

Submission in response to the draft report by the Productivity Commission on Intellectual Property Arrangements

Submission by Christopher Jones, Canberra

Introduction

I write this submission as an electronics engineer currently working for an innovative Australian start-up company in the field of building automation. Previously I worked overseas as a designer of integrated circuits (chips) for mobile telephones, which were registered under a circuit layout rights scheme. I was named as an inventor on five US patents. I have also spent a lot of time designing around bogus patents, and documenting the prior art that would invalidate them.

The Commission's Draft Report is an excellent analysis of Australia's intellectual property arrangements. I was also very impressed with several of the submissions in response to your issues paper, particularly those by Moir (130), the Australian Digital Alliance (108), Bowrey (086), Wiseman (106), Weatherall et al (099), Intel (066) and Costco (031).

Unfortunately I did not become aware of the issues paper at a time when I could respond to it. I have tried to limit my comments to subjects relevant to the discussion and recommendations already in your draft report, and I have explained the relevance where I thought it might not be immediately apparent. For brevity, I will try to confine my comments to topics on which my opinion differs from the draft report, or where I think that additions may be useful; you can assume that I generally agree with the recommendations that I don't specifically mention here.

Within my text I have included hyperlinks to reference documents. I have included the same URLs in a list at the end of each topic. Some of these websites are not entirely reliable and you may wish to save an off-line copy for reference, or access archived versions at <https://archive.org/>, (if copyright permits you to do this)!

The two main topics that I would like to see addressed are: The copyright status of Australian Standards that have been given the force of law by being incorporated into legislation, and incentivising good management of IP Australia by treating it as a rational entity in the economic sense. I will briefly comment on your Information Request regarding Circuit Layout Rights, only because I have some experience of them, and I will also relate my experiences in trying to make available an out-of-print book on the internet with the permission of its author.

Australian Standards

[NB: 'Australian Standard®' is a registered trademark of Standards Australia Limited.]

The first issue I would like to refer to your attention is the copyright situation of Australian Standards. These documents are usually quite technical in nature, and describe the measurements,

materials, labelling, methods of working and methods of testing products and services in Australia to ensure that these are interchangeable, safe, compatible, of adequate quality etc.

Background

At present, where it is desired that legislation stipulate detailed technical specifications for how something should be done safely, it is common for state or federal government to encourage (and perhaps fund by grant) the development of an Australian Standard. This is carried out by mostly volunteer committee members enlisted by a company called Standards Australia Limited (ABN 85 087 326 690), which is a not-for-profit company according to its [constitution](#). This is described in the [MOU](#) between Standards Australia and the Commonwealth: “9.1 The Commonwealth may, through a grant, provide financial assistance in relation to activities contributing in net terms to the welfare and wellbeing of the Australian Community as a whole that would not occur if left entirely to the private market. 9.2 The Commonwealth will encourage its agencies to consider the merit of providing financial or in-kind support on a case-by-case basis for the development of regulatory standards.”

The copyright in these standards is owned by Standards Australia, but Standards Australia does not distribute the standards to the public. Instead it has entered into an exclusive distribution arrangement with an ASX-listed (shareholder-owned) company SAI Global Limited (ABN 67 050 611 642). The exclusive agreement was entered into at the time when SAI Global Limited was spun off from Standards Australia Limited.

Anyone who wishes to obtain a copy of a standard (noting that in many cases it is an offence to not follow a standard, and ignorance of the standard is not a defence) can only obtain the copy legally by purchasing it (usually at a cost of some hundreds of dollars) from this listed, for-profit company.

I have not been able to find the full text of the agreement between SAI Global Limited and Standards Australia, though there is quite a lot of information about it in the 2003 [Prospectus for the IPO](#) of SAI Global. The Publishing Licence Agreement (PLA) “prohibits Standards Australia from allowing third parties (other than SAI Global and its sub-licensees) to exploit the licensed material”. The PLA lasts until 2018 but SAI Global has the option to extend it for a further 5 years.

In return for the significant effort of having created the Australian Standards, Standards Australia only receives a 10 percent royalty, the other 90 percent being kept by SAI Global. For “new” standards (presumably post-2003), Standards Australia receives an additional royalty of between 15 percent and zero, depending on how new the standard is. SAI Global Limited is prohibited from editing the standards, so it is not adding value in the sense that an academic journal publisher might be said to. So in summary, Standards Australia (the creator and copyright holder) receives between 10 percent and 25 percent of the revenue from sales, and SAI Global Limited (on behalf of its shareholders) keeps the other 75 to 90 percent, essentially for running the website and printer.

There are also requirements in the agreement that Standards Australia **must** “regularly review and revise its collection of Australian Standards® so that no more than 30% are over ten years old”. It is interesting that this requirement does not depend on there being any technical need to update the standards, and this may be a clue that it primarily intended to drive sales to users who require the latest revision in order to comply with legislation.

According to the [Australian Financial Review](#), this distribution arrangement generates more than half of SAI Global's profits. The Fifth Estate also has [an article](#) highlighting the impact of the agreement on SAI Global's profitability.

Relevance to the Commission's Draft Report

I wish to direct the Commission's attention to this issue because I believe that it is relevant to the following Draft Report sections:

- Chapter 5, specifically fair dealing and the purposes of "giving legal advice",
 - also how this could be translated into a fair use right
- Section 14.2, Compulsory access to intellectual property, and
- Chapter 15, on IP and Public Institutions,
 - particularly Draft Recommendation 15.1 and Open Access

The timing of the report is fortuitous because the arrangements between Standards Australia and SAI Global are due to expire soon, wherein there may lie an opportunity to change things for the better.

Issues of Concern relating to Standards

I understand that the process of developing standards is expensive, that standards can be valuable to society, and that their development must be paid for somehow. I wish to direct the Commission's attention to this issue because the present arrangement:

- is an exceedingly inefficient way of funding the creation of standards,
- imposes a significant compliance burden (including financial and administrative cost) on small businesses, including innovators as well as tradespeople, for little or no gain,
- provides an incentive for ignorance of (and so non-compliance with) the standards, which tends to defeat the purpose of having Standards in the first place and increases safety risks,
- works to the detriment of a large number of potential users of Australian Standards who are unable to justify paying the present prices, for example consumers wishing to better inform themselves about the safety of their purchases, or small businesses with innovative but speculative product ideas, and
- allows the shareholders of SAI Global to profit unfairly and inefficiently from what is effectively a legislated monopoly over access to what is, to all intents and purposes, part of the law.

