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Our Association represents the Land Mobile Radio (LMR) sector in Australia, a critically important industry segment that is heavily involved in all aspects of the daily lives of Australians. Radio communications are an essential but little recognised service, as no plane takes off, no ship sets sail, no train leaves the station and emergency services cannot operate effectively without radio communications. At this point in time our industry is deeply concerned about this discussion paper which recommends the imposition of another stage of the proposed Opportunity Cost Pricing (OCP) of spectrum access.

Back in 2012 the ACMA proposed to increase the spectrum tax on the 400MHz band (which is where most LMR services operate), by a series of increments to effectively double the spectrum tax per kilohertz occupied. This was to implement the potential for spectrum to be made available for the highest value use by the community. At that point in time the ACMA sought advice from a consulting firm who compared Australian rates of spectrum tax with other countries, and then based the proposed tax rate on two examples that utilise dramatically different spectrum formats to Australia. This was also at a time when the 400MHz band was being reviewed and the move to narrow-band channels was still under way, a proposal that had the potential to effectively double the amount of available spectrum. The concerns of industry were disregarded and the proposed increases commenced in 2014, with an increase of 15% of the licence tax rate.

Some eighteen months later the ACMA released a discussion paper with details on the proposed implementation of the second increase of 15%, however, even though industry pointed out anomalies in the information provided and sought a meaningful review of the process, the ACMA saw fit to simply note the concerns of industry and move ahead without any alterations to timing or increased amount. The concerns of industry revolved around the changes to Harmonised Government Spectrum (HGS) which were still being processed at that stage, with particular concern being raised about the sample of spectrum chosen by the ACMA economists to base the change recommendations on. The spectrum segment contained many proposed HGS users who had still not re-located at that point in time, so therefore any congestion risk was impacted by that factor, with no consideration of spectrum segments above 500MHz where congestion was not evident in any way.



We are now faced with a new ACMA discussion paper released on 'Managing Spectrum in the 400MHz band – next steps' (IFC: 31/2016) which is proposing to implement the next stage of the increases of a further 15% in April of 2017. This is of serious concern to our Association and the LMR industry. At a time when the Department of Communications and Arts is reviewing the Radiocommunications Act and acknowledging that there is a need for greater transparency in the operations and decisions of the ACMA, we have a discussion paper proposing another significant increase in costs based on farcical research and which treats industry concerns in a cursory manner at best.

The present discussion paper –

-) Proposes the increase based on only two simple graphs, one showing the growth of licences over time, and the second the economist's estimate of the amount of spectrum available.
-) There have been no meaningful discussions with industry, either through this Association or direct with licensees to establish what the present position really is like in the market
-) There has been no discussion with product suppliers to the industry (of which there are only around ten significant suppliers) to establish whether there are any market trends that might have an effect on growth. Anecdotal information provided to us by companies such as Tait Radio indicate that the suppliers are not experiencing product sales growth at levels even close to the quoted licence growth in the discussion paper. This alone must raise concerns around the veracity of the underlying data and the reliability of forecasts of congestion risk.
-) The ACMA economists are basing their evaluation on 'regression analysis' as the method of determining whether the present changes have had any effect. This is borne out by a presentation at Comms Connect in Melbourne recently where one of the comments made was that 'there is no indication that demand growth has stalled' so further increases are justified.
-) The graph showing growth in licences takes no note of whether the licences are wide-area, local or sub-local, each of which type has markedly different spectrum requirements. Indeed ACMA spectrum embargoes and replanning in 900MHz band has meant many link and point to multipoint services must move, so the growth trend may not be growth at all but re-locations caused by the ACMA. This means the spectrum growth predictions are based on incomplete information.
-) Our members have many instances of where the ACMA operating software has not re-issued licence renewals and as a result services have lapsed in licencing terms, yet the services are still active and operational. When this happens, after a short period of time the licence cannot be renewed and must be made as a new application, this means that within the licence statistics there are multiple instances of licences being shown as new applications that are in real terms simply renewals. The end result is that this is not growth in licence numbers, it is a very simple method of overcoming problems within the ACMA licencing system without addressing the actual problem. It now means that by failing to address the problem other sections within the ACMA are using false information to justify price increases.

