

Review of the Rail Industry Safety and Standards Board and its MOU with the Governments

Covering note:

The Rail Industry Safety and Standards Board (RISSB) exists to develop harmonised standards, rules, codes of practice and guidelines for national application in the rail transport industry. RISSB is jointly funded by the rail industry and Commonwealth, State and Territory Governments under a memorandum of understanding (MOU) with RISSB, set to expire in June 2013. Under the terms of the MOU, a review was to be conducted 12 months before its expiry.

The following report was prepared by Mr Tony Taig of TTAC Limited (UK), who was commissioned on behalf of the Standing Council on Transport and Infrastructure (SCOTI) to review and report on RISSB and the MOU. The report was prepared by Mr Taig for Government consideration of any revised MOU applying from July 2013.

The basis for a revised MOU with RISSB has also been considered in the context of a review of the National Transport Commission and other relevant transport bodies, conducted in 2012 by the Transport and Infrastructure Senior Officials' Committee. Further information is available at: [<http://www.infrastructure.gov.au/transport/australia/ntc/2012NTCReview.aspx>](http://www.infrastructure.gov.au/transport/australia/ntc/2012NTCReview.aspx)

SCOTI agreed on 9 November 2012 to finalise its response to these reports at its first meeting in 2013 and to proceed with negotiating a new MOU. Negotiations will be led by New South Wales.



Review of the Rail Industry Safety and Standards Board and its MOU with the Governments

**a report produced for Transport for
NSW (on behalf of the Governments of
the States, Territories and the
Commonwealth of Australia)**

by Tony Taig

TTAC Limited

June 2012

Executive Summary

The Rail Industry Safety and Standards Board (RISSB) exists to develop harmonised standards, rules, codes of practice and guidelines for national application across Australia, and to promote their uptake. RISSB is jointly funded by the rail industry and by the State and Commonwealth Governments (the Governments) and operates under a Memorandum of Understanding (MOU) with those Governments; the current MOU was set up in 2010. That MOU includes a commitment by the Governments to undertake a review of RISSB, including an evaluation of its funding arrangements, by June 2012. This is the report of that review, which has been carried out by Tony Taig of TTAC (UK) Ltd between November 2011 and April 2012.

The review has involved examination of documents, an initial series of meetings with stakeholders in Australia in November/December 2011, a series of workshops and meetings held in Australia during March 2012, and considerable interaction via telephone and e-mail with RISSB, Australian stakeholders and overseas organisations (in particular the UK Rail Safety and Standards Board) throughout the course of the review. The brief for the review is to provide a “time, quality and cost” evaluation of RISSB and its products.

My main conclusions (see Section 7 for the complete version) are as follows:

1. The MOU between RISSB and the State, Territories and Commonwealth Governments lacks focus on the economic and safety outcomes sought from standards and harmonisation.
2. The benefits of harmonisation should be considerable, with safety risks mitigated and potential for \$100's to \$1000's of millions savings annually on railways across Australia.
3. No-one in Government has a clear focus on measuring and maximising nationally the benefits of harmonisation, and thus to act as an informed Government customer for RISSB.
4. RISSB has not delivered Approved Code of Practice (ACOP) products against the timetable laid out in the MOU but the main reason is that the time taken to form industry consensus is outside RISSB's control. RISSB has performed well to achieve the progress it has to date.
5. RISSB's process for establishing its work priorities was adequate for getting national standards processes established and has addressed some important issues, but does not prioritise standards projects systematically based on the benefits available from them,
6. RISSB has done a good job in engaging the rail industry and collating diverse standards from around Australia but has not always been able to establish consensus on a single harmonised standard solution. Some standards thus leave multiple solution options open to operators.
7. Rail operators generally are satisfied with and like the RISSB standards products.
8. Some Government stakeholders, Safety Regulators in particular, dislike standards which provide collations of diverse current practices rather than one preferred standard solution. Such collation is a valuable and necessary first step towards harmonisation, but the benefits of harmonisation will not be achieved by perpetuating diverse practices and re-badging them as “compliant with national standards”.
9. Safety Regulators have a strong and unanimously shared concern about the absence of well-evidenced, risk based justification that national standards will control safety risk So Far As

Reasonably Practicable (SFARP), which is shared by some industry stakeholders. Such concerns are valid and need to be addressed; the support of Safety Regulators for national standards is an important prerequisite for their widespread adoption and implementation.

10. Action is needed to build industry knowledge of cross-industry safety risk and to apply it in justifying the level at which safety standards are set at national level.
11. RISSB's 2011 survey of the uptake and implementation of standards products was poor. RISSB's current funding makes standards promotion second priority to standards development, and precludes significant work to facilitate standards uptake.
12. RISSB's business model is low cost, involves low financial risk and has delivered good value for money in comparison with alternative transport-focused standards development models. RISSB is well aware of the associated risks of low in-house staff levels and reliance on external expertise, and of the need to manage them going forward.
13. The establishment of a national transport regulator for rail safety in Australia (from January 2013) should provide an important first step whereby the States and Territories work more collaboratively in operating railways across Australia and provide clear input to RISSB on safety matters. The new national rail safety regulator will not address the economic (and other non-safety) harmonisation issues discussed in this report.

A good overall measure of RISSB's performance is that everyone consulted during this review, including the harshest critics of its standards products, considers that RISSB has achieved a great deal more than its predecessors in bringing industry together and creating an environment in which practices are shared openly and harmonised standards can and do develop. The strong general view is thus that governments and the industry should build on RISSB in addressing the issues identified above, rather than starting again with something different.

My recommendations are:

1. The MOU should be rewritten with a strong focus on the benefits (safety and economic) sought from harmonisation, making clear
 - a) that the purpose of standards and of RISSB is to advance both safety and affordability of railways, and that the outcomes sought are measurable improvements in both
 - b) that RISSB should view development of national standards and promotion and facilitation of adoption of those standards at all levels through the rail industry as equal priorities, and
 - c) that the standards development process, the planning of RISSB's programme, and the balance of work devoted to standards development as opposed to promoting and facilitating the adoption of standards, should all directly reflect the outcomes sought.
2. The Governments should identify a senior level person or group to provide clear leadership towards railway harmonisation in Australia. Their remit should include
 - a) providing clear governance and direction for RISSB from its government customers
 - b) commissioning work (with industry where appropriate) to clarify the national benefits of

railway harmonisation and help set government priorities for RISSB, and

c) developing incentives for States, Territories and the rail industry to harmonise where appropriate and to discourage unnecessary fragmentation.

In this latter regard governments should not rule out legislation if other forms of influence (e.g. via regulation or governments' funding role) prove too unwieldy or ineffective.

3. RISSB should

a) plan its work priorities in relation to the benefits available nationally from progress towards harmonisation (whether via standards development or implementation)

b) include a clear outline of the pathway towards adoption and implementation alongside each standards development project, and

c) provide guidance as soon as possible across the whole of the envisaged future national standards suite on the best available starting point for specifying new railways until such time as that national standards suite has been completed.

4. The Australian rail industry needs to act collectively and urgently to improve its cross-industry safety risk knowledge and to apply that knowledge in justifying that standards are being set so as to control safety risk SFARP. This will require

a) establishment of a shared national database of industry safety incidents and occurrences

b) development of risk assessment tools and capability, building on that database (along the lines of the Safety Risk Model developed by RSSB in the UK), and

c) modifying/extending the validation part of the standards development process to include explicit justification that a standard represents SFARP safety risk control at national level.

There would be strong synergy in progressing this information sharing and capability building through RISSB.

My recommendations taken together imply a significant expansion of RISSB's work, with more being done to address priorities not currently high on the workplan, to build shared safety risk knowledge and assessment capability (and use it in justifying that standards control safety risk SFARP), and to extend RISSB's work supporting industry adoption and implementation of standards. In relation to the benefits sought from harmonisation RISSB is cheap, but its value added is sub-optimal. Adoption of my recommendations might require a short term increase of perhaps 50-100% in RISSB's annual budget, but should deliver a many-fold increase in value for money.

Tony Taig
TTAC Ltd
18 June 2012

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1. Introduction

The Rail Industry Safety & Standards Board (RISSB) exists to develop harmonised standards, rules, codes of practice and guidelines for national application across Australia, and to promote their uptake. RISSB is jointly funded by the rail industry and by the State and Commonwealth Governments (the Governments) and operates under a Memorandum of Understanding (MOU) with those Governments; the current MOU was set up in 2010. That MOU includes a commitment by the Governments to undertake a review of RISSB, including an evaluation of its funding arrangements, by June 2012. This is the report of that review, which has been carried out by Tony Taig of TTAC (UK) Ltd between November 2011 and April 2012.

