set by MCIT/PTD to reflect the spectrum's fair economic value

Myanmar currently has a total of over **500 MHz** of globally identified IMT spectrum that is unassigned to any operator. In addition, there is a further **60 MHz** of spectrum in the 1400 MHz band which could be brought into service within an estimated 2 – 3 years following international harmonization and **90MHz** in 600MHz band which, although not identified for IMT, could be usable on a sub-regionally[2] harmonized basis if vacated by current government users in Myanmar.

MPT recommends 1800 MHz and 700 MHz spectrum be assigned equally to existing cellular operators on the basis of an *"assignment by fixed price"* as provided for under Myanmar's spectrum regulations, while reserving remaining 1800 MHz and 700 MHz spectrum for the anticipated 4th nationwide cellular entrant.

MPT recognizes that frequency spectrum is an important national resource and that it is right that operators should pay for its use. MPT advocates that new 1800 MHz and 700 MHz spectrum should be offered by MCIT/PTD to operators following an independent assessment of its fair economic value. MPT underlines its willingness to pay for spectrum on this basis and would advocate payment by instalments to help smooth nationwide infrastructure investment.

Under an assignment by fixed price, MCIT/PTD would commission an independent commercial and technical valuation of 1800 MHz and 700 MHz spectrum and use this valuation to negotiate spectrum prices with existing cellular operators.

Each of the current three existing cellular operators could be assigned up to an additional 100-120 MHz of spectrum[3], on the calculation, while leaving 140-200 MHz available, including to support a potential 4th cellular entrant.

Allocating spectrum evenly among three existing operators (or fourth assuming the reservation of spectrum for a 4th cellular entrant) reflects the approach to recent 900 MHz / 2100 MHz assignments to MPT and the other two operators. This mechanism supports effective competitive development of the existing communications market.

Assignment by fixed price based on assessing the technical and commercial value of spectrum avoids the risks of: *"overpricing"* spectrum on a per MHz basis so artificially limiting the amount of spectrum each operator is able to justify, or *"underpricing"* where spectrum offered at auction by Government is purchased by operators at below its full economic value.

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[2] Other countries considering the future use of this spectrum for broadband include: India, Pakistan and Bangladesh.

[3] Additional 100-120 MHz of additional spectrum is across all, currently unassigned, IMT bands, not just 1800 MHz and 700 MHz.

Payment by instalments supports smooth, continued investment in infrastructure and continued, rapid expansion of voice and data services.

MPT notes MCIT/PTD's view that assignment by auction is appropriate where there is substantial excess demand for new spectrum above supply, although MCIT/PTD should note that this approach is not used in all markets.

However, given the large amount of harmonized spectrum allocated to IMT, which is currently vacant in Myanmar, MPT believes that there is unlikely to be surplus demand from operators for IMT spectrum. Hence, assignment by fixed price will be more appropriate in the specific national situation of Myanmar during the next 5 years.

Following the assignment of substantial vacant spectrum MCIT / PTD should provide for re-farming of other, occupied bands including occupied 800 MHz spectrum which can then be made available for industry use.

MPT is keen to acquire additional spectrum on an equal basis with competitive players (Ooredoo and Telenor).

- Only by acquiring additional spectrum will MPT be able to keep pace with the competition and grow its market share.
- Any use of auctions risks that one or more (well-funded) operator is able to strategically to acquire a disproportionate share of available spectrum and to undermine the future development of a competitive market.

We advocate that the regulator should have responsibility for the management of spectrum assignments in Myanmar including, specifically, for the assignment of all spectrum designated as IMT at international level.

MPT would welcome the opportunity to understand MCIT/PTD's long term plans to provide policy consistency in its activities.

MPT supports the allocation and assignment of additional spectrum to microwave back-haul in order to facilitate the deployment of new base stations.

Question 1: Spectrum roadmap drivers

Question 1: (Drivers of the Spectrum Roadmap):

- **Political change**
- **Technology**
- **International developments**
- **Improvements to spectrum management and services.**

Q1 (a): Do you agree that these are the primary drivers for the roadmap?

We agree with these primary drivers of spectrum allocation especially:

- need for growth in nationwide network coverage, in penetration rates,
- further increase consumer demand for newer and more advanced products and services which increase total mobile data capacity needed substantially, and
- development of appropriate spectrum management regulatory frameworks
- discipline of band plans and standard,

It is important a national spectrum allocation roadmap should be developed while taking into consideration the overall balance of different factors.