These standards are essential to tradespeople such as electricians, plumbers, building maintenance personnel charged with things like fire safety, as well as all kinds of manufacturers and service industries. These tradespeople and manufacturers incur substantial costs (which are recurring, since the standards are updated periodically) and these costs are passed on to consumers.

For example, SAI Global (noticing my interest in electrical engineering) recently sent me a marketing e-mail for electricians, in which it explained that "It is important therefore, that you have the resources and understand your legislative obligations to stay safe and compliant" and then offered to sell me the electrical standards: AS/NZS 3000:2007 (\$166.40, no copy/paste allowed, no sharing, print once), AS/NZS 3760:2010 (\$138.41), AS/NZS 3008.1.1:2009 (\$214.81), AS/NZS 5033:2014 (\$214.81), AS/NZS 3003:2011(\$214.81), AS/NZS 4836:2011(\$166.40), AS/NZS 3012:2010(\$166.40),

AS/NZS 3017:2007(\$257.92), AS 2293 Set-2005(\$276.96), and AS/NZS 4777.2:2015 (\$188.75). Had I purchased each of these standards the cost would exceed \$2000, and I would need to incur it again whenever the standards were updated, which as explained in the SAI Global IPO Prospectus, Standards Australia is required to do, regardless of whether there is a technical necessity to alter the content.

An electrician who doesn't own the relevant standards would run the risk of producing illegal and possibly unsafe work, which may attract fines or imprisonment. If they do purchase the standards, then this cost will be partly passed on to consumers and partly borne by the electrician. The compliance cost of obtaining copies of standards is disproportionately high for small business, as the cost of the business having access to each relevant standard may be essentially the same for a one person business as it is for a large company. Consumers wishing to understand better the products or services that they receive would be almost universally deterred from acquiring a copy of the standards, because of the cost.

What is particularly egregious is that many of the volunteers on the standards committees of Standards Australia are in fact government employees (for example building inspectors, university professors, trade specialists at TAFE colleges, etc.), and yet if other employees of government institutions need to refer to the standards to fulfil their duties (e.g. as building inspectors, or to ensure OHS compliance in universities), then these government institutions still need to buy a licence from SAI Global to read the material that they may well have volunteered to produce.

In order to come up with a better way to fund the development of standards, it is instructive to read the most recent [annual report](#) on the website of Standards Australia. Page 32 shows that Standards Australia received royalties of \$4.305 million (presumably from SAI Global), and revenue of \$12.261 million from its investments. Therefore, even under the present arrangement, Standards Australia was only 26% reliant on royalties for its survival. Considering that these royalties are only between 10% and 25% of the cost paid by Australians to purchase these standards, it would tend to indicate that the cost to Australian society of purchasing the standards from SAI Global is in the region of between 17.2 million and 43 million, a substantial portion of which is paid by government agencies as major users of Australian Standards. It is quite possible that just the share of SAI Global's existing income coming from government purchasers, on its own, exceeds the amount that Standards Australia would have to be paid by the government in order to entirely replace its royalty revenues from SAI Global. This is in addition to the (higher) costs borne by others.

Recommendations to the Commission regarding the Draft Report and its applicability to Standards

Draft Recommendation 5.3

Draft recommendation 5.3 should suggest that if a Fair Use right is established, the non-exhaustive list of examples of Fair Use should include the example of "making or distributing copies of any document that is legislation, or a standard, specification, guideline or code of practice that is incorporated by reference into legislation, and that it would be an offence for a person to contravene through ignorance of the content of that document".

Section 14.2 of the Draft Report

In section 14.2 of the Draft Report (Compulsory access to intellectual property), “the Commission does not consider that part IIIA of the CCA should be extended to IP”, because “it is not clear what forms of IP would meet the criteria for declaration under the Regime. In addition to needing to be nationally significant, it must be uneconomical for anyone to develop another facility to provide the service, and access would need to promote a material increase in competition in at least one market *other than* the market for the service.”

I recommend that the Commission re-consider these statements in the light of the situation surrounding Australian Standards that are incorporated into law. These standards are “nationally significant” by virtue of effectively forming part of the law of the nation. By the very nature of standards, especially ones called out by name in legislation, it would be “uneconomical for anyone to develop another facility to provide the service”. The principal benefit of standards arises when everybody uses the same one, especially if it is the one that legislation requires. Because standards are used so widely in trade, and enable goods to be compared, substituted and traded more easily, it is fairly obvious that “access would [...] promote a material increase in competition in at least one market *other than* the market for [standards]”. Since Australian Standards so perfectly fulfil the criteria for declaration, I suggest that the Commission re-consider whether part IIIA of the CCA should be extended to IP, and specifically whether Australian Standards that are incorporated into legislation may be an excellent candidate for compulsory licensing. Even if courts are thought to be unlikely to actually impose a compulsory licence, a credible threat of this happening might facilitate negotiation of open-access by other mechanisms.

Section 15 - IP and public institutions

In Section 15 of the draft report, the commission writes: “Given the already wide-ranging scope of this inquiry, and the recent review of the R&D tax incentive (Australian Government 2016a), this chapter limits its focus to the intersection between IP rights and public funding for research agencies and universities.” I strongly encourage the Commission to expand this scope (or include a new chapter) to consider the role of the government in funding the development of Australian Standards, and in effectively forcing many citizens to purchase them (from a for-profit company) by including the standards into legislation.

Draft Recommendation 15.1

I suggest that Draft Recommendation 15.1 be amended, e.g.: “All Australian, and State and Territory Governments should implement an open access policy for publicly-funded research *and technical standards developed in whole or part using public funds.*”

Section 15.1 Page 405

The Commission notes that: “In respect of the other factors, a common theme is that the public ‘pays twice’ for research, once to fund research and again through higher prices for goods or services protected by the IP derived from that research (Siepmann 2004, p. 236).”

I suggest that the same argument can (and should) be made in your report regarding Australian Standards that were developed using government-employed experts on the standards committee, funded in some cases by a government grant, and where the finished standard (being then substantially the product of government funds) is purchased back in numerous copies, both by government agencies such as building inspectors who use tax-payer’s funds to do so, and by

tradespeople who again pass on the price of purchase (to the extent that they are able) to the ordinary consumer and taxpayer. Again we pay twice for the standards, with the second time being largely a transfer from taxpayers to the shareholders of SAI Global Limited, generating a significant welfare loss to the community.