The review has involved examination of documents, an initial series of meetings with stakeholders in Australia in November/December 2011, a series of workshops and meetings held in Australia during March 2012, and considerable interaction via telephone and e-mail with RISSB, Australian stakeholders and overseas organisations (in particular the UK Rail Safety and Standards Board) throughout the course of the review. The brief for the review is to provide a classic “time, quality and cost” evaluation of RISSB and its products. The review brief is attached as Appendix 1, and a list of stakeholders consulted as Appendix 2. The review is generally presented in “Chatham House” style –the people to whom I spoke are named, but I have not attributed comments or opinions to any specific party (other than by prior agreement with them).

My review report provides

- A background section introducing RISSB and the Australian rail industry environment in which it operates (Section 2),
- An assessment of how well RISSB has delivered against the milestones laid out in the MOU and subsequent annual work plans (Section 3),
- An assessment of the quality of RISSB’s output (Section 4) in terms of
 - a) the prioritisation of standards to be tackled
 - b) the fitness for purpose of the standards (etc) produced, and
 - c) progress in implementation of RISSB standards,
- An evaluation of RISSB value for money and funding arrangements (Section 5),
- A discussion of my observations and findings (Section 6) and
- My conclusions and recommendations (Section 7).

I would like to acknowledge at the outset the assistance provided by Australian government, regulatory, industry and independent stakeholders and by the staff of the UK Rail Safety & Standards Board in preparing this review. I would like to thank the Directors, management and staff of RISSB in particular for their open and helpful approach throughout. The comments and opinions expressed in the review are my own and are not necessarily shared by any other party.

2. RISSB and its Operating Environment

This section provides background on the MOU with Governments under which RISSB operates (2.1), on RISSB's management arrangements and core activities (2.2), and on the Australian railway industry environment in which RISSB works (2.3).

2.1 RISSB and the MOU with Governments

RISSB was originally established in 2003 as the Code Management Company after the Australasian Railway Association (ARA) purchased the Code of Practice for the Defined Interstate Rail Network (DIRN) from the Governments. This was part of a more general trend towards privatisation of government assets at that time. The DIRN was the standard gauge network developed between 1930 and 2004 to enable interoperability of railways across state boundaries; the Code of Practice was the set of standards, guidelines and rules developed to govern access to and maintenance of the DIRN.

The standards, rules, codes of practice and guidelines which RISSB develops and maintains (collectively known as the Code) are intended for general application across all railways in Australia. RISSB now has a wider remit than the Code for the DIRN. RISSB is owned by the ARA and operates with joint funding from the industry and the Governments (of the States, Territories and the Commonwealth) as defined in the MOU between the parties.

The current MOU covers the financial years 2009-10 to 2012-13. It was signed in May 2010 between RISSB and the then Australian Transport Council¹ (ATC), acting on behalf of the Governments of the Commonwealth and all seven of the States and Territories of Australia. It is attached as Appendix 3. Its objective is stated as:

“to specify agreed actions to achieve uniformity and consistency in the management of rail operations across Australia through the Code.”

The MOU is unusual in that it does not refer to the outcomes that uniformity and consistency are intended to achieve – improved safety and efficiency in particular. It defines RISSB's commitments under the MOU as

1. To develop, own and manage the Code.
2. To have prime responsibility for the review, continuous development and for the promotion and implementation of the Code.
3. To seek endorsement of the Code deliverables (standards, codes and rules) contained in its Business Plan and of its proposed annual workplan from the Rail Safety Policy and Regulation Group (RSPRG)

¹ In February 2011, the Council of Australian Governments (COAG) agreed to new ministerial council arrangements. The Australian Transport Council was replaced with the Standing Council on Transport and Infrastructure (SCOTI). The establishment of SCOTI and the disbanding of the Rail Safety Policy and Regulation Group (RSPRG) has seen fragmented oversight from a government perspective. Government stakeholders acknowledge that this has made it more difficult to provide a strong and single voice and direction for RISSB from government.

4. To consult with Governments and industry before making significant changes to the Code.
5. To encourage the access to and the take up of the provisions of the Code across all railway environments in Australia, and
6. To develop and maintain the RISSB website and provide access to the Code to the funding members and Governments.

The MOU lays out in detail the Code deliverables (“products”) that RISSB is to produce in 2009-10 and provides a similarly firm indication of the anticipated products to be produced in 2010-11. It then defines the basis on which the Governments will provide financial support to RISSB of up to \$1.5m per year (conditional on industry matching this support and on RISSB submitting a report to the RSPRG twice per year and that report being endorsed by the RSPRG).

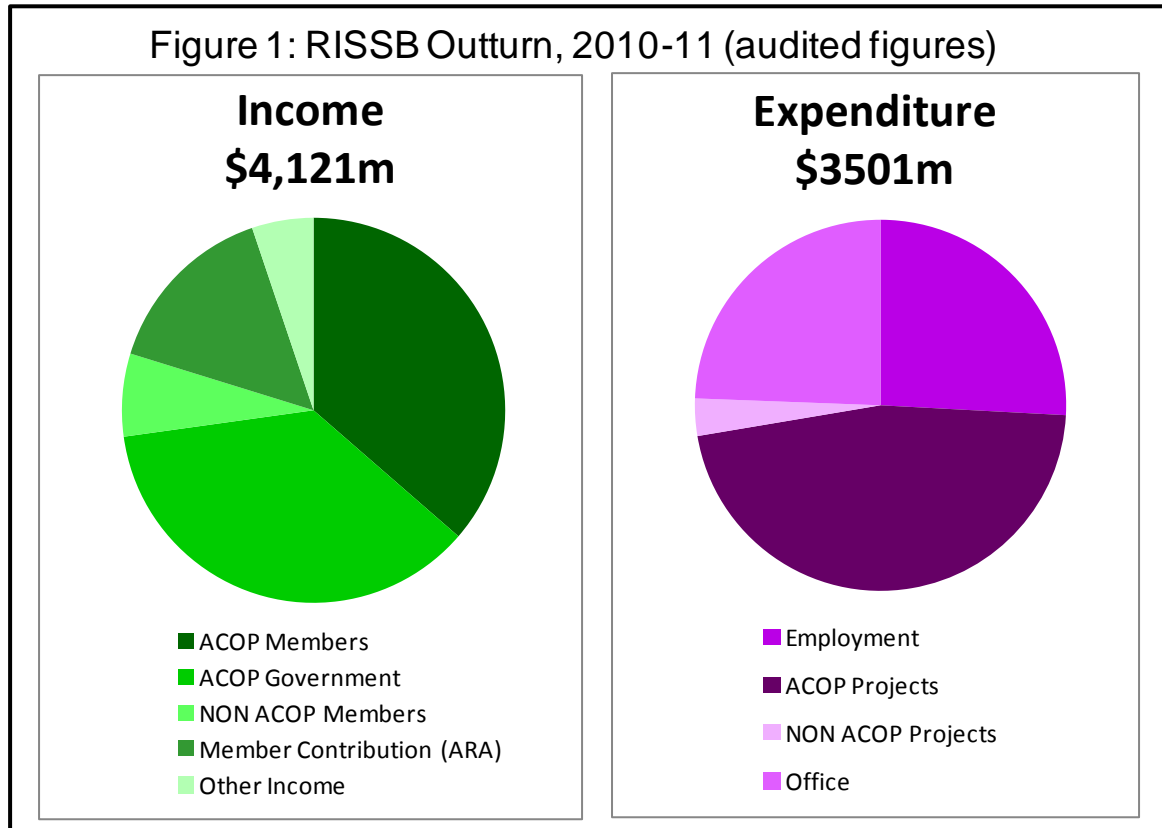
Finally, the MOU specifies the annual reporting information to be provided by RISSB and that two reviews will be undertaken:

- a) RISSB will undertake a survey by 30 June 2011 to measure the uptake and use of RISSB by the rail industry, and
- b) The RSPRG will undertake a review of RISSB’s performance in the development, implementation and management of the Code by 20 June 2012.

This review is the RSPRG’s fulfilment of the latter commitment.

2.2 RISSB Management and Activities

The breakdown of RISSB’s income and expenditure for the last financial year, shown in Figure 1 below [1], reveals much about RISSB’s management model.

