OPTUS

Submission in response to ACMA Consultation Paper

Response to implementation of the Spectrum Pricing Review

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Section 1. EXECUTIVE SUMMARY

1.1 Telecommunications is now widely regarded as an essential service. As witnessed during the global COVID-19 pandemic, the role of telecommunication networks in supporting ongoing connectivity has been invaluable. It has also supported the ability for individuals to continue to work, learn and socialise remotely; as well as remain 'connected' during challenging times.

1.2 Spectrum needs to be managed in a manner that reflects this new reality of the telecommunications industry. The ACMA should ensure that spectrum is managed in a way that enables telecommunication operators to continue to provide better coverage and more resilient services, as well as in response to challenges to infrastructure.

1.3 Optus welcomes the opportunity to provide feedback to the Australian Communications and Media Authority (ACMA) proposed *Response to implementation of the Spectrum Pricing Review* (the Consultation).

1.4 The Consultation focuses on two key proposals with respect to the administrative pricing of spectrum assets:

(a) Introduction of new tax rates under the tax formula for licences in frequency ranges above 5 GHz; and

(b) Consideration of a systems approach to the taxation of licences for earth stations.

1.5 Optus supports the timely revisions to the apparatus licensing pricing arrangements. Under the Radiocommunications Act, the only role for spectrum pricing is to ensure the efficient allocation and use of spectrum; and to recover the cost of spectrum management.

1.6 Specifically, Optus welcomes the updated location weightings (and licence fee tables) for services in frequency ranges above 5 GHz. This recognises the different value and scarcity of spectrum due to shorter propagation and higher reuse as you move to higher frequencies.

1.7 Following the implementation of the first round of changes, Optus also welcomes the commitment to further changes in the other focus areas (such as the review of scientific licensing) as part of the overall Spectrum Pricing Review.

1.8 Consistent with the obligations under the Radiocommunications Act, fees for apparatus licences should be based solely on the ACMA's administrative costs and, only where there is excess demand, a component representing the opportunity cost of the use of the spectrum. Where there is no excess demand opportunity cost of use will be zero.

1.9 Ensuring an efficient and transparent pricing outcome will provide better outcomes for consumers and business by enabling spectrum users to participate in future innovation and investments.

Section 2. LONG TERM INDUSTRY SUSTAINABILITY

2.1 The COVID-19 crisis and its impact on the sustainability of the telecommunications sector is a timely reminder for the need for spectrum to be both priced at efficient cost to enable greater acquisition and timely deployment; and to provide the coverage and capacity the Australian public need at home, at work, at school and all areas of their lives where they wish to be connected.

2.2 Spectrum is one of the fundamental inputs into the production of mobile and fixed services. There is a direct trade-off between the amount of spectrum allocated, the cost of deploying network assets, and the available capacity on the network. As such, spectrum is a key driver of competition and efficiency in the telecommunications market (mobile, fixed and satellite).

2.3 While spectrum discussions largely focus on mobile, it is important to recognise that fixed and satellite networks also rely on access to spectrum for the provision of services. Fixed networks include transmission links that provide many backhaul services that underpin the telecommunications services – both fixed and mobile – being delivered to end users. These continue to represent large, and not insignificant, operating costs for network operators.

2.4 The allocation of spectrum, together with the charging for access to spectrum, should reflect the impact it has on the economics of delivering both fixed, satellite and mobile networks – and directly through to the affordability of providing essential communications services for consumers.

2.5 This section discusses:

(a) Taking into account the current market environment; and

(b) The role of spectrum pricing to ensure efficient allocation.

2.6 Optus also makes comments on the ACMA's proposed work programme following the first round of changes set out in this Consultation.

Market conditions and long-term industry sustainability

2.7 Economically efficient pricing is the pricing of spectrum access rights designed to maximise the benefits from use of scarce spectrum and therefore the value of the total output of goods and services across the economy. The social and economic cost of inefficient allocations is often substantial, especially if spectrum is left unused or is underutilised for prolonged periods.

2.8 The impact of COVID-19 on telecommunication operators will be pronounced for the foreseeable future. This challenging backdrop should be recognised in setting longer term spectrum pricing objectives during a period of challenging industry economics.

2.9 For example,

(a) The 2019/20 bushfire season has tested the network resilience of mobile operators and has highlighted the community's need and desire for continuous mobile telecommunications before, during and after natural disasters. This new normal will result in increased network costs to improve the resilience of telecommunications infrastructure and to ensure the recovery of services in areas impacted by natural disasters.

(b) Mobile Industry revenue and profitability continues to be in decline, with total mobile service revenue falling almost 20% in nominal terms since 2015. Such revenue decline is occurring during a period of lower economic activity and an expectation of deployment of new national 5G networks.