In particular, it will be necessary to keep under review IMT frequency assigned and the timing of future assignments based on reports from industry on the growth of data traffic volumes and impact on service quality.

Q1 (b): Are there other drivers that should be considered?

MPT support the analysis which MCIT / PTD has undertaken in support of its Spectrum Roadmap consultation.

In addition to the primary drivers identified, MPT would urge MCIT / PTD to examine the amounts of harmonized spectrum allocated nationally to mobile operators in other, leading markets in Asia and globally.

MPT believes that Myanmar should move to converge its IMT spectrum allocated to operators with other markets – in particular to encourage a rapid economic and social transition this process should be rapid and, ideally, happen within 5 years.

Progressive development of an internet-enabled society in Myanmar should be anticipated and achieving a long term affordable pricing for Myanmar citizens is important and assignment of sufficient IMT spectrum will contribute to this goal.

Question 2: Creation of MCRC

Q2: What stakeholder benefits would you hope to see materialize from the creation of the new independent regulator?

We advocate that the regulator should have responsibility for the management of spectrum assignments in Myanmar including, specifically, for the assignment of all spectrum designated as IMT at international level.

We also would advocate a consultation process with industry stakeholders on the roles and responsibilities of the MCRC. This will help in alignment of industry expectations, including the development of a fair, competitive mobile market supporting the provision of good cellular services, effective management and assignment of frequency resources and prevention of unfair competitive practices as part of its role as a government body and sector regulator.from MCRC in addition to its roles as a government body and sector regulator. MPT would welcome the opportunity to understand MCIT/PTD's plans to provide policy consistency against a background of the formation of a new government.

Question 3: Register of Frequencies Assigned

Q3: Do you agree that completing a frequency register is a high priority and beneficial to spectrum users?

As indicated in the corresponding section of MCIT Roadmap for Consultation Part 1.0, it is important to carry out the functions listed, including the completion of a national frequency register. It is further important for MCRC/PTD to organize its approach to national spectrum use to implement the register while including both parties affected and expert third parties with knowledge of interference and coordination such as experts.

The frequency register is a valuable administrative tool for PTD. MPT supports its creation and use. We request that MCIT/PTD complete this step within a defined timeline.

Question 4: Spectrum policy

Q4 (Policy): Noting that specific consultations would take place as part of any new policy.

Q4 (a): Do you agree that it would be beneficial for MCIT/PTD to articulate a Spectrum policy that establishes a framework providing objectives, procedures and standards and guidelines to manage the radio frequency spectrum?

It will clearly be beneficial to make clear the policy of frequency and the formulation of a standardised procedure for spectrum assignment.

MPT would urge that future spectrum allocations are considered in a consistent basis reflecting overall national objectives and that these are not considered in isolation from each other.

Q4 (b): Do you agree that there needs to be clarification of spectrum policy concerning the roles of authorizing ministries when it comes to spectrum for broadcasting?

MPT fully supports the creation of a consistent national spectrum policy designed to support Myanmar's economic and social transformation and to operate in the long term interests of citizens and consumers.

The management of national spectrum should operate consistently with PTD then MCRC acting as lead administrative agency.

Coordination between broadcasting and mobile service including IMT is complex especially where countries are adjacent, such as in Europe. Not only international coordination but also domestic coordination requires commitment to reach agreement.

We advocate, in particular, that MCRC should have full responsibility, at least, for all spectrum designated as IMT at international level.

It is important that broadcasting interests in Myanmar are encouraged to follow the model of other, leading Asian nations and offer digital terrestrial TV services lower in 470-600 MHz bands in order to maximize available spectrum for future mobile broadband services.

In terms of policy disputes between industries such as communications and broadcasting Myanmar needs to develop an effective mechanism to consider and resolve these.

Question 5 - NTFA

Question 5 (NTFA): Do you support the changes made by PTD in the recently published and updated NTFA?

MPT supports Myanmar aligning fully with the Articles of Radio Regulation regarding IMT spectrum. We note that some footnotes mentioned in NTFA may not to be consistent with the Radio Regulations and MPT recommends addressing this as a part of Spectrum Roadmap consultation.

When reviewing, draft of revised NTFA should be delivered to not only its licensees but also those who are using the frequency band near or adjacent to the revised one. Those who are relevant to the revision are gathered to study technically, discuss adequately from each standing points and reach agreement. National frequency assignment should then be coordinated based on national agreement domestically.