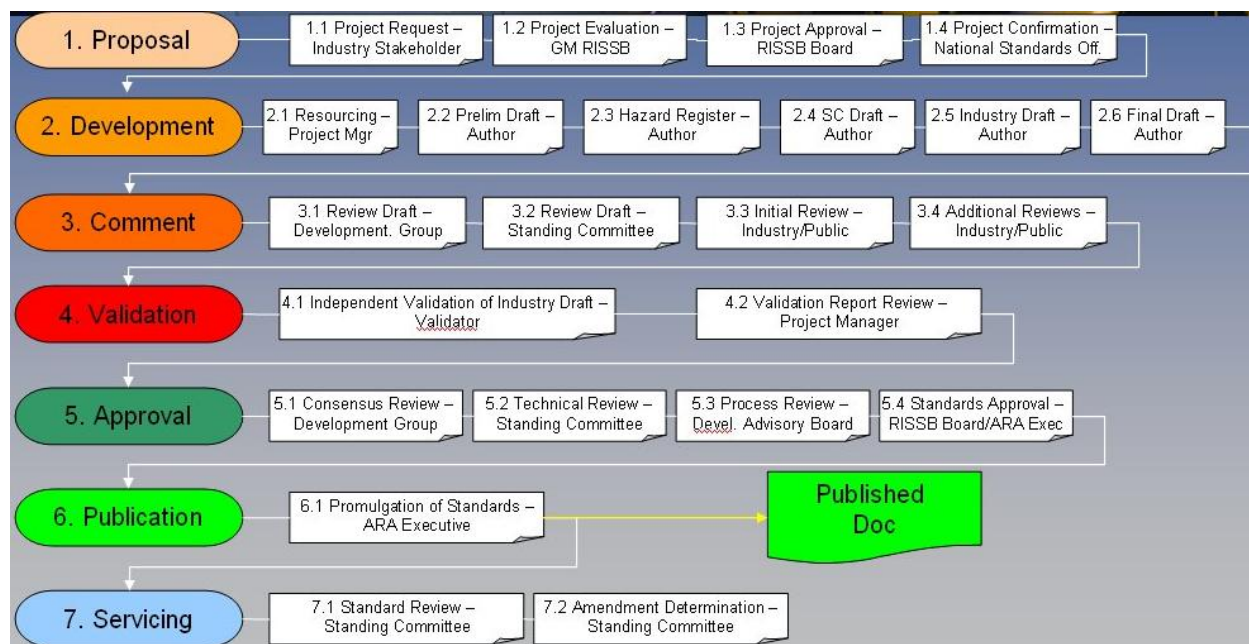


The Income chart on the left shows the matched fixed contributions of \$1.5m each from Government and rail industry funding members, of whom RISSB has 27 at the time of writing. This funding is “ring fenced” for standards (ACOP) development and cannot be applied to other activities. The third, smaller element of income is made up about 40% of industry funding for non-ACOP activities (promotion and support on implementation of standards), and 60% “flow through” income for training courses, conferences and one-off non-ACOP projects which RISSB undertakes from time to time.

What this chart does not show is the very substantial contribution of “in kind” effort made by industry members who participate in the standards development process at their organisations’ expense. RISSB maintains a record of time input by each contributor, and values this input at about \$3.15m for the 2010-11 financial year [1]. A smaller in-kind contribution at around 10% of this level is also received from some Governments (Victoria made a particular contribution to development of a number of standards in the year in question).

The expenditure chart on the right reflects RISSB’s business model of using a small team of project managers to manage a standards development process that relies heavily on industry knowledge and on specialist expertise procured externally. The standards development process is illustrated in Figure 2 below [2].

Figure 2: RISSB Standards Development Process
(from RISSB Business Plan 2010-11)



The core of the process is managed by one of RISSB's team of five in-house Project Managers (whose backgrounds correspond to their management roles in relation to rolling stock, infrastructure, safety & operations, interoperability and special projects). Specialist input, typically from railway consultants with relevant expertise, is procured for the authoring of standards and for the independent validation of draft standards prior to approval. In this way RISSB maintains project control via a small in-house team while avoiding the need to employ specialists in many different aspects of rail technology and operations. Hence the relatively modest proportion of budget devoted to employment costs, and nearly double this amount spent on ACOP Project costs (largely external contractors/consultants).

Costs are further kept down by sharing office space and a number of support services with the ARA in Canberra. In addition to the five project managers RISSB itself employs just four further staff – the general manager, a business manager, and managers for marketing and accreditation. The role of company secretary is fulfilled by one of the project managers, with the general manager acting as deputy.

I note the contrast between RISSB's business model and that of its UK counterpart (the Rail Safety & Standards Board, RSSB), which directly employs about 250 people and has an annual budget around £32m (about \$50m at the time of writing) [3]. While there is a significant difference in the scope and scale of what the two organisations carry out, most of this difference is due to a very different business model. RSSB in the UK employs in-house a large proportion of the types of specialists which RISSB would procure externally. Other transport standards setting bodies in the UK (e.g. the Maritime and Coastguard Agency and the Civil Aviation Authority, both of which are agencies of government) similarly employ hundreds of people, maintaining substantial in-house teams to carry out tasks for which RISSB relies on bought-in specialists and in-kind contributions from industry.

2.3 The Australian Rail Environment and Harmonisation

I assume that readers of this report will be familiar with the broad characteristics of the Australian rail industry, and focus here on those aspects most important for harmonisation.

A key objective of this review is to assess the value for money provided by RISSB. To do this it is essential to understand the value of harmonising the currently very diverse railways in Australia, and then to assess how well RISSB can and does contribute towards realising that value. The main purposes of railway standards anywhere are to ensure safety and to improve efficiency, not least by providing buyers with more affordable railway equipment and operating practices, and suppliers with larger, less fragmented markets into which they can sell. So before progressing to my review of RISSB I want to take stock of the nature and scale of benefits that harmonisation would offer Australia. I shall consider safety first (2.3.1), then economics (2.3.2), before summarising (2.3.3).

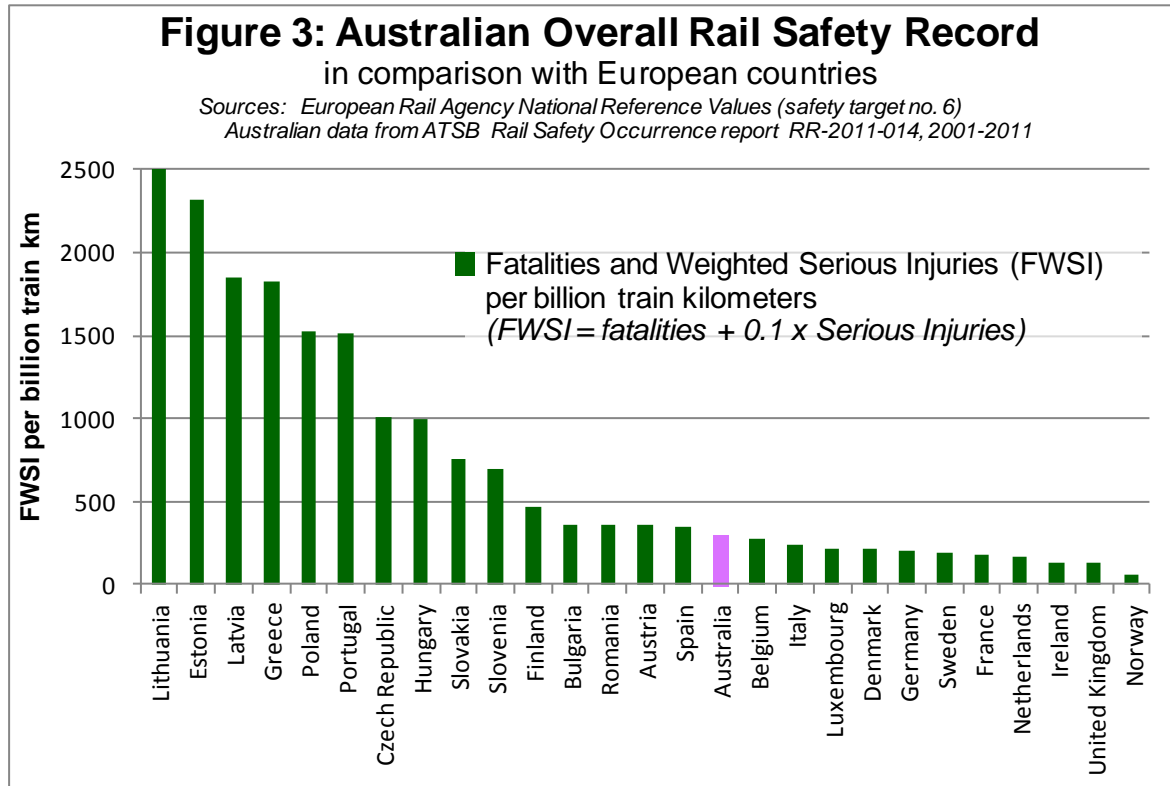
2.3.1 Safety Benefits of Harmonisation

One of my first questions on starting this review was “How many railway passengers and how many railway staff have been killed and seriously injured on the railways in Australia in recent years?” To my great surprise, this question proved impossible to answer from published information. Australian railway operators report safety incidents and occurrences to their State regulators. A high-level overview of these incident reports is collated and published by the Australian Transport Safety Bureau (ATSB), including a list of the total fatalities and serious injuries linked to rail activity².