There has been no indication that the proposed potential to encourage higher value use of the spectrum has seen any actual change in spectrum usage, and we would contend that perhaps the LMR services are indeed one of the higher value uses of this part of the spectrum. It must be remembered that our emergency service organisations, public transport, security, manufacturing, general transport, community safety and many other services all operate radio communications equipment in this spectrum segment. The proposal that many services could migrate to mobile telecommunications devices has not been found to be generally possible as the public carrier networks are configured for one-to-one communications and not one-to-many as required for most radio applications.



Within the overview section of the discussion paper there is a note that the HGS spectrum has been excluded from the calculations, this is an erroneous statement as there are still Government services operating in the general LMR sections that have not moved to the HGS area for various reasons. The end result of this is that there are still sections of spectrum to be cleared of Government users and converted to narrow-band format, hence still spectrum available. We also note with concern that changes made to LM8 regarding frequency/distance re-use limitations also have the potential to impact on congestion, again this change would seem to be something for the convenience of the ACMA and definitely not as a result of any industry requests. Modern transmitters and receivers are improving throughout time and the coupling and combining technologies should mean that F/D factors should be reducing, not increasing. This issue will be taken up separately with the ACMA and should not be any part of calculations for OCP purposes.

One of the pillars upon which the 400 MHz re-planning was justified was the “congestion” in the band. The transition from 25 KHz to 12.5 kHz channels should, prima face, have resulted in a doubling of capacity which should have staved off “congestion” for a very long while if everything else had been done appropriately. The fact that OCP is now claimed to be necessary is tacit acknowledgement that this aspect of the re-planning was a failure, the further implementation of increased licence tax would now seem to be a case of continuing to use price as the only option to address a situation that could have been avoided by other methods. Having put the industry through the very considerable cost resulting from the re-planning of this band it seems quite incongruous that industry would be asked to “pay again” to compensate for the planning failure. Surely the 400 MHz community is the last group who should have been subjected to the OCP experiment!

Our Association has raised queries at each stage of the discussion regarding Opportunity Cost Pricing and pointed out anomalies and how the process has been flawed. In this case we contend that the basis for proposing the increase is contained within two graphs, both of which are contestable. The use of licence statistics by number alone as being indicative of spectrum demand is false. There has been no indication of any form of consideration of licence types or which licences may have actually been relocations of services and hence not growth in real numbers. We have challenged the underlying basis of the amount of tax that should be used as spectrum value, especially when this is based on figures from jurisdictions with markedly different licencing methodology. We have queried why the narrow-banding exercise has not been considered as part of the timing of the increases, and we now query the reliability of the statistics on which the next increase is based.

As mentioned in the discussion paper, one of the underlying premises of the OCP proposal was to enable the possible move towards allowing highest value use of spectrum, given that there has been little interest in the use of the spectrum for other than LMR, and this is a common situation around the world, we wonder why the ACMA is so hell-bent on forcing the price increases through. It is highly likely that LMR applications are actually the highest value use of this spectrum segment. The comment in the discussion paper that increases to date do not ‘indicate a sharp contraction in demand’ is of serious concern to our industry and would seem to indicate that the ACMA is prepared to use the blunt instrument of increasing price to hammer through changes, even though there have been many relevant factors to indicate that consideration should be given to review demand over a longer period.



Our members and the LMR industry in general may be small in number, but they employ large numbers of people in local areas around Australia. Most of these businesses are at the lower end of the Government SME sector, but they provide essential services to many industries. The ACMA proposal to wait for 'demand growth stalling' will effectively mean that many of these smaller businesses will cease to exist, if they cannot sell new radio equipment to their clients they will be forced out of business. It seems to be yet another case of economists looking only at one side of the equation, the increasing of value and income, without considering the actual costs in human terms of people becoming unemployed and many local users of LMR equipment no longer having local service support.