Recommendations to government relating to Standards:

1. The Commonwealth Government should offer to directly replace the royalty revenues of Standards Australia with an annual grant, conditional on all Standards being made available to the public free of charge on a web-server. Funding Standards Australia directly in this way would be relatively inexpensive (at 4.305 million) when compared to the benefits to society of not having to pay for the standards that they presently buy each year (17 - 43 million) plus the (probably more significant) benefit of granting access to the standards for those others who would benefit from them but are not willing to purchase them at the current high prices. Although it is always difficult to justify any new call on the commonwealth budget, government agencies are large users of Australian Standards so this measure may actually save the government money and would be popular with small business and tradespeople.
2. The government should immediately cease incorporating into legislation (whether by reference or otherwise) any regulation that cannot be freely distributed to the citizens bound to obey it. If necessary, the government should buy out the rights to such regulations that are already part of law, or licence them compulsorily.
3. The government should make it a condition of any further funding to Standards Australia, that any standards produced using that funding be offered to the public for download, free of charge. Likewise, the publically funded participation of any government employee on the standards committees that write the standards should be allowed only subject to the free public availability of the resulting standards.
4. The government should clarify the meaning of the fair dealing right to use copyright-protected material for the purposes of "giving legal advice". This right should be declared to include giving oneself legal advice (for example about the legality of building work or manufacturing that one is engaged in) by copying and consulting a copy of any standard with which compliance is compulsory under legislation. If a 'fair use' doctrine is adopted instead of fair dealing, then the same right should be included.

Likely objections to my suggestions:

1. When SAI Global was floated, the shareholders thought that they were purchasing the right to royalties until 2018 (or 2023 given the 5-year extension). It would be unfair to deprive them of this, given that they paid up-front for this government-sanctioned monopoly.

Response: There are strong arguments and precedents against compensating beneficiaries of government regulation when that regulation is changed (e.g. tobacco companies, taxi operators, coal fired power station owners), and before the IPO, the SAI Global prospectus anticipated the risk of changing regulation or loss of their PLA with Standards Australia. This objection would be fully addressed by allowing the existing arrangements to continue until 2018 or 2023, when the optional 5-year extension runs out.

2. When it is announced that Australian Standards are going to be made freely and openly available on a specific date, users of those Standards will defer any purchases that they were going to make, until after the date of free availability. This may cause an immediate shortfall in the revenue of Standards Australia due to a decline in sales by SAI Global and therefore a decline in the small proportion of that sales income that is passed on as royalties to Standards Australia. **Response: The transition must be managed carefully. The new source of funding to Standards Australia should be ready before the date of the public announcement of the future free availability of the standards. This could be in the form of an immediate guarantee to make up the difference between the declining royalties and the new (hopefully slightly increased) level of ongoing annual funding.**
3. By offering the standards for free download, the integrity of the standards would be compromised because someone could alter the text or offer a partial or incomplete version. Preventing open-access would protect the purchaser from buying “faulty material”. (This argument is a partial paraphrasing of [a DMCA takedown request](#) from SAI Global to Google, when a website hosting an infringing copy of AS 2337.3 was returned as a search result. **Response: Standards Australia Limited could digitally sign the standards at the time of first publication, using an air-gapped machine containing their private key. The resulting standards could be copied to and distributed by an ordinary web-server and any tampering would be evident from the bad digital signature. This is much more secure than relying on SAI Global’s web-servers to not get hacked. Those servers can and do alter every standard downloaded, to include watermarking information to discourage sharing, and if hacked they could make other arbitrary modifications to the text.**
4. Many of the standards produced by Standards Australia are almost or completely identical to international standards produced by IEC, ISO or another organisation. These overseas standards bodies generally also charge exorbitant prices for their versions of the standard, and would react with hostility to being undercut by a free Australian version. **Response: This is a valid objection in those cases where Standards Australia does not hold all of the copyrights in a standard. In these cases, it may be expensive to buy out the rights held by other bodies, but that would be one option worth considering. This argument should not prevent Australian-developed standards from being made freely available, and due to local conditions and geographical isolation (or perhaps occasionally, historical protectionism) most of the building-related standards were developed locally and differ markedly from overseas equivalents. In many cases there would be no overseas rights - holder with grounds to object. Open access to the Australian standard may even bring trade benefits to Australia, if buyers in emerging markets find that the only easily-accessible specification for the products that they desire is the Australian Standard for the Australian product.**
5. Not all Australian Standards are incorporated by reference into legislation. There is no reason why a private (non-profit) company shouldn’t write up documents and sell them for whatever price they want. **Response: This is true; there is a much stronger argument based on moral principles for making public and accessible those Standards which have the force of law. On the other hand, the economic benefits to society discussed above, and the role of government funding and government experts in the creative process are no different for those standards with which compliance is only voluntary. Standards are a good thing, and the more people have access to them, the greater the benefit. It is worth reading [the](#)**

[constitution of Standards Australia](#), which lists its objects in section 7. Object (b) is “*To utilise all available forms of communications and media to ensure that the standards and related services needs of all stakeholder groups are met.*” That could very well include lodging all standards for free download from websites such as The National Library, [archive.org](#), [public.resource.org](#), or any other internet service. For that matter, permitting libraries to print paper copies free of charge would fall within this object of their constitution.