The larger States’ safety regulators also publish annual summaries of serious incidents and occurrences, each in a different format [5,6,7]. Only that for NSW separates out passengers, staff, members of the public injured at level crossings/elsewhere and trespassers/suspected suicides. Since serious casualties are dominated by these latter stakeholders (members of the public), over whom the railways have relatively little influence, the total fatalities published by ATSB do not provide a particularly meaningful picture of Australian railway safety performance

With the proviso above as to the value of the ATSB published casualty statistics, I have used the latest published ATSB information [4] in Figure 3 to compare the overall performance of Australian railways with those of European railways, which have adopted (under the aegis of the European Rail Agency) a suite of Common Safety Indicators and Targets, and associated National Reference Values based on individual country safety performance in recent years.

² It is not clear what this total comprises. It clearly includes fatalities and injuries for all passengers and staff and for members of the public injured at level crossings. It is less clear to what degree it includes trespassers and suspected suicides. For example 10 fatalities on NSW railways are reported in the ATSB Annual Report 2010-11 for the year from 1 July 2010 to 30 June 2011, while the NSW Independent Transport Safety Regulator’s report [5] for the same period reports 2 fatalities to passengers, none to staff, 3 to members of the public at level crossings, and 28 involving trespass or suspected suicide.



At a very broad brush level Figure 3 shows that deaths and serious injuries due to rail activity in Australia place it among the mid-range European countries, and well below several countries to the left. It is clear from accident reports and the experience that regulators and industry have related to me that passengers and members of railway staff make up a minority of the total casualty burden reflected in the ATSB statistics used in Figure 3, perhaps averaging a few fatalities per year for staff and a similar number for passengers (though distributed very patchily with infrequent major accidents contributing significantly to the passenger totals).

So, what are the potential safety benefits of greater harmonisation? There are two main problems with the current diversity of arrangements for assuring safety across Australia. The first is to do with interoperability – it clearly creates opportunities for dangerous confusion if a train driver has to remember that a signal that means one thing on one side of an interstate boundary means something quite different on the other. The second is to do with complexity – any train or infrastructure operator who works across State boundaries has to satisfy regulatory requirements in every State where they work. This makes their safety management systems larger and more complex at every level, from the top level documents produced for the Board down to drivers reporting for work in one city and picking up three separate bags containing rules, forms and instructions for use in three States. Complexity is the enemy of safety as well as efficiency.

With this said, I am not aware of any accidents that have been caused directly by these safety-related problems of non-harmonisation. So it would be surprising if the safety benefits of greater harmonisation amounted to more than a small fraction of the casualty burden reflected in Figure 3

above. In 2010-11³ there were 24 fatalities reported to ATSB, of which most involved members of the public at level crossings or elsewhere. I would be surprised if even absolute harmonisation of all aspects of the railways in Australia could reduce fatalities by more than 1 or 2 per year.

My conclusions here are

- a) Safety performance of Australian railways is not well measured at national level,
- b) there would be definite safety benefits of greater harmonisation, and
- c) those safety benefits are unlikely to be more than 1 or 2 fatalities avoided annually.

2.3.2 Economic Benefits of Harmonisation

The total economic value added by the Australian rail industry is around \$10 billion per year⁴. Nationally speaking, Australian railways thus represent a large and important industry. On an international scale, though, Australia is a relatively modest player. Figure 4 shows the total (passenger and freight combined) train kilometres operated in 2011 (note – in some cases the actual year to which the data relates is from somewhere in 2010 to somewhere in 2011) in the major European countries plus a few other major rail operating countries. Australia's total of 186 million train km (110 of which were passenger, 76 freight) represents about 1.5% of the total represented by countries shown in Figure 4 - a modest market by world standards.

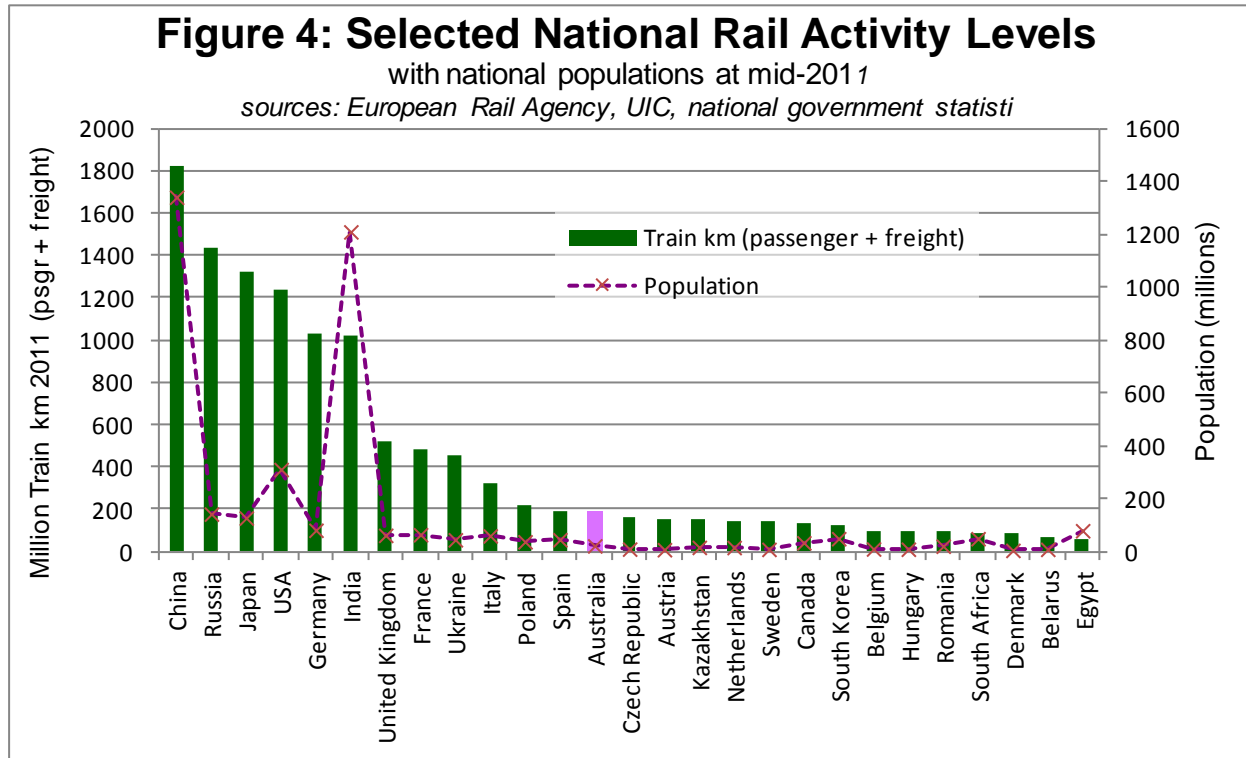
Lack of harmonisation of standards has two major impacts on railway costs:

- a) the already modest (by international standards) Australian rail market is fragmented into much smaller units – one rolling stock manufacturer told me they deliver to 27 different structure gauges for Australian customers, and
- b) safe interoperability requires trains to carry equipment, and suitably trained and accredited staff, for every different infrastructure over which they operate (at a minimum one for each major State). For example, at present trains required multiple radio systems to operate across different states and infrastructure (I understand that from 2013 this situation will be remedied when the ARTC National Train Communication System is introduced providing full coverage from Perth to Brisbane on the interstate network).