Consideration of spectrum use prevents possible interference after the assignment of that frequency and telecommunication services in that spectrum can be maintained at a high quality and in a stable condition, benefiting users.

Question 6 – Equipment approvals

Question 6: (Equipment Standards) PTD invites comments concerning the establishment of a framework for equipment certification and approval for permitted equipment in Myanmar.

(Note: Respondents should factor the limited capacity within PTD as well as the time necessary to operationalize the independent regulator. Ideas may include a transitory approach to a full certification and approval process.)

MPT supports an approach by PTD which will effectively reduce the use of illegal radio equipment which interferes with the operator of cellular networks.

MPT is not clear of the costs and benefits of a full national equipment certification and approvals process for Myanmar. It may be more pragmatic to adopt a mutual recognition approach and to allow foreign certificated equipment to be sold in Myanmar subject to this.

MPT believes that Myanmar should investigate the equipment certification and approval approaches used by other countries in a similar situation. Based on this Myanmar should consider whether, as the transitory approach, it may be possible to establish some form of mutual recognition to support equipment certification and approval.

It could be also an idea that a full or a part of certification procedure can be outsourced to professional third party providers.

Question 7 – Resolution of spectrum-in-use issues

Question 7 (Spectrum Plans): Spectrum Plans, developed in consultation with industry, are an important part for the development of the resource and ensure that all users' needs are considered and the resource is used efficiently.

Q7 (a): Fixed microwave bands are under intensive pressure, given their use by cellular service operators backhaul.

Should detailed plans be created first in these bands?

- Yes

- No

Yes, detailed frequency allocation plan of the fixed microwave link should be created first. Currently the methodology to coordinate between microwave links is agreed among three cellular operators. However actual change of the radio facilities is not yet implemented. So the operators are waiting for the progress of the actual change with receiving required budget to implement, whose shortage could cause delay in the implementation.

MPT supports the allocation and assignment of additional spectrum to microwave

back-haul circuit for trunk line between urban areas and to entrance circuit connecting core network and base station in order to facilitate the extension of the deployment of new base stations.

Q7(b): If the response to Q7(a) is a 'No', what bands should be considered first?

We support creation and agreement of detailed frequency plans for bands which will be used for the introduction of LTE services: 1800 MHz and 700 MHz.

Question 8 – Band Plans

Question 8 (Band plans): Detailed channel plans constitute a fundamental requirement for the development of the spectrum. The lack of these band plans has resulted in ad-hoc assignments and the need to realign deployed systems. While the PTD is in the process of developing formalized band plans, no formalized band plans are currently available. These band plans would have to be developed in consultation with stakeholders. Microwave users have provisionally adopted ITU band plans.

What bands do you consider to be a priority for band planning?

Currently frequency by 40GHz is used in Myanmar. It is requested for the band more than 40GHz, such as 60, 70 and 80GHz bands, to be planned so as for the cellular operators to be able to use those bands based on the provisions defined in ITU-R.

Question 9 - Compliance

Question 9 (Compliance): We invite comments from stakeholders concerning compliance issues that are impacting spectrum use today.

Even if radio equipment or facilities are operated in accordance with the Radio Law or its related provisions, there are possibilities that interference may occur.

In these cases, it is appropriate that the operator that introduced the more recent system should be responsible for the management of interference.

Question 10 – International participation

Question 10 (International Activities): In many countries, stakeholders play an important part in preparing for, and participating in international spectrum planning conferences. We are interested in your views on how Industry might contribute internationally to further the interests of spectrum planning and development in Myanmar.

Given the current state of matters related to spectrum in Myanmar, industry could assist government perform the possible international interference coordination with

neighbouring countries based on bilateral planning to realize mutual benefits. MPT advocates that MPT requests strongly the corresponding regulator to make progress in the international interference coordination with neighbouring countries and conclude it as soon as possible.

We propose to constitute a National Spectrum Working Group (NSWG) comprising of a representative of each parties involved. Such committee should be led by PDT/MCRC.

Myanmar should actively participate in sub-regional harmonization of 600 MHz band for mobile broadband use as this issue progresses.

Question 11 Spectrum assignment

Question 11 (Assignment approaches): Note: Approaches to licensing would be a key element of the spectrum policy framework mentioned in Question 3.