6. SAI Global sells printed paper copies of Australian Standards, and in some cases a PDF file is not as useful as a paper copy. There would be costs in replacing this service. **Response: If Standards Australia were to release its standards under a free licence that permits anyone to print the file and sell it, then users could submit the file to any print-on-demand publisher to receive a bound copy in the format of their choosing, at a price determined by a competitive market for printing services. Furthermore, there would be nothing to prevent SAI Global from continuing to print and sell paper copies as it does now, the only difference is that it would have competition, and so would face some difficulty charging much more than was its contribution to the value of the finished product.**
7. If someone wishes to view a standard, they can do so by visiting a major public library such as the National Library. Therefore it is possible to discover the content of standards at a library, without paying. **Response: Providing (limited) free viewing of Australian Standards within (only major) public libraries discriminates against residents of remote and rural areas, and the prohibition on copying them precludes most practical uses. The very fact that people do purchase copies of Australian Standards for hundreds of dollars each is in itself a demonstration that the existence of copies in some libraries is a poor substitute for having a copy that you can carry with you. As an example, if a new parent wishes to check whether a hand-me-down cot is safe and legal (in compliance with AS/NZS 2172:2013), the [National Library online catalogue](#) states that “*You can access this resource if you visit the National Library building*”, but given that you could not make a copy, presumably you would have to bring your cot and a tape measure into the National Library, to use the standard where it is. (In this case there is a partial solution: The ACCC has reproduced details from AS/NZS 2172 on [its website](#). Perhaps this website is a copyright infringement, but if not, it would be helpful if they would kindly reproduce the contents of more standards on their website. Note also that this incomplete summary would not be sufficient for a carpenter who wanted to start making cots.)**
8. Standards Australia Limited may turn down an offer from the government to replace its royalty income in return for open access to the documents that it produces. Standards Australia may find it more lucrative to maintain the existing retail price for its Australian Standards and enter a distribution arrangement similar to the present one (but with higher royalties), either with SAI Global or with another publishing company. Standards Australia may thereby achieve a higher income, which according to its not-for-profit status, would be used in the creation and updating of more Australian Standards. **Response: If we disregard the Constitution of Standards Australia Limited, then maintaining high prices for its Australian Standards would be rational behaviour and should be expected. Standards Australia could easily obtain higher royalties than it presently does, when it is allowed to negotiate a new distribution agreement. There is, however, a trade-off, in that whilst Standards Australia may be able to afford to create more and better standards with this**

larger income, its standards would be of relatively little use to the public because few people will buy them at their present high prices. According to its constitution, Standards Australia should be willing to forego seeking the maximum possible income, and should instead seek to provide the greatest benefit to Australian society. In accordance with its constitution, its Objects include (a) "...to promote the general adoption of standards", (b) "...to ensure that the standards and related needs of all stakeholder groups are met", (c) "...to promote economic and business efficiency", (j) to "...make available or distribute materials associated with standardisation". It is my opinion that these objects would be best served by making access to Australian Standards as open as possible, and free of charge to the maximum possible extent. If an annual government grant replacing the existing royalty stream is deemed to be an insufficient income to achieve the objects of Standards Australia, perhaps the government could make the grant somewhat larger, such that it is the most attractive option available to the board of Standards Australia Limited.

International Context

Users of standards worldwide are frustrated by the high prices that can be charged due to the interaction of intellectual property laws, government regulations, and the network effects present in this sector.

In the EU, perhaps it was considered repugnant to strictly require product manufacturers to purchase standards from a specific for-profit entity. Theoretically in the EU there is a solution to the problem, but practically it is unhelpful. In order to comply with EU directives, one method open to manufacturers is to prove compliance with an expensive Harmonised Standard that has been listed in the Official Journal of the European Communities, which will result in a presumption of compliance with the Essential Requirements of the Directive. It is theoretically possible to prove compliance with the Essential Requirements by other means than meeting a standard listed in the Official Journal, so the standards are theoretically voluntary. Compliance can be declared on another basis such as the opinion of a Notified Body, but this is legally risky because there is no longer a 'presumption of compliance', so the product could be recalled if a court later finds that compliance was not adequately proven by the alternate means. I am aware of only one product that took this route to market, [a bicycle helmet](#) that is in the form of a collar around the rider's neck that contains an airbag and only deploys around the rider's head during an accident. It is totally different from any helmet envisioned by the standard for helmets and therefore could not be tested as such, so they could not take the conventional route. Given the choice, manufacturers still use the standards in the EU, and access to these is an ongoing cause for frustration.

A campaign group in the USA called public.resource.org is attempting to bring about open access to standards in that country, as a continuation of their efforts to enable open access to all laws. Their tactics are perhaps not applicable in Australia, in that from a cursory examination it appears that they find justification in US law to believe that it is already legal to copy mandatory standards in the USA, and they try to prove this by doing so and then defending their actions in court. This group has achieved substantial success in the past. They have a persuasive [video](#) on the subject of standards, which I highly recommend, though it is presented from a US perspective.

References

MOU between the Commonwealth and Standards Australia Limited

<http://www.industry.gov.au/industry/IndustryInitiatives/TradePolicies/TechnicalBarrierstoTrade/Documents/StandardsAustraliaMOUsigned17May2013.pdf>

Standards Australia Constitution

<http://www.standards.org.au/OurOrganisation/AboutUs/Documents/Standards%20Aust%20Constitution%20dated%2013%20November%202015.pdf>

Prospectus for the IPO of SAI Global Limited

http://www.macquarie.com.au/retail/acrobat/sai_global_ipo.pdf

Australian Financial Review

<http://www.afr.com/business/standards-australia-quick-off-mark-in-review-of-royalties-on-sai-global-contract-20140924-jg21g>

The Fifth Estate

<http://www.thefifthestate.com.au/business/investment-deals/standards-contract-could-change-sai-globals-bottom-line/67318>

Annual report of Standards Australia Limited

<http://www.standards.org.au/OurOrganisation/AboutUs/Documents/W-0964%20AR-2014.pdf>

DMCA Takedown Notice from SAIGlobal to Google

<https://lumendatabase.org/notices/1590761>

Airbag Bicycle Helmet

<http://www.hovding.com/>

Public Resource (a US-based organisation)

<https://public.resource.org/index.html>

Video by Public Resource (Recommended!)

<https://www.youtube.com/watch?v=2tOJdGaMvVw>

National Library Catalogue Entry for Australian Standards

<http://catalogue.nla.gov.au/Record/2743530?lookfor=Australian%20Standard>

ACCC website on Cot Safety

<https://www.productsafety.gov.au/content/index.phtml/itemId/975196>

Patents

Comments on the Commission's Draft Report regarding Patents

Availability of un-patentable products in Australia

On pages 7, 186 and 205 of the Draft Report, there are three similar statements with which I disagree, and if retained in the final report I think these require further explanation. The Draft Report says:

Page 7: "Raising the thresholds required for granting IP rights (such as increasing the inventive step required for a patent) above those applied in other countries risks innovations developed overseas not being made available in Australia."

Page 186: "Accordingly, there would be benefits from exploring opportunities to raise the overall threshold for inventive step further. Raising the threshold above the level applied in other countries could carry risks however, including the risk that doing so would decrease or delay the diffusion of innovation into Australia."