(c) Spectrum costs continue to increase and account for a greater share of operational network costs. There will also be additional pressure from the two spectrum auctions expected in 2021 and the cost of the renewals of existing spectrum in the future.

(i) Australian spectrum prices from auctions have tended to be significantly higher than overseas prices and this has resulted in slower and more limited deployment over the licence term.

(ii) The annual price indexation for apparatus licences continue to apply the 'All Groups' CPI instead of the 'Communications' CPI factor. This has resulted in the consistently greater level of price increases being applied to apparatus licence fees in recent years.

(d) Licence uncertainty will also be heightened as existing spectrum licences approach their expiry – e.g. the 800 MHz and 1800 MHz licences will approach expiry from June 2028 – meaning that spectrum renewal discussions will need to commence in the immediate future.

(e) Effective management of spectrum and clear property rights have been critical in maintaining connectivity and provision of services to customers. Spectrum licensees' ability to deploy and utilise spectrum assets without need to consider or negotiate third party opportunistic claims or use of spectrum has been crucial to this.

2.10 Telecommunications investment needs to be sustainable due to their essential services nature. Therefore, caution should be applied when reviewing apparatus licence costs, as well as spectrum licence costs, to ensure the industry is not seen to be 'gouged' to drive government revenue at the expense of delivering ongoing benefits to the economy.

The role of spectrum pricing is to ensure efficient allocation

2.11 Spectrum pricing serves as a tool to manage spectrum efficiently and effectively. In other words, spectrum pricing serves a specific purpose to ensure that the use of spectrum maximises the public benefit. This is typically referred to as ensuring those parties that value the spectrum the highest should have access to that spectrum.

2.12 Spectrum pricing, consistent with the requirements under the Radiocommunications Act, should have no role other than to ensure the efficient allocation and use of spectrum; and to recover the cost of spectrum management.

2.13 Pricing, and the method used to ascertain price, has also been largely linked with the spectrum licensing arrangement, and adherence with the licence hierarchy:

(a) Spectrum licences, where demand typically exceeds supply, are generally subject to market-based allocation methods, such as auctions. Market based allocations allow the market to determine the opportunity cost of the spectrum, ensuring the scarce resource can be allocated to those parties that value its use the most.

(b) Apparatus licences, with shorter defined licence terms and typically issued an annual basis, are generally subject to administrative allocation methods, such as a single 'tax formula' or taxation schedule. These licences typically do not

have excess demand (and therefore no or little opportunity cost), with pricing reflecting the administrative management cost.

(c) Class licences, in general, remain licence fee exempt. For most licences in this category, they are issued on a 'no interference, no protection' basis.

2.14 The licence hierarchy framework should also be consistent with the pricing approach, i.e. licence fees should reflect the difference in licence conditions within the same frequency ranges. Spectrum licences are generally issued at a premium with strict licence conditions, while apparatus licences are generally administratively based. Even so, access to apparatus licences are generally subject to process requirements, such as registration and interference mitigations. This is what sets them apart from devices deployed under class licensing arrangements. The primacy of these licence types over other licence-fee exempt licences must be maintained.

2.15 As such, there remains a role for both market-based and administrative based allocations to continue to operate. This should be supported by the spectrum pricing guidelines which apply across all spectrum management activities.

2.16 This Consultation focuses on the review of apparatus licensing arrangements. In general, fees for apparatus licences should be based solely on the ACMA's administrative costs, and only where there is excess demand, a component to represent the opportunity cost of the use of the spectrum. Where there is no excess demand opportunity cost of use will be zero. It is also important that:

(a) Given much of this spectrum is currently encumbered, it is also important there are no immediate and detrimental price shocks for incumbent licensees; and

(b) Administrative processes be updated to increase the flexibility for licensees to vary their licensing arrangements, while encouraging licensees to utilise their licences more efficiently. For example, this would include allowing for variations in spectrum holdings and channel requests (where conditions are met) to optimise any deployments and to limit any instances of double cost recovery by the spectrum manager.

Review of parameters in the tax formula

2.17 Any changes to the pricing formula will have significant implications (through possible uplift in spectrum costs) for existing apparatus licence holders during the transition to any new (or updated) pricing arrangements. It is also important to note that while the apparatus licensing arrangements appears to have adopted a single universal pricing formula approach, there remained some exceptions. It is likely that these arrangements will continue.

2.18 This complexity is also compounded when the same tax formula is compared across different geographic areas. For example, the use of density map areas may no longer necessarily correctly reflect the population density or even locations where apparatus licensed spectrum can be used. The same density map areas are considered across the various frequency ranges, and in some cases the weightings applied can be the same for some location categories but significantly different in others.