Q11 (a): Does Myanmar have the right balance between the three spectrum assignment approaches viz. the traditional approach, the market-based approach and the commons approach?

MPT believes that Myanmar does not yet have the correct balance between command and control, market-based and unlicensed spectrum assignment. This is not surprising given the speed at which the new regulatory regime has developed.

MPT recommends that new IMT spectrum is allocated evenly between three existing cellular operators and a potential 4th operator and is priced on the basis of its estimated economic value. This type of approach is provided for the Myanmar spectrum regulation as an *"assignment by fixed price*

MPT recognizes that spectrum is an important national resource and that it is right way that operators should pay for its use. MPT advocates MCIT/PTD commission an independent estimate the economic value of 1800 MHz and 700 MHz spectrum to operators and to use this information as a basis for assignment of additional spectrum.

Allocating spectrum evenly between existing cellular operators reflects the approach to recent 900 MHz / 2100 MHz allocations to MPT and two other operators and supports effective competitive development of the nationwide communications market.

Assignment by fixed price also reduces the risk of strategic market distortion, under- or overpricing or reduction in infrastructure investment which would represent a loss of long-term economic value to citizens, consumers and government. Payment by instalments supports smooth, continued investment in infrastructure and continued, rapid expansion of voice and data services.

Q11 (b): When demand exceeds supply, do you agree that the default process be market-based, with comparative spectrum assignment processes only being used in exceptional cases?

MPT recognizes MCIT/PTD's view that assignment by auction is appropriate where there is substantial excess demand for new spectrum above supply, although MCIT/PTD should note that this approach is not used in all markets.

Certain, successful Asian markets have used negotiated approaches where spectrum is assigned and brought into service rapidly with minimum coverage and other conditions designed to ensure beneficial economic objectives.

However, given the large amount of harmonized spectrum allocated to IMT, which is currently vacant in Myanmar, MPT believes that there is unlikely to be surplus demand from operators for IMT spectrum. Hence, assignment by fixed price will be more appropriate in the specific national situation of Myanmar during the next 5 years.

Question 12 Spectrum Redeployment / Refarming

Question 12 (Redeployment/Re-farming): Do you agree that there is a need for a re-farming policy that would provide guiding principles concerning spectrum recovery and redeployment?

Yes - MPT supports a policy of spectrum re-deployment / re-farming in principle, but this is not an urgent issue given the amount of IMT spectrum which is currently lying unused**.**

Refarming mechanisms should be varied to reflect the relevant frequency band or the status of usage of the band. It would be appropriate for PTD to develop a framework to consider this issue.

For example, MPT believes that if it is decided that a candidate frequency band should be cleared of existing users, then MPT recognizes that the cost required to move existing users may, subject to consultation, be met by new users or from the funds paid by new users to the Government for the use of such spectrum. Or it might be a solution that license/spectrum fee is used for this purpose with defining the usage purpose of the license fee.

Question 13 Realignment of 850/900 MHz band

Question 13 (850/900 MHz realignment): While the release of 850 and 900 MHz bands and any associate band arrangements would be part of a separate consultation, we invite your preliminary views on options presented in figure 11.

Since there is substantial unassigned national IMT spectrum frequency, consideration of 850/900MHz should occur after assignment of 700MHz band and 1800MHz band.

In principle, MPT prefers **Option1** or **Option 3** since these options seems compatible with the approach of Thailand whose people visit frequently Myanmar, so they receive benefits from the option and it does not disadvantage existing operators.

In addition, the existing operator's band should be protected and an appropriate guard band should be provided, especially around 880 MHz.

Further where considering realignment in 850/900 MHz bands, the interest of current customers should be recognized by the regulator and an appropriate migration period provided for.

Question 14: Timing and priority of spectrum bands for release

Question 14 (Commercial spectrum Release): Note: Figures 13 and 14 above show the bands selected for release and as well as the sequence of such release.

Q14 (a): Please comment whether the targeted bands are the priority bands for release.

It is appropriate to prioritize 1800MHz band and 700MHz bands for assignment to existing cellular operators.

Q14 (b): Please comment on the sequence of the release of the selected bands.

It is proposed that at first 1800MHz band, then 700MHz band since these bands will facilitate the provision of mobile service.

Should the2600MHz band be assigned in mid-2016 it should be used by new entrants for fixed broadband services only. Only existing cellular operators, and the proposed 4th cellular entrant, are permitted to operate and provide voice service with the function of handover based on the Ministry's commitment in the 2013 license condition.