Page 205: "There are limits to how effective unilateral increases in patent fees would be in Australia, and it would be important to carefully consider the impact of higher fees on the diffusion of technology into Australia."

If we are considering an invention that has been patented outside Australia, and which is sold outside Australia, then provided it is the same product (requiring little expense to customise it for the Australian market), I cannot see any reason why the absence of patent protection for that invention would discourage the overseas manufacturer of that product from also selling it in Australia. Even if the overseas manufacturer, (dismayed and furious at their failure to obtain an Australian patent) did decide to withhold their invention from Australia as some sort of bizarre collective punishment, another manufacturer would be free to provide that product in Australia, either by manufacturing it themselves in Australia, or by parallel-importing the product made by the overseas patent holder.

If there are specific examples where a product is available in countries where it has patent protection, and not available in those countries where it does not have patent protection, and where the unavailability is *caused by* the lack of a patent, then it would be very helpful to include such an example to back up the assertions in the Draft Report.

Information request 6.1 and Draft Recommendation 6.3

The Commission asked: "The Commission is seeking further information from participants on the likely costs and benefits from reforming patent filing processes. Would there be any unintended consequences from requiring applicants to construct their claims in the two-part form that applies in Europe or articulating why their invention is non-obvious? Are there better approaches available?"

I have discussed some suggestions in the following pages, but briefly, I would suggest the following, which could be partly incorporated into Draft Recommendation 6.3:

- The filing / application fee should be increased, to approximately \$5k per independent claim.

- The Acceptance fee should be abolished or made negative, i.e. if the patent is granted then the applicant should receive a partial refund of the filing/application fee. The refund should be proportional to the fraction of the claims that were accepted, and if all claims were accepted then 80% of the filing / application fee should be returned to the applicant.
- The applicant should be forced to delete one valid independent claim as a penalty, each time another claim is found to be invalid. This would encourage applicants to leave out claims that are not valid, *before* submitting the application.
- It would be good to make applicants explain the prior art and the problem to be solved separately from the explanation of how they solved it. Apart from other benefits, it permits a practical test of obviousness to be carried out, as discussed later in this submission.

Information Request 6.2

“The Commission is seeking information from participants on the costs and benefits of an exemption from infringement for experimental activities that use a patented invention. Are there any examples in Australia where the efforts of researchers have been hindered by the lack of such an exemption?”

I would support such an exemption, because there is often doubt as to whether a device or activity falls within the claims of a specific patent, and there are many thousands of patents in most fields. Reading a patent carefully takes a very long time, and so any researcher who diligently investigates to the best of their ability whether their activities are infringing, will have little or no time left for research. Furthermore, if a research activity does make use of a patented technology, the owner of the patent would in most cases wish the research to go ahead, as it is likely to increase the value of the patent by finding new applications for it. If the researcher is able to patent any refinements of the original patent, manufacturers will have to purchase licences to use *both* of the patents, thereby bringing revenue (and power) to the original patent holder.

Background and Personal experiences regarding Patents

My personal experience of patents is with the US and European systems, but primarily the US system. In my experience of applying for my first US patent, late in the examination process I myself discovered some prior art to my application, and of course I immediately informed the USPTO of this and retracted the relevant claim from my application. Notably, the USPTO did not find this prior art without my help. The USPTO almost exclusively tends to cite other patents, whereas the prior art that I found to my own application was a diagram in a competitor’s technical data sheet.

In the case of one of my patents, the prior art that was cited by the examiner, and his comments about its relevance, convinced me that he did not even understand how my invention worked or what it was for, though the patent was still granted.

In my work designing circuits to put onto chips (integrated circuits), I would frequently come across technical problems that needed to be solved. Usually, several companies come across the same problem at the same time. For example in the 1970s, nobody was trying to solve the problems specific to building a 3G mobile phone (and had they done so, it would be showing “no network” for the next couple of decades), but from the late 1990s, many companies were simultaneously trying to solve these same problems. Many of these problems were trivial or easy to solve, with very little inventiveness required in the solutions, but they had not been described before because they were not useful before. Many of these solutions were then successfully patented, perhaps because the

lack over many decades of any previous description of the solution to a (now) important problem was mistakenly seen as evidence that the problem was difficult, and as evidence that the solution was inventive.

One day in the tea room at work, a colleague explained to me the problem he was working on, in a sub-specialty of chip design that I had no experience of. Although I was unfamiliar with the state of the art in the field he was working on, over the next few minutes I suggested to him several simple ways of solving this problem. My colleague told me with dismay that each of those solutions was already patented. Surely being able to independently re-invent three or four patented inventions before one's cup of tea gets cold is evidence that the patents should not have been granted in the first place.

Many of the other problems that had to be solved in building a mobile phone had also been solved and documented in textbooks in the 1940s and 1950s when RADAR was developed, as it operates on similar frequencies to mobile phones. Some of these solutions were also (re)patented from the 1990s onwards, because either the examiners failed to read the textbooks from the 1950s, or where the old RADAR circuits were described in expired patents, the terminology used to describe the inventions had changed radically over the intervening decades, meaning that a search engine using keywords would not discover the old patent. Examiners may also have disregarded out-of-hand any circuit involving valves (vacuum tubes), whereas they can perform an identical function to deep-sub-micron transistors used in modern integrated circuits. Merely swapping out the large, old, (and perhaps no longer obtainable) part for its newer replacement is a routine exercise not to be confused with invention. For example, in 1924 René Mesny invented a symmetrical oscillator circuit with two triode valves, or "lampes" in the French terminology of the time. In the years since then, the circuit received little attention because it used two valves (or transistors) instead of one, as valves, and, (when they were new) transistors were expensive. The circuit was described under the name of a "Kaliatron" in a 1969 amateur radio book, "VHF-UHF Manual" by G R Jessop. In 1998, the excellent textbook "The Design of CMOS Radio-Frequency Circuits" by Professor Thomas Lee of Stanford University, it was described as a "negative resistance oscillator". In the early 2000s, when the transmitter of the mobile phone was first able to be crammed into a single chip, Mesny's circuit was almost universally adopted, because by that time using two transistors instead of one was no big deal whereas the circuit's superior performance was compelling. Even today, buried deep within a chip somewhere in your smart-phone, it is very probable that Mesny's little symmetrical oscillator circuit is the ultimate source of the radio signal that conveys your voice, 'selfies' and tweets to the cell tower. Fortunately as far as I know, that particular circuit escaped being patented in the 1990s, but I know of others with similar long heritage that did not.