Estimates of how much this all costs vary and would take a good deal of time and research to assess. I have heard rough estimates ranging from “4-5% added cost on any project that goes across State boundaries”, to “several extra weeks per year spent in refresher training by train crews to maintain their qualifications”, to “2 to 2.5x the going rate internationally for our last train fleet procurement”. Australia is never going to be a cheap place in which to supply railway equipment – labour costs are high and anything imported will have to travel a long way – but **I have no doubt that lack of harmonisation adds somewhere between a few % and a few 10's of % to the cost of railway goods and services in Australia, and potentially substantially more where interoperability is at issue.**

³ Australian reporting years referred to in this report are from 1 July to 30 June unless stated otherwise.

⁴ GVA for the Transport, postal and warehousing: Rail, pipeline and other transport sector figures rose from \$9.1m to \$10.1m from 2007 to 2011 (Australian Bureau of Statistics Publication 5206.0 - Australian National Accounts: National Income, Expenditure and Product, Dec 2011, Table 6). After adjusting for inflation the GVA has been roughly constant at between \$10B and \$10.5B in 2011 values for the past decade.



If the Australian railways continue at current levels of activity, the economic benefits of harmonisation might thus be measured in the range from a few % to a few 10's of % of \$10 billion per year (i.e. from \$100's of millions to a few \$ billion per year). But the benefits will be magnified by current government and private sector plans to invest heavily in railways over the coming years and decades. In most of the developed countries shown in Figure 4 it is a fairly safe bet that growth in rail traffic will be relatively modest – the rail networks in 20 years time will look similar to those now in place with some modest additions. In Australia, though, there is a serious and very exciting prospect that rail networks might double or treble in size over that period. There is a real opportunity, if harmonisation can be progressed quickly, to make the railways of the future considerably better value than those which exist at present.

One of the key questions for this review is the value for money represented by Governments' contributions to RISSB. To assess this I wanted to understand the share of railway income derived from taxpayers. There are two main ways (excluding any indirect support to the railway supply industry) in which Government supports railways:

- a) through State and Commonwealth contributions to the capital costs of rail projects, and
- b) by bearing the losses sustained by Government-owned operators.

A simple question I asked early in my review was “How much does the taxpayer spend each year on Australian railways?” I attempted to compile a list of rail projects, funding sources and expected funding flow by year by trawling through State and Commonwealth publications but did not have time and resources to achieve this. Attempts to estimate Government contributions to the running costs of railways proved similarly difficult. Losses sustained by Government-owned rail operators are easy to track down for state-owned enterprises such as Railcorp and

ARTC which publish their own accounts (Railcorp received \$1,638m in subsidies and concessions from government in 2010-11, and a capital contribution of \$873m; ARTC reported a loss of \$299m before tax and received an equity contribution from government of \$558m in the same year). But the accounts of some publicly owned rail operators are buried in the accounts of larger transport departments, while others are not in the public domain (for example in Victoria the financial details of the contract with Metro Trains Melbourne to operate metropolitan services in and around Melbourne are not published).

What is clear is that there has been a major commitment by State and Commonwealth governments to accelerate investment in railways all over Australia over the next decade – the total committed just in the five major cities should be sufficient to generate annual capital investment well above the \$1 billion level annually for the foreseeable future, on top of about \$2 billion or more of subsidies to annual operating costs.

Lack of harmonisation has further economic impacts via the railway supply industry. In the short term some Australian rail suppliers may feel that diverse standards protect them from the harsh winds of international competition, but in the longer term their competitiveness is being eroded by the absence of decent scale market opportunities. A major driver for the establishment of European Technical Standards for Interoperability has been to increase the scale of the markets available into which European manufacturers can supply. In many ways Australia almost seems to “out-Europe Europe” in terms of how different the railways are from those in adjoining territories. While there may be short-term pain in adapting to more harmonised standards, the long-term benefit for the supply industry would be considerable.

The total taxpayer annual spend on railways appears likely to be at the level of \$3-4 billion per year or more, and it is difficult to see this rate of spend reducing. In Australia, as everywhere else, railways often struggle to compete economically with roads and other transport systems. To have somewhere between a few % and a few 10's of % added to those costs by non-harmonisation makes a real difference to rail's ability to compete for public and private investment with other modes of transport.

Finally I note that nobody measures the aggregate cost of railways to taxpayers. As reduction of that cost is perhaps the greatest benefit of standards harmonisation, this implies to me that Governments do not have a strong focus on the outcomes that harmonisation should achieve.

2.3.3 Harmonisation Benefits - Summary

The benefits of harmonisation should be considerable in terms of

- making railways more safely interoperable
- simplifying safety management systems
- making railways more affordable (to the tune of \$100's of millions to \$ billions per year), and
- enhancing competitiveness of the Australian rail supply industry.

As regards the benefits for taxpayers of government support for standards, there appears to be little focus at national level on either

- a) the safety performance of railways in aggregate across Australia (in that the most obvious indicators of such performance are not collected and cannot be collated from publicly available information), or
- b) the cost of railways to the taxpayer (in that no-one appears to have an overview of public spending on railways at both State and Commonwealth levels and relevant information is difficult to collate).

The issue here is not so much that I needed this information for my review, but that it tells me that Government does not have a strong focus on the benefits of harmonisation which RISSB and others are seeking to deliver. There are clearly substantial barriers to harmonisation in terms of the high levels of autonomy within individual States and railway organisations, and the very large sunk costs in existing diverse systems.

As will emerge later in the report, Government has a major part to play in breaking down these barriers, and the absence of a strong focus on the outcomes at stake appears to me to be a fundamental obstacle to achieving those outcomes. The introduction of a national rail safety regulator (due to commence operation from January 2013) should provide a good focus for addressing some of these issues, particularly in relation to providing a clearer picture of national safety performance. It should also provide a clear, strong focal point for providing safety regulatory input into the standards development process, and into prioritising the safety outcomes that standards and RISSB should be helping to achieve. It will not address the economic issues discussed above.

Having discussed the benefits at stake through harmonisation I now turn to RISSB's performance, and progress in delivering its outputs that are intended to support greater harmonisation.

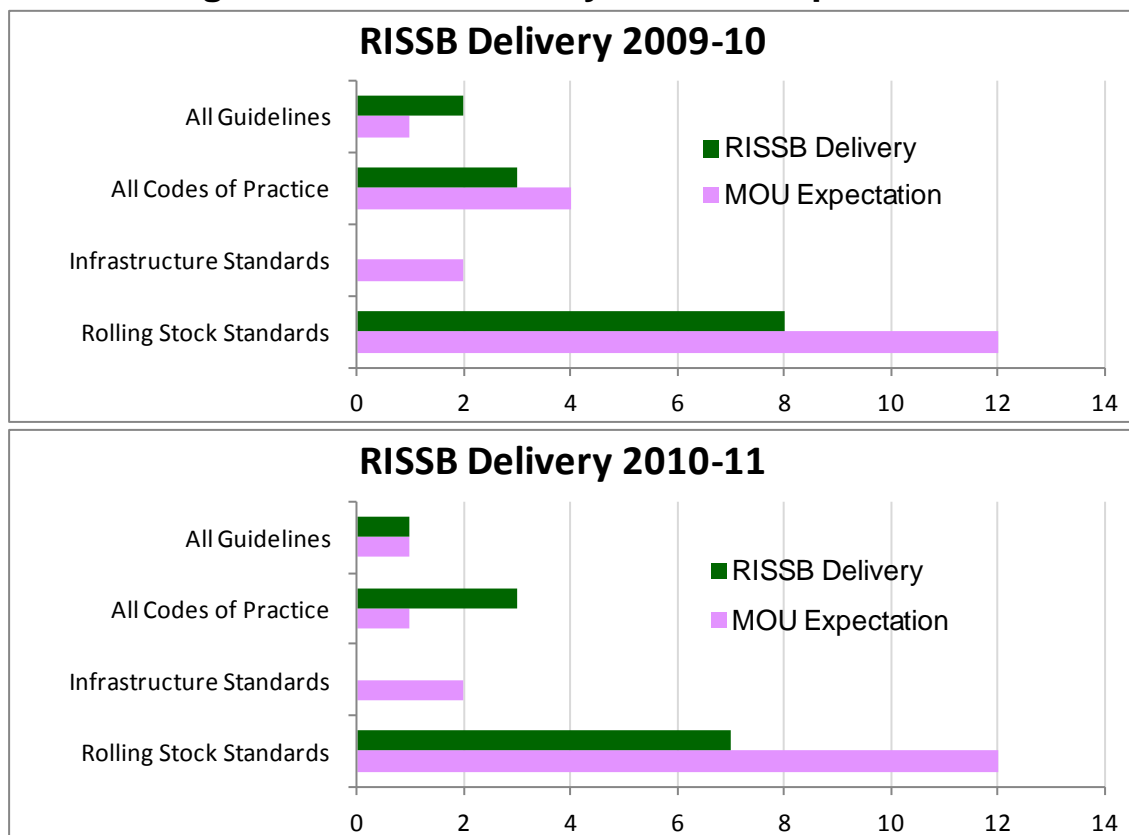
3. Delivery Against Milestones

I consider first (3.1) the delivery of RISSB's products – the standards, rules, codes of practice and guidance notes which it develops, and then the other deliverables such as reports and reviews which are described in the MOU (3.2).