We would seek action from the ACMA to withdraw the present discussion paper and do some real research into the costs and benefits of the proposed Opportunity Cost Pricing regime and listen to industry with meaningful discussion and consultation. The LMR industry is struggling to survive and grow, and many of our members offer managed services to their clients for communications infrastructure, this also includes organisations such as Motorola and Telstra. Under these managed service contracts annual costs are limited to the CPI increases, there is no room for any other increases. This means that under those contracts the ACMA has now forced a cost increase of 30% in licencing fees, with another proposed increase of a further 15% and the industry has no recourse to recover these cost increases.

This is an unfair situation, with the supposed justification for the increases bordering on farcical, two simple graphs and 'no indications of stalled demand in growth of licences' does not meet with serious economic evaluation. The complete situation with the implementation of OCP has been a series of anomalies from day one, it is time to sit back and review all aspects of this concept and enter into meaningful discussions with industry. The present system of 'Discussion Papers' is simply a method of asking questions and then tailoring the implementation plans to indicate responses but without any material changes. The inclusion of the information in Table 1 reflects the lack of serious attention that has been given to any of the issues raised, and the reaction of the ACMA to simply list supposed considerations when the implementation plans are released on a web site does not constitute meaningful discussion and consideration.

Our industry is not impressed with the overall OCP scenario for the 400MHz band, and after five years of supposed discussion and implementation it would seem that as no other major introductions of OCP have been initiated perhaps the LMR industry has grounds to feel unhappy? It is even more disconcerting when the most fundamental format of Opportunity Cost Pricing has been used as the basis for spectrum auctions by the ACMA, yet when those licence renewals were due the OCP argument was over-ridden by the lobbying and concerns of the licensees regarding infrastructure investment and cost issues. These same factors apply to the 400MHz band, however, it appears that the ACMA are prepared to disregard those concerns when it involves a multitude of smaller licensees who do not have the same lobbying or political influence capability.

Yours sincerely,
Australian Radio Communications Industry Association (ARCIA) Inc.

Ian Miller – Executive Officer.



Response to ACMA discussion paper – Managing spectrum in the 400 MHz band – next steps.

The following are our responses to the direct questions raised as part of the discussion paper –

Question 1 - Is there more useful data available for analysing both the level of and trends in demand for spectrum in the 400 MHz band?

It is our belief that there should be much more analysis of the items listed. The existing information contained within the paper is sparse and only appears to be made to lead to a pre-conceived outcome. The reliance on pure licence numbers does not take any real evaluation of the spectrum demand for services, just basic licence growth. The following items must be considered as part of the evaluation of licence growth –

- J A break-down of licence types is required as there are huge differences between the actual spectrum requirements from wide-area, local, sub-local and Australia-wide types of licences. For instance sub-local licences in the very heart of Sydney and Melbourne, when coupled to a radiating cable type antenna will have a frequency re-use capacity of around one kilometre, whereas a standard wide-area licence has a frequency re-use factor of around 100 kilometres, effectively meaning there could be hundreds of sub-local licences occupying the vacant channel suited to one wide-area service.
- J Australia-wide licences are allocated on the basis of ‘no interference – no protection’ and therefore should be excluded from any calculations as they do not represent demand in any specific area, simply a licence that has been allocated in that area but without spectrum exclusivity attached.
- J The long running embargoes and confusion over the 800-900 MHz bands has meant that many of the point-to-point services have been re-located to the 400 MHz band which is not growth. This is an un-natural demand for spectrum as they are a one-of type application and reflects even further that these services actually involve two licences (transmit and receive locations) for each service. This is again a repeat of the previous OCP enquiries where ACMA engendered changes are impacting on the simple research used to justify licence increases.