The preponderance of bad patents on obvious things is another significant hindrance to invention, which I have experienced as follows: When confronted with a problem to solve, there is likely to be a circuit in an at-least-20-year-old text-book which will solve that problem, but perhaps not very well. It is also likely that one can quickly think of a better way to solve that problem, taking into account its specific circumstances. If I use the circuit from the text-book, I can solve the problem quickly but perhaps badly, and move on to the next part of the job. If I use the slightly better solution that I just thought of, then I first need to make sure that it doesn't infringe any of the many thousands of patents in that field. Very probably more than one person has thought of that solution, bearing in mind it only took me a few seconds or minutes to think of. Therefore (in the present patent system)

it is very likely that there is already a patent covering the new circuit. On the other hand, the circuit was so trivial that probably *more than* one other person came up with it. Therefore I should then search all of the expired patents too, as often I can find one that invalidates the recent patent. Otherwise I can search the scholarly journals, where I will quite likely find a paper describing the invention, but if not then I can search the historical amateur radio magazines and books (which, unbeknownst to patent examiners, contain many descriptions of circuits that were later used in mobile phones) and so on. When I have found the prior art, I then have to document it and show how it would invalidate the recent patent covering the circuit that I wish to use. Depending on which company I work for, if it is a big enough company to afford to defend an infringement case, it may decide to use the better circuit that infringes the recent patent, and just keep the prior art filed away to fight any infringement claim if it arises. A smaller company that cannot afford legal expenses may need to decide whether the patent holder is likely to put it out of business using the bad patent. (As far as I am aware, in chip design, unless there is a lawsuit already underway, usually companies do not try to licence patents from competitors, and such an attempt would be refused summarily.)

On several occasions, I have wasted many, many weeks researching prior art of various sorts. Not only does one company expend huge resources investigating a bad patent as described above, but every other company in the field is likely to have to expend the same resources, investigating the same bad patents. There is an incentive not to collaborate with other companies in researching bad patents, and not to share the results of this work, because unless it can be shared anonymously there is the risk that any public communication regarding the bad patent will alert its owner to the possibility that it is being infringed, and the identity of the possible infringer.

Often, it is just less work to use the circuit from the over-20-year-old text book rather than using the better circuit that I just thought of, thereby saving myself at least a couple of weeks of unproductive reading. This is one way that bad patents hold back innovation. Using the circuit from the over-20-year-old text book doesn't even guarantee that I won't be accused of patent infringement, because plenty of patents are still granted on such circuits by examiners who are either under too much pressure, or whose skills in the art are very ordinary indeed.

In summary, I have found the standard of examination to be wanting, and the effort being put into this examination seems to be far less than the privately-funded effort that goes into dealing with the resulting mess of bad patents.

Strategy for Improvement

I commend to the Commission the thorough discussion of the shortcomings of the patent system submitted by Moir (submission 130). In particular I believe that creating economic incentives to challenge invalid patents (as discussed in the last paragraph of page 20) would be beneficial to the community.

I would extend this further, to try to create conditions in which every party (applicant, examiner and potential infringer), if it acts "rationally" (in the meaning used by economists), will have incentives to eradicate bogus patents. It is my opinion that in order to avoid bad patents, rather than telling people what they *should* do, it would be more effective to make it in each stakeholder's own self-interest to avoid bad patents.

Somehow, a **system of incentives should be put into place such that it is not in the applicant's interest to file a bad patent application, and it is not in the patent office's interest to grant a bad patent, and it is in the interest of everyone else to challenge and overturn a bad patent if they find one.**

Suggested Measures directed at Applicants:

The applicant should have an economic incentive to search diligently for prior art which would invalidate the claims of their patent application. The aim would be to ensure that there are substantial and overwhelming negative consequences to including claims in one's patent application that were anticipated by the prior art or obvious in the light of it.

The patent application or filing fee should be greatly increased. In my experience patent attorneys charge in the region of \$900 per hour and it is likely that the costs of drawing up the patent application would be in the region of \$20k. Therefore it is not disproportionate for the application or filing fee to be raised to perhaps \$5k per independent claim. If all claims of the patent are granted, some portion (perhaps 80%) of the filing fee could be refunded to the applicant. In effect, the refund would be a negative "grant fee", (which as I later discuss, has benefits in motivating the examiners). For example, with two independent claims, the filing fee would be \$10k. If all claims are granted, then 80% of the filing fee would be returned, and the applicant would have ended up paying \$2k in total, after considering their refund of \$8k upon granting. If half of the claims were invalid, then the applicant's refund would be reduced pro-rata to \$4k, so that they would have paid a total of \$6k after receiving their partial refund (negative grant fee).

A large application fee, forfeited upon rejection, would create an incentive for applicants to be diligent in their search for prior art, and to avoid submitting an application where there is doubt about the patentability. There will likely be an objection that high patent application fees are disproportionately onerous for backyard inventors and small business, and that objection can be dealt with separately: I suggest that the portion of the fees above the present amount should be deferred for each inventor's first invention, and the deferred fees would only become payable when the patent is first assigned to another entity. Backyard inventors would probably not assign the patent to another party until a wealthy buyer is found, at which point they can afford the deferred fees. Large companies (which usually could afford to pay the fees right away) generally require their employees assign the patents to them immediately anyway, in which case the deferred fees would be payable at that time.

During the examination process, whenever a claim is rejected as not being patentable, that claim should be deleted from the application, as is presently the custom. As an incentive to the applicant to leave out bad claims from their initial submission, the applicant should in this situation also be forced to choose another valid independent claim in the same application, which will also be deleted by the examiner, purely as a penalty for having submitted an invalid claim. With such a rule in place, there will be a strong incentive for the applicant to check each claim for validity, and to remove any that are of dubious validity *before* submitting the application.

It would be valuable to make the applicant explain the prior art and the problem to be solved in a section that is separate from the explanation of how the inventor solved the problem and the

claims. Doing so would enable an empirical test of obviousness, which the examiner could choose to invoke if there is any doubt about the obviousness of the claims:

- Prior to the date when the patent application is published, the patent examiner could separate the two parts of the application, and give the first part (containing prior art and a description of the problem to be solved) to a panel of several experts in the field (either other examiners, or perhaps the editors of a journal in the relevant field).
- If, without being shown the claims of the invention, and within a reasonable time limit such as 5 minutes, the independent experts are able to guess all essential elements of any claims, then those claims are empirically determined to be obvious.