3.1 Code Product Deliverables

The MOU specified numbers of guidelines, codes of practice and standards for infrastructure and rolling stock that RISSB should produce in 2009-10 and laid out expectations for 2010-11. The actual vs expected delivery is shown in Figure 5.

Figure 5: RISSB Delivery vs MOU Expectations



While RISSB has more or less delivered on time with guidelines and codes of practice, it clearly has not done so in relation to standards, with only about 2/3 of the expected rolling stock standards and none of the infrastructure standards being produced according to the MOU expectations.

Figure 6 (taken from RISSB's report to RSPRG dated May 2011) provides an indication of which particular standards (etc) were and were not delivered as planned in 2010-11.

Figure 6: RISSB Projects 2010-11

■ Key: *delivered*
■ *not delivered*

Rulebook Updates
Freight Loading Manual Update
Glossary of Australian Railway Terminology (was DIRN Vol 2)
General Intro to Australian Rail Practices (was DIRN Vol 1 and Vol 3 Update)
Operational and Safety Hazard Guideline
Accessible Rail Code of Practice
AS 7633 Clearances x 1
Boilers Code of Practice
AS 7640 - Rail Management x 3
AS 7643 Track Lateral stability x 1
AS7511 Supervisory Systems x 3
AS 7518 Suspension x 4
AS 7520 Body Structural Req'ts x 4
AS7524 Rolling Stock Drawgear
AS 7660 Communications Standard
Survey of RISSB products

Figures 7 and 8 show the status at the start of the review of current RISSB projects, in terms of the planned vs anticipated date of completion (Figure 7) and project spend (Figure 8).

Figures 5 to 8 show a consistent picture of RISSB delivering later than planned, on standards in particular, and with some potentially significant project cost overruns (though many projects are delivered within planned budget a few appear likely to overrun substantially).

Discussions with RISSB resolved most of the issues relating to project budgets (these largely related to one or two projects being re-scoped since the initial plan budgets were set, and to some cases where the % completion in the RISSB progress report to May 2011 had not been updated fully). However, those discussions confirmed that delivery of standards products had fallen behind planned levels. There are two main reasons for this.

The first and most general reason is that standards can only be published when consensus has been achieved within the relevant Standards Committee and approval has been granted by the RISSB Board. Achieving these milestones is out of RISSB's control – RISSB can issue the drafts on time, chase up stakeholders for comments and respond to them in a timely way, but cannot force industry stakeholders to accept a standard. RISSB knew when the MOU was signed that this might be the case but, as I understand it, accepted milestones it did not want in order to bring closure to the negotiations that would provide it with the funding to carry on its work. We will come on to the reasons for disagreement over standards content in Section 4.

**Figure 7: Current RISSB Projects
(actual or projected finish dates 1/7/11 to 30/6/12)**

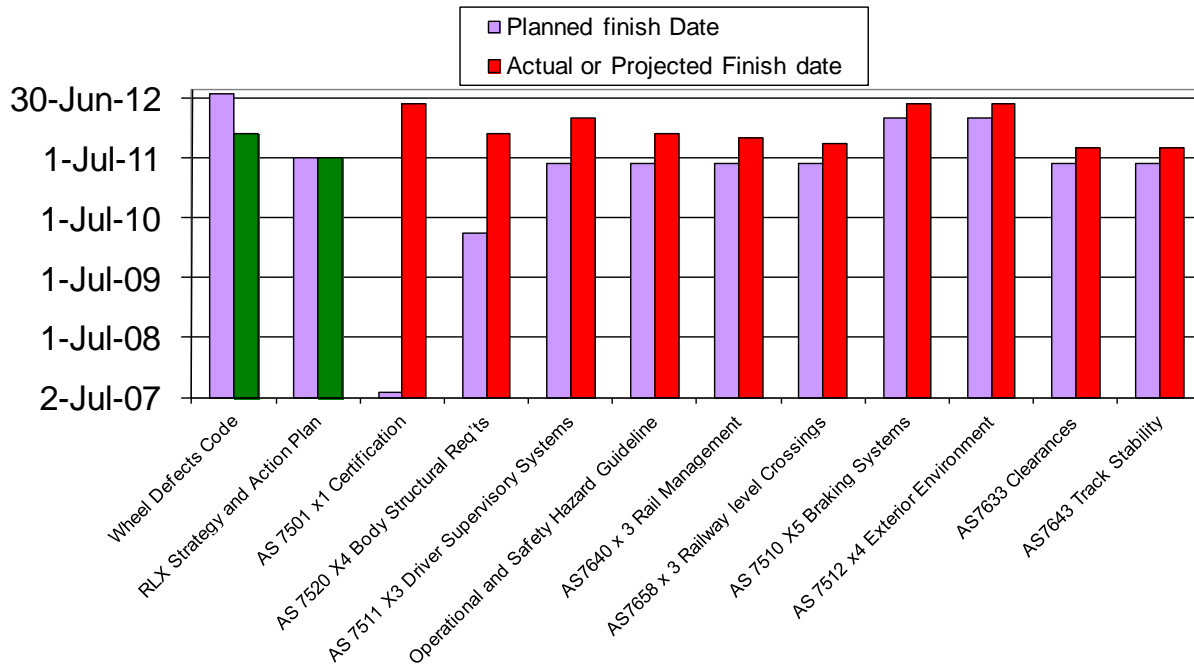
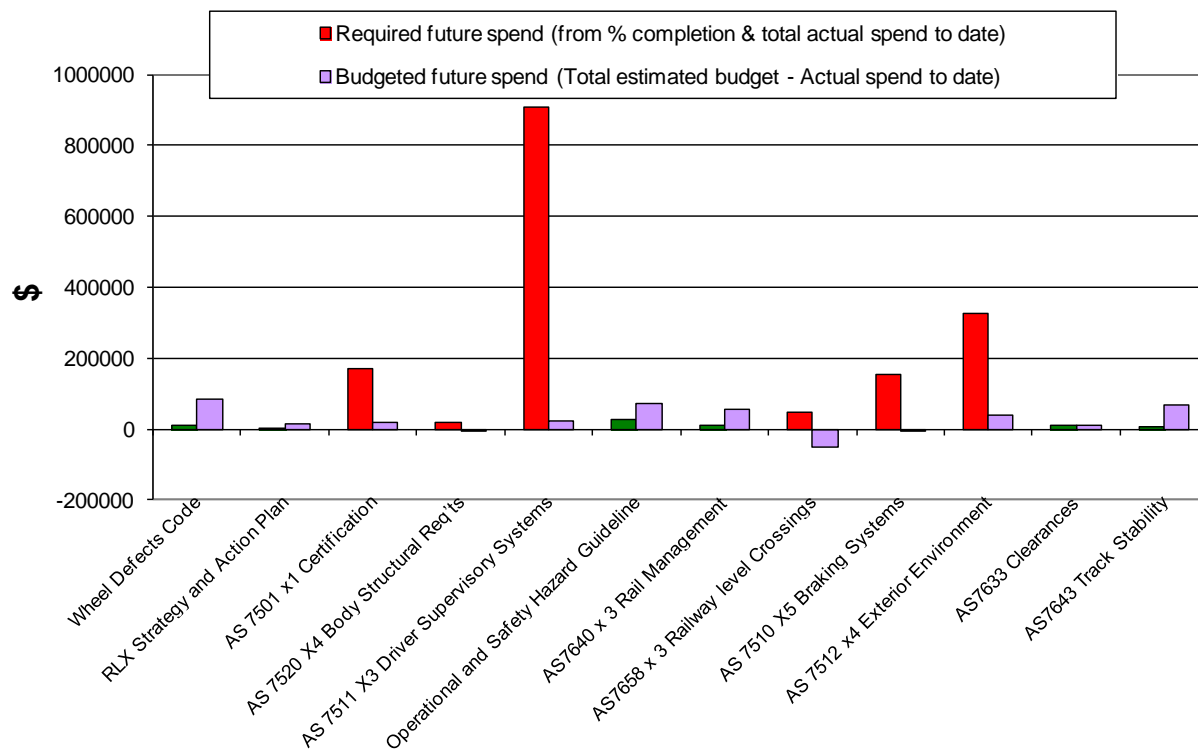


Figure 8: Current Projects - Spend to Completion



The second reason for delays, which applied in 2010-11 in particular, was loss of key staff from RISSB's small in-house core team. Three of the five Project Managers left RISSB during 2010-

11 – two resigned and one, on secondment from Queensland Rail, was recalled. Though RISSB has successfully replaced the staff members, there was an inevitable hiatus in project work, and an associated underspend of budgeted funds in 2010-11.