It is important for policy makers to recognize that the existing cellular operators are now constructing their networks and expanding their service area nationally, so that mobile phone services can be enjoyed by the vast majority of citizens and consumers throughout Myanmar, not simply by those in urban areas. So the reserved spectrum, in the assignment of 2600 MHz band, for the current cellular operators should be available for their flexible provision of services.

New entrants other than those three cellular operators and the proposed 4th cellular entrant, can provide fixed broadband service, but their service menu should be limited and prohibited to enter into the provision of cellular (mobile) data services having the function of hand-over or voice service.

Q14 (c): Please comment on the overall timing of release.

MPT supports assignment of 1800 MHz IMT spectrum in late-2016 / early-2017. 1800 MHz spectrum provides coverage and capacity for urban and suburban network deployment and is recognized internationally as the core roaming band for Long Term Evolution (LTE) technology.

The global terminal ecosystem for the 1800 MHz band is well developed and MPT will be able to deploy commercial 1800 MHz LTE infrastructure rapidly once the band is assigned.

MPT also supports assignment of 700 MHz IMT spectrum in 2017-2018 with seeing the development of terminal equipment. This will provide improved: in-building penetration, urban and suburban capacity and rural coverage including of rural forest and partial mountain areas.

MPT strongly supports spectrum assignment of spectrum using the full regional APT 700 MHz band-plan to ensure maximum long-term economic benefit to Myanmar.

In addition although the permitted license period is 15 years and an auction will be expected at that time and it is exactly appropriate the period is usually 15 – 20 years, at that time so many customers enjoy use of their cellular phone and the service has to be continuously provided. So it is proposed that the existing cellular provider has rights to update their license with simple procedure and continue their provision of the cellular broadband service for Myanmar citizens.

Question 15: Spectrum Demand

Question 15 (Spectrum Demand): Is the amount of spectrum proposed for release over the next 5 years adequate? If not, please provide detailed rationale supporting the need for more commercial spectrum in Myanmar.

MPT supports the use of traffic forecasts developed by the ITU when estimating national International Mobile Telecommunications (IMT) spectrum demand.

In particular, the ITU's Wireless Broadband Master plan for Myanmar recommended minimum assignment of 418 MHz of spectrum for mobile services by 2015 increasing to 788 MHz by 2020. ITU-R has a tool to estimate the required frequency bandwidth based on the estimated traffic forecast. The tool can help cellular operators expect their possible bandwidth to be prepared in order to cope with the future demand.

MPT believes that there is a strong justification to increase the amount of spectrum assigned to mobile operators in Myanmar:

- Leading developed (and developing) markets have substantially more IMT spectrum assigned, and in use by operators, than is the case in Myanmar;
- With limited fixed communication infrastructure Myanmar has a heavier dependency on wireless networks than more developed, and many developing, nations. Wi-Fi off-load is also less available in Myanmar than in other markets. Consequently, the need to assign spectrum is greater;
- Assigning spectrum will grow national network capacity, improve national network coverage and support economic and social transformation.

Myanmar policy makers should consider the different national models of spectrum assignment adopted by other countries and which countries appear to have a more successful national communications industry.

While amount of IMT spectrum in use is not the only factor in determining the success of not of a national industry it is a critical success factor in:

- Determining the overall capacity of a national communications industry: in general spectrum in use is proportional to overall wireless capacity and is critical in markets where fixed infrastructure is poorly developed; and
- The level of network investment: in general spectrum in use is inversely proportional to levels of network investment required to achieve a given network capacity level while coverage investment is associated with assignment of low-frequency spectrum.
- The level of telecommunications equipment imports: in general spectrum in use is inversely proportional to levels of network equipment imports. Where countries such as Myanmar are faced with a trade-off between making more spectrum available and importing more network equipment they should prefer to *"make"* rather than *"buy".*

Question 16: Rationalization of Microwave Fixed Bands

Question 16 (Fixed bands): (Note: The MCIT/PTD Action Plan (above) includes the creation of an industry-led committee for the inter-user coordination of Fixed spectrum.)

Q16 (a): Do you support the idea of establishing an industry-led committee for the inter-user coordination of Fixed spectrum?

Note: According to the same Action Plan, all new policies, standards would be developed in consultation with industry:

Yes - MPT supports companies concerned by the long-term use of a particular frequency band to form a committee and agree future approaches.