Suggested measures directed at Patent Owners

In the event that claims of a granted patent are overturned, the patent assignee should be ordered to refund all past licence fees that it has received from users of that patent. Furthermore, in order to avoid “gaming the system” by transferring the ownership of the patent frequently, the present assignee should be ordered to refund all licensing fees *ever* paid in respect of that patent, including any paid to previous owners. As an added benefit, this will have the effect of reducing the market value of bad patents, as they will carry with them considerable liability.

The patent holder should also have to pay the legal costs of the party who challenged the validity of the patent, as I think might already be the case in Australia. (The party successfully challenging the validity of the patent should also get some money from IP Australia, as a form of apology for granting a bad patent.)

To compensate society as a whole for the inconvenience of avoiding the patented matter, another fine should be levied on the owner of any patent that it overturned, equal to some multiple of the patent application fee. (This is necessary as the previous two measures provide no compensation to those who refrained from using the patented matter.) This fine should be turned over to the party who successfully challenged the validity of the patent, as a reward for the good deed that they carried out to the benefit of society in general.

The owner of a patent may be concerned that even they think it is quite likely bogus – for example they may find some prior art, or may develop a conscience and start to regret having submitted a fraudulent application. To leave the owner of a patent with the option of ridding themselves of the liability attached to holding onto a bad patent, they should be given the option of turning in their patent and irrevocably donating the invention to the public domain, in exchange for absolving them of liability for any future costs under the provisions above. This option should be available to the patent owner up until such a time as a challenge to the validity of the patent has commenced, at which point the option to avoid the above punitive measures should be closed, so as not to be used as a means of evading the fines.

FRAND licensing provisions for Standards-Essential Patents should be implemented as recommended by Intel in their submission (066) responding to your Issues Paper.

Measures directed at the Patent Office:

Whilst I am happy to believe that patent examiners at IP Australia aspire to act with the utmost professionalism, as employees they would also feel some pressure to achieve the goals of their

employers. One goal of IP Australia must surely be to reduce the time taken to process patent applications, as the backlog is a cause for complaints, examples of which are found in several submissions to your Issues Paper. As an easily-measured metric that can be evaluated immediately, I am concerned that it could be given more emphasis than the proportion of incorrectly issued patents (which at best only become evident after several years, and frequently would forever go unnoticed except by the frustrated technologists who work in the relevant field).

An example of this disregard of the quality of patent examination is demonstrated in Table 16.1 of the Commission's Draft Report, in which the "IP-related Deliverables" of IP Australia are specified: ***"Rights administration performance indicators include: the level of customer satisfaction with the consistency and timeliness of work."*** I'm sure their customers (applicants) would be very satisfied if all applications were *consistently* granted *immediately*. The "Deliverables" in that table show no consideration at all for the impact of patents on anyone other than the applicant. Any wrongly-issued patents are presumably an "externality" to IP Australia, with financial consequences that only affect other people.

At present, the only financial incentives on IP Australia (funding that depends on their decisions whether or not to grant patent applications) are application fees, issue fees and renewal fees. When faced with a patent application of dubious validity, rejecting it will bring zero further income, whereas granting it will allow them to collect an issue (or grant / allowance fee), and regular renewal fees for years to come, and may even entice the "inventor" to submit their next application, with its associated fee. Therefore, although I do not accuse the examiners of deliberately granting patent applications that they know for sure to be invalid, when in doubt, there is a financial incentive to grant dubious patents rather than refuse them – it increases the income of IP Australia.

In discussions with a former patent examiner, I have heard anecdotes that when an examination of a dubious application was taking longer than expected, there was pressure to just grant the patent and move on to the next one. To prevent this from happening, there should be an incentive for IP Australia to examine patents thoroughly.

It is difficult to apply a conventional financial incentive (such as a fine imposed upon IP Australia each time a wrongly-granted patent is detected), because taking money away from IP Australia may worsen their ability to attract and employ enough competent examiners to weed out bad patents. Nevertheless, some kind of measure should be put in place so that there is a negative consequence for IP Australia each time it is determined that they issued a patent wrongly.

The optimum situation would be where IP Australia keeps looking for prior art until the point where the incremental salary cost of any further step of examination would be equal to the incremental benefit to society in helping to prevent a bad patent. The costs to a potential infringer of overturning a bogus patent are probably in the region of hundreds of thousands of dollars, although I do not have statistics on the average cost in Australia. In the case of *Factual vs. Locata* (in the USA), [it is said](#) to have cost in the region of 1 million to overturn the patent, though [the defendant's blog explains](#) that the average cost of defending an infringement suit is in the region of 1 million to 2 million USD. Even in the absence of any accusations from the patent owner, the engineering effort incurrent by a potential infringer in evaluating the bad patent and avoiding it, or deciding that it is so blatantly invalid that it is reasonable to infringe it, is at least weeks of skilled effort, costing many thousands of dollars per bogus patent, per potential infringing company. Therefore, even where no legal action

ever occurs, the cost to society of the issue of a single bad patent can very easily be in the hundreds of thousands of dollars.

Bad patents could be detected either by being overturned in court or during an audit by a Patent Oversight Committee, as discussed at the bottom of page 448 of the Commission's Draft Report.

To ensure that IP Australia performs examinations with the amount of thoroughness that is in society's best interest, ideally IP Australia should incur a monetary cost of similar magnitude whenever it issues a bad patent, however, I would like IP Australia to have the resources to examine patents thoroughly at the same time as working through its backlog rapidly, so it will need more funding rather than less, and probably just fining IP Australia is not a viable option.

The best option I have been able to come up with is as follows: When a bad patent is detected, levy a fine on IP Australia, of perhaps double the patent application and renewal fees collected in respect of the overturned patent, plus make IP Australia pay the legal costs of whoever overturned the patent, as a gesture of apology. The fines should be taken first from any bonuses that would otherwise be due to managers within IP Australia, and if that is not enough, then out of IP Australia's other funds. Since IP Australia is a cost-recovery agency, at the same time that IP Australia is fined for granting the bad patent, to ensure IP Australia continues to be well funded for the future the patent renewal fees would be increased for the following year, by whatever amount is needed so that IP Australia recovers the fines that it just paid out. This only provides a weak financial disincentive to grant bad patents but it is the best I can think of subject to maintaining IP Australia's funding.