The risk of delays associated with staff losses appears to me to be inherent in RISSB's business model; with so few staff, projects will suffer when someone leaves. And significant staff turnover should be anticipated. Staff working in RISSB gain a wide network of contacts and build a strong awareness of different design and operational practices in their sphere of activity, creating good opportunities for onward career moves. There are clear attractions in the RISSB business model in terms of running an extremely tight and low cost operation, but that comes at the price of some program risk. If this business model is continued I would like to see RISSB and the industry think creatively about how this risk is best mitigated – for example, could the secondment model that worked well with Queensland Rail be extended more generally?

One view expressed with some force by a small minority of industry stakeholders in particular was that RISSB suffers (in terms of access to quality staff, and also perhaps in terms of engaging industry more widely) by virtue of its location in Canberra. I can appreciate that RISSB might feel more like “part of the industry” if it were located in one of the major cities closer to large railway operations and engineering centres, but it does not appear to have hampered RISSB in recruiting replacements for the staff who left earlier in 2011 – they had large numbers of applicants for the posts they advertised last year and found no difficulty filling those posts with suitable calibre people.

The benefits of relocating RISSB to somewhere more “of the industry” would have to be measured against the increase in costs that would arise if they were no longer able to share premises and support staff with the ARA. There is also benefit in being close to ARA in terms of senior level industry contacts – though this can be a double-edged sword in terms of engaging industry members who are not part of the ARA and might see RISSB as insufficiently independent of ARA. My view is that collocation with ARA has been of substantial overall benefit in terms of getting RISSB established and gaining traction with the industry, and is likely to continue to be so in the future. Given their proximity to ARA it will be important in moving forward for RISSB to continue to assert its independence from ARA⁵ and to avoid acting in a way (as has sometimes happened in the past) that risks making some stakeholders feel it acts as a mouthpiece for ARA.

Given the gap between expected and delivered timescales for standards production, I made a point of discussing with the industry and government stakeholders I met in Australia their views on how well RISSB was performing in this respect. The main points emerging were

1. It is universally acknowledged that RISSB has done a good job of engaging industry and securing their timely participation in the Code development process – an achievement that had not been managed by the Code Management Company and its predecessors.

⁵ RISSB was when founded effectively a part of ARA. Following a review by PwC in 2008 it was established as a distinct corporate entity from ARA, with its own board. It is thus able to act more independently. As ARA is its 100% owner, RISSB needs to take care that it is not perceived as being inappropriately influenced by ARA.

2. Virtually everyone who had been involved in the process confirmed that, except for the hiatus caused in 2010-11 by staff losses, delays were largely attributable to stakeholder consensus building and not to poor RISSB management of the development process.
3. Some of the State Safety Regulators had been involved in the process through participation in the Development Advisory Board. Their perception was more negative, as the rate of flow of standards to and through that Board had been considerably below their expectations (but they had not been involved in the standards development process itself).
4. Considerable numbers of industry participants in the RISSB process had also been involved in Standards Australia standards development. Their unanimous view was that RISSB worked extremely quickly in comparison with Standards Australia.
5. Industry and government stakeholders who had been involved in standards development activity pre-RISSB all considered that RISSB had made good progress in tackling issues that had been on the agenda for years or decades and achieving resolution on time scales as good as could reasonably have been expected to be achieved.

Overall I concur with the widely held view that RISSB has done a good job of developing the standards process, getting the right industry people engaged, and managing Code development projects in a timely way. Achieving consensus on standards is outside RISSB's control. RISSB is more at fault in my view for allowing unrealistic expectations to be established in the MOU than for failing to deliver against them. I find it somewhat odd that the MOU which is so silent on the outcomes sought from harmonisation is so detailed in its prescription of deliverables.

RISSB and its customers should be more realistic in planning delivery of Code products, which in turn should be a secondary priority to delivering the outcomes sought from harmonisation.

RISSB and industry should consider ways to mitigate the clear risk of staff turnover associated with its business model.

There is a separate issue as to whether the pace of development of the Code is itself fit for purpose, which is addressed in Section 4.

3.2 Review and Report Deliverables

So far as I am aware, RISSB has met all the reporting requirements specified in the MOU (which for so small an organisation seem quite burdensome) in a timely way. RISSB also carried out the review of standards uptake which the MOU required to be delivered by June 2011 in a timely way [8]. Its quality is addressed in Section 4.

4. RISSB Product Quality

There is no absolute and objective scale by which to judge the quality of RISSB's products. The only way in which I could do this is by reviewing a sample of standards and, in particular, by soliciting the views of different stakeholders. Throughout this section I will use the term "standards" to refer to Code products collectively (standards, rules, codes of practice and guidelines), except where I refer to a specific sub-set of these.

The most notable aspect of RISSB standards to a newcomer is their presentation format. Each standard is prepared in four parts, addressing locomotives, passenger, freight and infrastructure issues respectively. Each part is presented as an Excel spreadsheet, following a template shared by all four parts. This makes for concise and easy to reference (and cross-reference) standards presentation, but to people more familiar with traditional standards documents is perhaps a less easy "read".

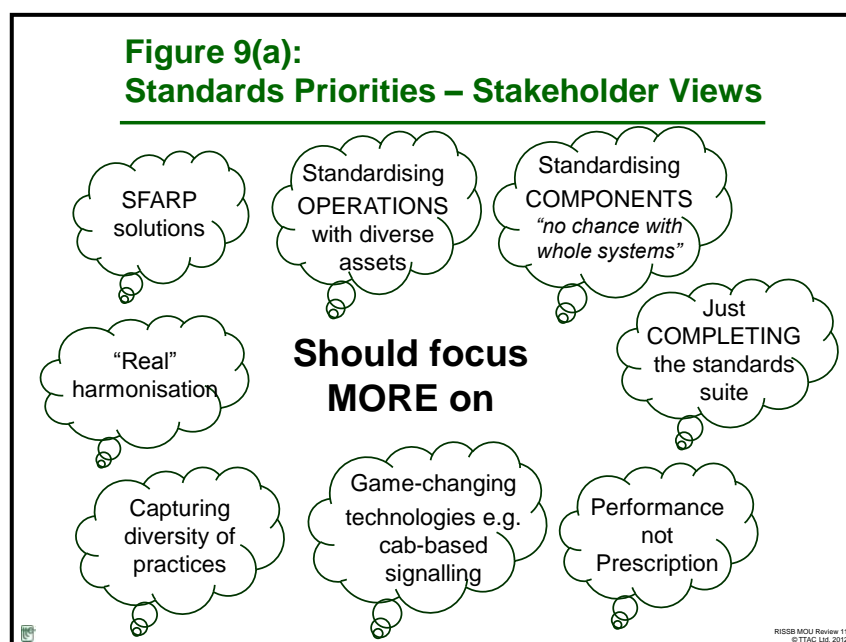
I am not in a position to make judgments about the appropriateness or otherwise of the standards content for addressing the safety risks and other issues which they address, so my opinions in this respect are informed entirely by discussion with stakeholders in Australia. What is notable about several of the standards is that they do not provide a single definition of how things should be done to be compliant with standards, but provide multiple options corresponding to established practice in different parts of Australia. It is thus possible in some cases for quite different practices or approaches to be "compliant with the national standard"; in such cases the nation can adopt and comply with a national standard without harmonisation being achieved. This is discussed further in Section 4.2.

The most notable aspect of stakeholder views on the quality of RISSB standards was their wide divergence, spanning every possible degree of satisfaction from zero to delighted. People have very different views about the priorities RISSB should adopt in developing standards, which I discuss in Section 4.1. There is similarly widespread divergence as to the fitness for purpose of the standards products RISSB has produced, which is discussed in Section 4.2. Finally, Section 4.3 addresses the progress made with promotion and implementation of harmonised standards.