Policy making such as frequency assignment should support and take account of the situation of existing customers in any deliberations.

Q16 (b): Do you agree that there is a need to establish utilization policies, in consultation with industry, to ensure all users are accommodated and establishing minimum technical standards for systems in these bands?

Yes - In the short term concerned parties should discuss interference issue, coordinate among them and try to optimize operating conditions as required.

Q 16 (c): Do you support the need to release a policy and band plan providing for more spectrum in higher bands for short and very short hops?

Yes

Q16 (d): Do you agree, given limited propagation and possibilities for spectrum with nearby systems in the upper bands, that a simplified licensing approach for these bands would be appropriate?

No. Even in a case of limited propagation, if nearby radio systems exist, then a coordination study should still be carried out.

Question 17 – Land mobile / trunked radio

Question 17 (Land Mobile):

Q17 (a): Please comment on the proposed actions planned by MCIT/PTD over the next 5 years to:

i) Identify LM spectrum for private and commercial type dispatch systems?

ii) Creation of band plans, possibly following the approach of neighbouring countries?

iii) Pursue border agreements?

Q17 (b): Comments are invited on the bands proposed for Land mobile systems.

Q 17 (c): What other initiative(s) concerning land mobile do you feel should be considered?

Land Mobile such as MCA system which adopt big cell deployment should not be deployed in the same band as IMT system and even deployment in an adjacent band to that used in IMT system may be problematic since MCA devices could easily experience interference from system with smaller cell deployment in adjacent bands.

Question 18: Licence exempt framework

Question 18 (Licence Exempt):

Q18 (a): Do you agree with the MCIT/PTD's action items as proposed for a licence-exempt framework?

Q18 (b): What other action(s) would you propose for consideration as part of a licence exempt framework initiative?

With its proximity to IMT bands, the 2.4GHz frequency is used extensively to provide hotspots and steps to reduce or control interference would be beneficial for users as well as service providers.

There are examples in almost all the countries in the world which permit license exemption in the use of Wi-Fi terminals subject to restrictions on use of high power equipment in licence exempt bands

MPT supports the creation of a framework for authorisation of licence exempt equipment helps in controlling the interference issues on the FTA frequency bands. It is beneficial to develop a framework taking account the approaches of neighbouring countries on technical parameters including: frequency and output power.

Question 19: TV Broadcasting in Myanmar

Question 19 (Broadcasting):

Q19 (a): Do you agree with the above proposed action items?

Q19 (b): What other broadcast initiative(s) should be considered by the MCIT/PTD?

Question 20: Satellite services in Myanmar

Question 20 (Satellite):

Q20 (a): (Note: MCIT/PTD is currently pursuing the provision of domestic satellite services.)

Do you agree that MCIT/PTD should, in consultation with stakeholders, develop a policy and licensing guideline for the provision of satellite services in Myanmar?

Yes.

Q20 (b) Please comment on the proposed features of the policy and licensing guideline as set out below:

The administration should require an "Authorization process of Foreign satellite service providers". The MCIT /PTD should develop a policy based on input from those who provide or plan to provide possibly satellite communication service, or use or plan to use possibly a satellite communication system in Myanmar.

We recommend maintaining and publishing a list of authorized foreign satellite providers to ensure that the operation of their systems comply with Myanmar's table of frequency allocations and spectrum utilization plans for all bands.

To manage the information required to consider interference between satellite earth station and terrestrial system or between satellite earth stations, MCIT/PTD should require applications to license satellite earth station on the condition that the applicant provides the administration with the required information. Successful applicants who construct satellite earth stations should, as a minimum, provide MCIT/PTD with information defined in the ITU-R Radio Regulation.

Applicants for the licensing of SNG earth station should submit written information on the condition required to be taken into consideration for the case of mobile or transportable earth station in addition to the information required for the receipt of the application form that the applicant for the earth station of fixed satellite service is requested to submit since the earth station on the car is usually used for SNG.

The requirement should be normally defined so as for the existing radio services to be protected since the coordination is to fine out the conditions that newly introduced radio system can share or coexist with the existing services using the same or adjacent of near frequency band.

Q20 (c): What other considerations should be factored into a policy and licensing procedure for satellite services?

N/A

Q20 (d): What changes should be considered to the current Spectrum Rules concerning Spectrum Licence requirements?

Operators should have a chance to consult with the administration since there could be cases to consider depending on the changes proposed.