Note that whilst patent application fees should be increased, in contrast, fees paid by a patent applicant to IP Australia at the time of the acceptance/grant/issue of a patent are unhelpful and create the wrong incentives for IP Australia. Upon the submission of a dubious patent application, the acceptance fee presents to IP Australia an incentive to grant the patent in spite of any doubts about its validity. For this reason acceptance/grant fees should be reduced to zero, or preferably made negative, i.e. part of the application fee should be refunded if the patent is granted, and the more claims are accepted, the more of the applicant's fee should be returned, as described in my "Suggested Measures directed at Applicants" above. This gives IP Australia an additional small financial incentive to avoid granting any bogus patent or bogus claims, and will thereby tend to reduce pressure from management that might otherwise impede an examiner in taking the time to search for prior art with the utmost professionalism.

Article on the experience and cost of overturning a US patent

<https://medium.com/newco/beating-back-the-patent-trolls-9cd769028170>

Blog post of the defendant which overturned the patent

<https://www.factual.com/blog/court-throws-out-patent-troll-claim-against-factual/>

Circuit Layout Rights

I have been involved in designing several integrated circuits (chips) and in the country where I did this, it was necessary to register the designs in order to secure circuit layout rights.

I have no detailed knowledge about the laws surrounding Circuit Layout Rights, so the following is just a summary of my assumptions. As far as I know, these rights protect the physical shape of the patterns on the chip (as drawn on the so-called 'masks' which are the master copies printed onto each chip photographically), not the list of which part is connected to which other part. If the design were re-drawn so that it was a different shape, but with the same function, then this would not infringe the circuit layout rights. It would seem that the rights are intended to prohibit direct photographic copying of the patterns on the chip, or to prohibit making chips from an unauthorised copy of the computer files used to print the patterns. Circuit Layout Rights would not be useful against a potential infringer who is willing to re-draw the design in a different shape with equivalent function.

In order to manufacture integrated circuits on a commercial scale, a commercial fabrication facility (fab) is required. As far as I am aware, there is only one of these in Australia, and its process is quite unusual so unlikely to be suitable for copying a product designed to be made in any other fab. I think that it is unlikely that any fabs suitable for producing chips at low cost will be built in Australia. Therefore I think it is exceedingly unlikely that Circuit Layout Rights would ever be of value in preventing the manufacture of counterfeit chips within Australia.

It would be possible for a company to manufacture chips overseas using a copied mask design. Therefore, a possible use of Circuit Layout Rights might be to prevent the import of copied chips that were made overseas, however it is usual for the manufacturer's logo to be etched into the package of the chip so that any counterfeit chip would probably already be prohibited as a violation of a trademark. Many chips also include patented inventions, and importing chips that violate the Circuit Layout Rights would also infringe the patents. Therefore in the case of counterfeit chips, I think Circuit Layout Rights are largely unnecessary.

If Circuit Layout Rights were abolished, it might be possible to manufacture copied chips overseas, mark them with a new logo that does not infringe any trademark, and sell them as a differently-branded product from the original, provided that there were no patented inventions used in the design of the original chip. If Australia were a significant market for integrated circuits, then this might be a plausible reason to keep circuit layout rights, but I think it is unlikely that such an infringement would be profitable.

Fortunately, I think that the disadvantages of retaining Circuit Layout Rights are small, compared to all of the problems with the patent and copyright systems.

Orphan and Out Of Commerce Works

A few years ago, I came across a book in a library that I found very interesting. I borrowed the book from the library and read it. I also looked into options to buy myself a copy. The book had been printed once in 1970, and had been out-of-print since then. Copies were occasionally offered for sale online, for many hundreds of British pounds each. Having the opportunity, I scanned the book, in case I would never see it again. That library has since been demolished and the site was sold to

housing developers. The book is no longer on the catalogue of the library system, and has presumably been discarded.

I was able to contact the author of the book that I had scanned and I obtained his permission to put the book on the internet – (it had after all been out of print since 1970). What was much more difficult was trying to find out whether anyone else had copyright over the book. Often the publisher will have rights to a book, separately from the author. The author could not remember whether this was the case for this book. I contacted the register of companies (Companies house in the UK – it was a UK publisher), and found out when the publisher went out of business, and obtained the financial details from when it was wound up. There was no mention of it having any intellectual property rights, nor of them being transferred to a successor organisation. I tried to contact the liquidator who dissolved the publishing company, with no success. I contacted several publishers who might have acquired the rights, but they all denied any knowledge of the book. In the end I had to assume that only the author still had rights in the work, and so with his blessing, the book is available once more, on the internet.

Comments on the Draft Report, regarding Orphan and Out-of-Commerce Works

I would like to comment on Box 5.11, on page 157 of the Draft Report.

“In 2014, the UK Intellectual Property Office launched its Orphan Works Licence, allowing commercial and non-commercial users to apply for a non-exclusive licence to use an orphan work, following a diligent search for the rights holder. A fee is payable for a seven year licence, which can be renewed, and fees are held in trust should the rights holder be subsequently identified.”

I think that such a scheme may be far from optimal, given that the most useful on-line repositories of old books are those where the books are made available free of charge. It would be impractical to distribute orphan work books free of charge, if the website distributing the books had to purchase a paid licence in advance for each book, on the off chance that a rights holder would appear later to collect the money. Any proposed scheme for Australia should endeavour not to frustrate such use (which is beneficial to society, and whilst no copyright holder comes forth, is harming nobody).

Therefore I recommend the following:

- If a statutory licence scheme is instituted for Orphan Works or Out-of-Commerce works, then any licence fee should be waived for uses that are entirely non-commercial in nature.
- A person wishing to place an orphan work or out-of-commerce work online to be accessible free of charge, should first register their intent to do so, on a government website that accepts the name of the work, author’s details, or anything else that would assist a copyright holder in identifying whether it was their work.
- If the copyright holder sees their work on the list on the government website, they would be able to prevent the work from being statutorily licensed, provided they make the work available for sale within a reasonable time limit, at a reasonable price (perhaps the original selling price corrected for inflation).
- If no copyright holder comes forth, a statutory licence would be issued by the government, which must be free of charge for non-commercial use.