2.19 Optus welcomes the review of each of these parameters, and a general streamlining of the administrative pricing approach to detangle the complexity and lack of price transparency inherent in apparatus licensing. Importantly, this will serve to improve the consistency of pricing approaches across geographic areas and bands.

Increased flexibility for changes to the apparatus licensing process

2.20 In terms of licence applications, process improvements to the application process should also be considered to streamline timeframes and to promote efficient use of the spectrum. For example, Optus reiterates a standardised licence application approach could be considered, with service level agreements on response times and feedback loops. Similarly where exemption applications, such as those based on the same exemption reasoning continuing to be sought for certain licence types (where it does not impact on adjacent licensees), this should warrant consideration for a change to the process or reconsideration of the application parameters.

The ACMA work programme

2.21 Optus supports the ongoing implementation of the Spectrum Pricing Review.

2.22 Following the implementation of the first round of changes, as discussed in Section 3, Optus welcomes the acknowledgement that the ACMA will continue to propose changes in the other focus areas (such as the review of scientific licensing) in due course.

Section 3. FIRST ROUND OF CHANGES TO APPARATUS LICENCE TAXES

3.1 Optus welcomes the first round of changes being proposed, including the:

(a) Review of tax rates for licences in frequency ranges above 5 GHz; and

(b) Consideration of a systems approach for earth stations.

3.2 Optus also provides some additional comments on other related matters.

Review of pricing for apparatus licences in frequency ranges above 5 GHz

3.3 In principle, the tax levied on apparatus licences allows the ACMA to create economic incentives for efficient use of the spectrum. It also encourages licensees to use the minimum amount of bandwidth for their needs, to move to less congested bands, and to surrender licences that are no longer needed.

3.4 Optus welcomes the timely review of the tax formula, starting with changes to the tax rates for frequency ranges above 5 GHz. Notably, Optus supports the proposed changes to the location weightings set out in Table 1 of the Consultation Paper.

3.5 There has been little change to these parameters since they were set. It is important to update the different values of spectrum and the relative spectrum congestion levels across different geographic locations and frequency ranges to reflect the current market environment. In general, any annual change in tax rates have focused on indexation.

The role of CPI to update taxes

3.6 Optus considers that the adjustment factor should be revised to reflect the lower CPI value for annual indexation purposes.

3.7 Adjustments for inflation are a simple and generally well understood measure and reflect a general increase in prices across society. However, Optus considers that the use of the 'All Groups' CPI should be moderated against the 'Telecommunication equipment and services' CPI before any indexation adjustment is applied.

3.8 As evidenced by the CPI, the index numbers for Telecommunication equipment and services have consistently trended below the All Groups CPI since March 2014.[1] This also highlights that the price trends have been trending down for many years, despite a significant uplift in the value of the services provided to downstream users.

Spectrum locations and frequency ranges

3.9 Typically, the number of spectrum locations are a function of the different use profiles or service characteristics across different bands. Optus therefore considers the use of spectrum locations or frequency ranges remain appropriate. However, the frequency range categorisations may vary for different services.

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[1] See: Australian Bureau of Statistics, 6401.0 Consumer Price Index, Australia, Table 7. CPI: Group, Sub-Group and Expenditure Class, Weighted Average of Eight Capital Cities.

3.10 Where the ACMA considers continued use of the tax formula is warranted, Optus considers it is timely that the density areas and the pricing band/spectrum location parameters are reviewed.

Proposed change to location weightings

3.11 The ACMA currently refers to up to 13 frequency ranges for the setting of annual licence tax amounts for the different services, as set out in the various Divisions in the annual tax schedules. Geographic location weightings are then applied to derive the different annual licence tax amounts.

3.12 While the frequency range categorisations for different services have not changed, Optus supports the proposed graduated reductions in location weightings. These effectively adjust the tax rates on a sliding scale for higher frequency spectrum and recognises the different value and scarcity of spectrum due to shorter propagation and higher reuse for higher frequencies.

3.13 Notably, the ACMA has compared satellite prices in the higher frequency ranges with other jurisdictions, to establish the proposed pricing relativity against the current location weightings for the >14.5 GHz to 31.3 GHz range. This brings satellite taxes closer to other jurisdictions. A similar adjustment is also made for each of the frequency ranges above 31.3 GHz.

3.14 Against this benchmark, the ACMA has also proposed to adopt a graduated scaled down approach for remaining frequency ranges above 5 GHz. This similarly recognises the concerns that high licence tax amounts are incurred for services with large bandwidths. Figure 1 provides a summary of the proposed changes to the location weightings for services in frequency ranges above 5 GHz.