ARCIA believes that to be a truly effective research exercise the ACMA should be looking more closely at the types of licences that are being allocated, rather than a purely ‘by the numbers’ format, this would give a totally different picture for the evaluation. In addition, the ACMA research team should be talking to the Accredited Persons to establish if there are any forms of congestion being noticed, and if so what are the possible causes. ACMA indicated during the 400MHz band review, that changes to LM8 would relieve spectrum congestion that had been created by what was considered “conservative frequency assignment practices” in the past, however, recent changes have produced the opposite impact.

For instance, it has come to our attention that the frequency/distance formula now being applied to allocations in HDA allocations has been changed within the ACMA software so that on a high-density site within the HDA areas, adjacent channels are now not able to be allocated for considerable distances, and there are limitations for up to eight channels either side of the allocated service. This is a change within the ACMA software system that does not reflect real-life experiences and seems to be simply to manage software issues within the system. In effect this is causing a false sense of congestion when there is no need to have the restrictions when using modern coupling and filtering methods.

The bottom line to this is that opinion should be sought from those allocating frequencies (the AP’s) as well as industry associations and industry suppliers, all of whom have information that should be considered as part of the overall evaluation.



Question 2 - Do you have other evidence about recent and possible future demand in the HDAs of the 400 MHz band?

At this point in time we have indications from all industry suppliers that they are seeing reductions in product demand forecasts looking into the year ahead, which is one of the better formats of estimating growth and hence spectrum demand. We know that there are businesses in some areas that are seeing a reduction in turn-over and there has already been evidence of businesses being amalgamated or even closed down as a result of the market forces indicating lower levels of activity. It is our serious concern that any further unjustified increases in licence fees will only exacerbate this trend and by the time the ACMA licence statistics show the detrimental effect of further fee increases it may be too late for some in the industry to survive.

The ACMA research team need to get out of their offices and move about in the real world and talk to industry and gather a real feeling of what is happening, not just sit behind closed doors, look at basic figures and increase prices. The fact that there has been no evidence of 'higher value uses' so far would seem to indicate that perhaps the Land Mobile Radio industry is in fact the highest value use of the 400 MHz spectrum and therefore it would not be prudent to price spectrum out of the reach of those users.

We believe that the ACMA Research team should share their data with industry in order to justify the decisions they are making in order to provide a degree of transparency regarding the process. As these decisions are being recommended without any realistic data being shared with industry (we do not believe a couple of graphs can be suggested as sharing realistic data), we would believe that a request for information under 'Freedom of Information' would be seen as a realistic and reasonable request by industry. This would then allow for meaningful comment on data that is not being provided at present. As outlined in this response, we have industry businesses and personnel that may well be at risk through this process and they are entitled to see why the Government, through the ACMA, are threatening their business viability.

Question 3 - Is there a better approach and/or more useful data for analysing congestion risk in the HDAs of the 400 MHz band?

As indicated above, the Accredited Persons will have a real-world knowledge of the potential for congestion problems. They will know from experience where the specific congestion areas are and how that risk is being ameliorated, we are not aware of any of the AP's having difficulty in providing frequency assignments at this stage except where the new ACMA licensing systems/policy cause unreasonable restrictions. Time delays in the ACMA responding to questions whilst responding to customer needs, now limits the practicality of AP challenging such limits instead of moving on.

Industry, from the dealer/user level through ARCIA, or through the product suppliers will also have general trends available and these will again reflect the real world and what is happening across industry. To ignore these resources can only lead to the assumption that the ACMA are not serious about real input and only about raising taxes. In our market, there are less than a dozen manufacturer/suppliers and in general terms they are based predominantly in Melbourne, with Brisbane next and the balance in Sydney. It would not take a huge amount of effort to approach these organisations and seek opinions on the forecasts and expectations of the market. Although every manufacturer has concerns about the 'grey import' situation, it is our belief that it is still only a very small percentage of the market and probably is not reflected in licence statistics either.