Figure 1 Frequency ranges and location weightings – current vs proposed

CURRENT	Geographic location				
Spectrum location	Australia-wide	High density	Medium density	Low density	Remote density
>5.0 to 8.5 GHz	8.4210	1.5570	0.7250	0.3300	0.1600
>8.5 to 14.5 GHz	3.7110	1.3360	0.3160	0.0230	0.0110
>14.5 to 31.3 GHz	3.7110	0.9880	0.2170	0.0230	0.0110
>31.3 to 51.4 GHz	1.0120	0.5390	0.1170	0.0040	0.0020
Above 51.4 GHz	0.1000	0.0100	0.0100	0.0010	0.0010

PROPOSED	Geographic location				
Spectrum location	Australia-wide	High density	Medium density	Low density	Remote density
>5.0 to 8.5 GHz	6.3158	1.1678	0.5438	0.2475	0.1200
>8.5 to 14.5 GHz	1.8555	0.6680	0.1580	0.0115	0.0055
>14.5 to 31.3 GHz	0.3711	0.0988	0.0217	0.0023	0.0011
>31.3 to 51.4 GHz	0.1012	0.0539	0.0117	0.0004	0.0002
Above 51.4 GHz	0.0100	0.0010	0.0010	0.0001	0.0001

Source: ACMA

3.15 To this end, Optus welcomes the timely adoption of these location weightings and its translation to the licence tax tables as set out in Appendix C of the Consultation Paper.

Systems approach for earth stations

3.16 In general, Optus welcomes the current price reductions as a starting point for the review of charges for earth stations. However, Optus reiterates there is often better spectrum reuse using satellite compared to terrestrial but notes that only the same tax discounts appear to be applied in each band.

3.17 As noted in previous submissions, Optus has encountered a potential anomaly in the charging for Earth and Earth Receive licence in bands which are also available for Space Class licensing. These bands are usually for space services only and are not shared with terrestrial services. However, the ACMA still applies the spectrum charge based on density areas (high, medium, low or remote) applicable to the site when in these bands, there is no additional spectrum denial based upon location. Optus still believes that a reduced charge should be considered for these cases.

3.18 Optus further observes that in the latest review of Earth Station licensing, discounts were introduced for Earth stations which were 'closely located' and accessing the same frequencies but maybe pointing at different satellites. These 'Maximum Separation Distances' were set at 500 m for High density, 1 km for Medium density and 2 km for Low density locations. These varying separation distance limits based upon the 'density' locations do not have any technical basis. In practice Earth station antennas using the same frequency can usually be located only tens of metres apart and not suffer interference. Optus therefore suggests that the ACMA review the 'Maximum Separation Distance' and apply the same 'Maximum Separation Distance' proposed to be 2 km across all density areas.

Comments on other issues

3.19 The remainder of this section provides comment on other issues that may be raised during the course of further implementation of the Spectrum Pricing Review.

Alternative pricing constructs

3.20 The circumstances for a different pricing arrangement will also vary for different reasons, including the number of devices it is intended to support and whether the multiple devices are all needed to be providing the same service. For example, if the cost of managing the spectrum is related to the number of devices then it should scale with device quantity. Alternatively, if the licence is for a large area and using boundary management then costs are more related to area rather than devices.

3.21 The licence hierarchy framework remains central to the tax design – as such the licence fees need to also reflect licence hierarchy and the difference in licence conditions within the same frequency ranges. Spectrum licences are generally issued at a premium with strict licence conditions, while apparatus licences are generally administratively based. Even so, access to apparatus licences are subject to process requirements, such as registration and interference mitigations, before issue. This is what sets them apart from devices deployed under class licensing arrangements.

Transparency of licence charges

3.22 In addition to publishing an Apparatus Tax Schedule each year that provides details about the taxes and charges associated with apparatus licences, the ACMA is proposing to develop a new calculator that can be used as a guide for potential licensees.

3.23 Optus would welcome the additional transparency that a separate calculator will provide; but notes that clarification and understanding of the pricing approach should continue to take precedent. Potential licensees should have confidence in understanding the key drivers of the costs underpinning the licences being issues.

Scientific licensing

3.24 The current pricing arrangements for scientific-assigned licences for new technologies should be reconsidered for two reasons: the function it serves; and the lack of commercial return the service brings during the trial period.

3.25 First, the issue of scientific-assigned licences provides licensees with the authority to operate within a specified area and bandwidth frequencies for a limited period for trial purposes, with no rights for protection and the mandatory requirement that its use must not cause interference.

3.26 Second, a strict criterion that applies to most scientific-assigned licences is the condition that no commercial services can be used on these licences. Therefore there is no revenue to be gained from the delivery of these services, i.e. it is a purely cost driven exercise where each trial conducted may not even be successful.

3.27 It follows that the cost of scientific-assigned licences should be reduced. There is often no opportunity cost since the licences are temporary in nature, and the licensees are offered no protection from interference and must not cause interference to incumbent users of the band where testing is being conducted. As such, scientific licences should be based on administrative costs only.