Another factor that should be considered in the overall evaluation is what is the potential cost of having the licence fees too high? Given there is no indication of supposed 'higher value uses' for the spectrum, the risk of pricing out of the market for LMR has serious consequences. For true economic evaluation there should also be consideration given to the potential risks and costs, including the many hundreds of employees in the LMR industry and their cost to the Government if the tax increase causes them to lose their jobs. This is a very real risk for this industry. The comments from Simoco Australasia in the Appendix indicate the serious concerns that are related to the risk of increased licence fees causing regression in the market that could and will flow through to all market segments in all licence areas.

Question 4 - Does the ACMA's preliminary view on congestion risk in the HDAs of the 400 MHz band align with industry views, or do you have other information on congestion?

No! At this point in time we do not support the ACMA view of the risk of congestion being as critical as outlined, technology over recent years has meant that many user services have now upgraded to better technology within the LMR spectrum and as such there are a much higher number of users per radio channel. The changes involved mean that we are still seeing a migration towards trunked radio technologies and this will mean that the trend for licences will change once the growth of these services matures. We are concerned that the 'ACMA's preliminary view on congestion risk' is being used simply as a blunt instrument to justify licence fee increases. The paucity of information and lack of any detail regarding the economic modelling employed does nothing to indicate that anything but a 'preliminary view' has been used in the recommendations.

We are concerned that recent changes to the frequency/distance characteristics for frequency assignments in HDA locations will be used to support the 'preliminary view' where it is a situation where poor software and inexperienced assigners within the ACMA office coupled with unrealistic response times to for logical but "out of policy licensing requests" frequency assignments, will be used to justify poor decisions by researchers. There would again seem to be actions taken within the OCP context that are completely removed from other actions within the ACMA yet they are being used as justifications for spectrum tax increases, this will be the third such anomaly, ignoring our previous feedback.

A 'preliminary view' based on inadequate research and lack of knowledge of the actual use of the spectrum should not be the basis of economic decisions that have a serious effect on the industry and employment of hundreds of Australians.

Question 5 - The ACMA seeks feedback on the proposed amendments to the Tax Determinations outlined above.

At this point in time we do not support the proposed amendments, in fact we would again raise our original concerns about the rate set by Plum Consulting. It has now been five years since that research was done and the recommendations were made based on two markets which bear little resemblance to Australia.

The use of the United Kingdom as a reference is not valid, all of their LMR communications is restricted to the 450 – 470 MHz spectrum area, a bandwidth of 20 MHz and is in close proximity to Europe, whereas in Australia we have 450 – 520 MHz (if we exclude the HGS) which means we have 70 MHz of spectrum available. In the UK they have a very strong market for sub-local services, most of which are utilising less than one kilometre of spectrum occupation. This much reduced area means that the market can withstand a higher spectrum access tax as it is operating in a very much reduced area, where the Australian market operates with more wide-area licences and so the higher licence tax is much more restrictive.



In New Zealand the market there is much more attuned to trunked radio services or multi-site radio systems which means a much higher number of radio units per channel and so the spectrum tax costs are ameliorated in a different format, totally different to Australia. The outcome of this is that the Plum Consulting research was oriented towards solving a potential congestion problem using economic means based on data of questionable relevance. Much of the initial concerns about congestion were already being addressed by the narrow-banding of the spectrum and re-location of the HGS services, a technical solution was much more akin to real market needs than the simple bludgeon of price. Indeed with the 400MHz band review breaking up services into government and non-government, the ACMA created further impediments to frequency assignment and caused costs to industry. The concept whilst well intended, failed to address the real problems of inter-service operation between government services which aside from politics, was their disparate operational and communications needs and hence their will move to a common communications environment.

Now that several years have passed it is time for a proper re-evaluation of the Opportunity Cost Principles, from the point of the underlying valuation placed on the spectrum and the actual results to date. In addition, the changes in technology over that period, such as the move away from 3G and 4G services towards LTE and beyond, means that where there may have originally been some interest from other technologies in access to the 400 MHz band that is no longer viable. The later technologies require greater bandwidth capabilities and so it would now be reinforcement that LMR is the highest value use of the band. This again points to it being time for a full re-evaluation of the OCP increases.

It is our contention that until a proper review is done, the process will simply become part of an increasing tax regime with no benefits to industry or the public and a high risk of cost due to business failures and resultant unemployment issues and costs. From an industry perspective the Opportunity Cost Pricing proposal has been flawed from the start, based on poor fundamental characteristics from other jurisdictions, followed up by the total disregard of other actions that are happening simultaneously and then being evaluated using 'regression analysis' methodology to justify ongoing tax increases. To outline the proper methodology for justifying the use of the Opportunity Cost Pricing there should be detail supplied on the economic modelling used for both spectrum demand and spectrum availability. Simple graphical representation does not meet proper economical modelling criteria.

Ian Miller - for
Australian Radio Communications Industry Association (ARCIA) Inc.
22nd December 2016



Appendix A

The following is a copy of an email sent to ARCIA from Simoco Australasia in response to our request for information on product supply trends as it would be reasonable to expect that increased licence growth as quoted by the ACMA discussion paper should indicate increases in equipment sales. The responses received did not provide any correlation of the licence growth and equipment sales were at levels significantly below the ACMA growth levels. The Simoco response covers several areas and encapsulates many of the concerns of industry regarding the proposals of the discussion paper.

As per our recent meeting and discussion on the planned ACMA license fee increases for spectrum access, Simoco's view is that the proposal will directly (and negatively) impact the Land Mobile Radio (LMR) industry in Australia at all levels of the value chain – equipment vendors, radio network operators, dealers, installers, and importantly, customers and their operations.

More pointedly, in Simoco's view, the ACMA's proposed Opportunity Cost Pricing (OCP) of spectrum access is completely out of step with the market situation for LMR in Australia. LMR is a low growth market within the broader wireless technologies market. Further, there is little or no scope for the LMR trade vendors, service providers and channel intermediaries to absorb the increases in license fees. Therefore, the planned license fee increases will be passed on through the value chain to customers. The proposed OCP regime adds no economic or social value but rather is a tax and impost on the LMR industry which delivers mission critical and business critical networks to the Australian government and private sector.

In other areas of the wireless communications market, the Mobile Industry is currently receiving millions of dollars in public funding to support the commercial rollout of mobile broadband networks across Australia and to "Black Spot" coverage areas. Currently the three mobile networks of Telstra, Optus and Vodafone can only provide Long Term Evolution (LTE) or 4G service coverage to approximately 30% of the land mass in Australia on a combined basis. There is no doubt that this funding of mobile network developments and expansion will create economic and social value for the industry and consumer in the longer term. But what about support for the LMR industry that keeps the narrowband wireless networks of today operating right across the country? Our customers are emergency service organisations, public safety and the "engine of the economy" – the public transport, freight and logistics, manufacturing and mining industries – that require mission critical networks today!

The ACMA's OCP proposal fails to acknowledge the significant business challenges already facing Australian industry with the back drop of low economic growth (or more recently, negative growth) as measured by Gross Domestic Product (GDP) data. Further, the Australian Institute of Company Directors recently published its Director Sentiment Index for the second half of 2016 which showed a very pessimistic outlook by our industry leaders, and highlighted that industry capital investment plans are likely to be slashed by another 15 per cent in the year ahead as a result. LMR solutions, which are traditionally a capital expenditure consideration, will no doubt be impacted by such an outlook and LMR market participants (which are comprised of businesses of all sizes – from micro to multinational organisations) will face their own business challenges – limited new revenue opportunities and increasing costs (including the ACMA's planned license fee increases equating to an uplift of 50% plus CPI increases within the next three years).



In short, Simoco is not in support of the ACMA's current OCP proposal and believes that the ACMA needs to engage more closely with the LMR industry and ARCIA, our industry representative body, before proceeding with any level of increase to spectrum license fees. Put simply, the LMR industry cannot afford it!

Sincerely,

Brett McInnes

CEO, Simoco Australasia