4.1 Prioritisation of Standards

RISSB formulates its work programme via consultation managed through the Standards Committees, moderated via the General Manager of RISSB and then approved by the RISSB Board after consultation with RSPRG and other stakeholders. In the first couple of years of workplans RISSB had intentionally included a handful of easier projects to allow it to gain traction while developing and securing accreditation from Standards Australia for its standards development process, as well as some much more challenging projects such as the Australian Network Rules and Procedures (ANRP) project which had been an aspiration of the industry for the best part of a century before being completed by RISSB in March 2010. This said, it is clear that developing a complete suite of standards is a long-term job; RISSB estimate that the full suite of standards, rules etc will comprise around 182 documents of which 67 have been completed and 65 are presently under development (of which 25 are nearing completion).

Most industry stakeholders felt this process had done a reasonably good job of getting RISSB's standards development process up and running, but had a wide range of views as to what should be the priority going forward. Figures 9(a) provides an overview of the main stakeholder views expressed to me as areas/issues which people felt RISSB should make a higher priority. These included



- Carry on as we are but get the standards suite completed as soon as possible – investors and designers of rail projects need a complete “recipe book” not just a few pages.
- Focus on capturing existing practices and highlighting areas of commonality and of diversity – this is vital for safe interoperability.
- Eliminating standards offering a menu of choices in favour of standards specifying a single, harmonised approach (conflicts directly with the previous preference!).
- Focusing more on key future or emerging technologies such as electro-pneumatically controlled (EPC) braking or cab-based train control (signalling) systems where there might be longer term opportunities to replace diverse current systems with genuinely harmonised ones.
- Recognising that it is unrealistic to try and harmonise major assets and systems given the levels of sunk investment involved, more effort should go into harmonising operations with those diverse assets and/or into harmonising at component level (a major theme of European Technical Specifications for Interoperability).
- Producing standards which are framed in performance terms and are less prescriptive.

In my view there is merit in most if not all of these aspirations. Government stakeholders involved in specifying and funding projects feel frustrated that the development of standards was so slow – at a time when public investment in railways is ramping up there is an urgent need for a complete suite of standards that they can use in specifying their requirements (indeed the boat has already been missed in this regard on many large-scale projects in the major cities).

A small but very important element of Figure 9(a) is that in the top left corner. A number of industry stakeholders articulated concerns about “setting standards at the right level”. This was a major concern for safety regulators (see also Section 4.2 below), whose single biggest priority was to see better, risk-based justification that standards would provide a means to control risks

SFARP. Safety regulators also generally wished to see more rapid progress in completing the national suite of standards and greater focus on “real harmonisation” and on game-changing technologies, and were dismissive of “standards” which they saw as merely listing alternative current practices rather than harmonising for the future.

This issue of standards which allow several different practices to continue under the umbrella of a notionally single national standards is an important one. It arises because of the obvious difficulty in persuading railway and infrastructure operators to accept a new standard that would leave them non-compliant unless they made changes that were extremely practically difficult or very costly or both. In order to achieve greater unanimity around single, harmonised solutions it will be necessary to establish some sort of mechanism to enable operators legitimately to perpetuate practices that are non-compliant with new national standards, possibly for quite some time. This has been a major issue in harmonising standards in Europe (see Section 6.3).

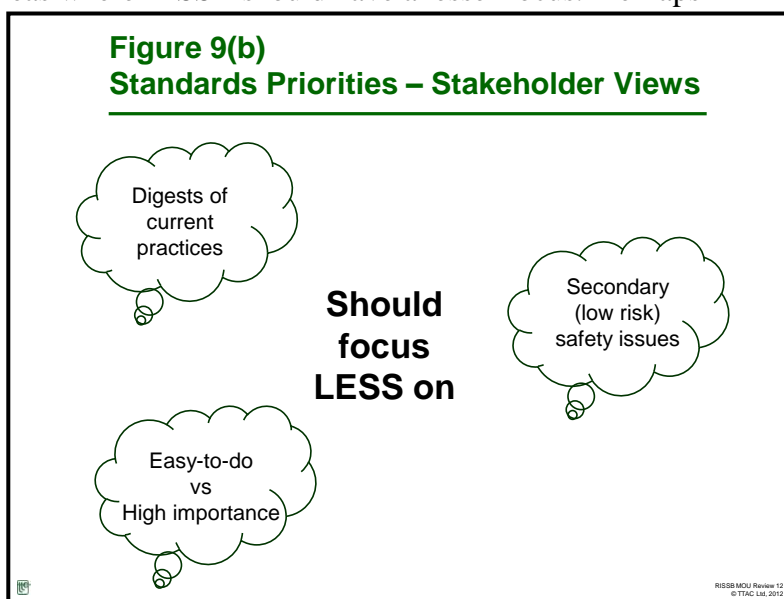
I do not share the view of stakeholders who regard such “assemblies of current practices” standards as worthless. It is inevitable in Australia that standards will work through a process from

- No harmonisation or sharing of approaches/ideas at all, via
- Sharing approaches/ideas by collecting different standards in one place,
- Organising those standards under common headings,
- Identifying elements of similarity and difference, and then
- Negotiating over time to increase the similarities and reduce the differences.

Being part-way through this progression is much better than being stuck at the top. The big issue is how quickly the progression down towards genuinely harmonised standards, **and** genuinely harmonised practices on the ground, can be achieved.

Figure 9b shows parallel views on areas where RISSB should have a lesser focus. Perhaps predictably, there were rather fewer suggestions for “less of” than for “more of”.

Safety regulators in particular felt strongly that there was little value in some of the early RISSB standards for all of the reasons represented in the figure – they wanted to see higher risk issues tackled first, and good or best practice solutions being actively promoted in preference to standards providing a range of options corresponding to the range of existing practices around the country.



4.2 Fitness for Purpose of Standards

Views as to the quality and fitness for purpose of the RISSB standards products produced to date closely mirror people's preferences as to where they would like to see RISSB prioritise its efforts moving forward. Typical comments from a majority of stakeholders (virtually all train and infrastructure operators, most other industry stakeholders and a good handful of government people who had previous involvement in standards development) were along the lines that RISSB had done a great job in

- “Herding cats” to get all the diverse industry stakeholders engaged in the process, gain traction and actually produce coherent standards,
- Collecting the many diverse practices from around Australia, collating them under common headings and identifying areas of similarity and of difference, and
- Establishing, wherever possible, an agreed industry view on what should be the best way forward (i.e. a single standard).

This group's general view is that RISSB has done an excellent job in very difficult circumstances and with minimal resources. The RISSB standards development process was compared favourably to the Standards Australia process by many stakeholders, in a number of respects including

- a) It provides an additional round of consultations
- b) It provides feedback on the fate of comments to every responding consultee
- c) It incorporates an independent validation process, and
- d) The rigour with which the process is applied is independently verified via the DAB.

There is a substantial minority of stakeholders, though, who disagree strongly that RISSB's standards are fit for purpose. This group includes all the Safety regulators and a number of industry participants, in particular some independent consultants and engineers with experience working with the standards development or validation processes and a small minority of people from train and infrastructure operators. Their strongest criticism of the RISSB products is summed up in the phrase I heard often, of “Lowest Common Denominator”. That is, their view is that the need to achieve consensus has driven the level at which standards are set so low that few if any rail operators are non-compliant. It should be noted that this is a criticism of the rail industry rather than of RISSB – it is the industry members, not RISSB itself, that determine the level at which standards are set.

There are a number of other significant concerns and criticisms of the RISSB products which I will outline, but this issue of “At what level should safety standards be set?” is in my view much the most important so I shall deal with this first.

Standards should be such that compliance should generally provide for a satisfactory minimum level of safety, subject always to checks that risk controls are appropriate to a specific operation or project. If the bar is raised too high then a large proportion of current railways will find

themselves non-compliant, which is an uncomfortable position if national standards are (as many anticipate) to be used by the courts as a benchmark of whether an operator has exercised sufficient duty of care in the wake of an accident. If the bar is set too low, though, many existing railways may simply ignore the standard because they see it as representing a level of safety which they have already far surpassed.

While a good few industry stakeholders expressed unease about this issue of “Where should the bar be set?” it was the safety regulators who articulated this concern most strongly. Their particular concern is that the rail industry generally is immature in its understanding of safety risks and its ability to justify significant changes as providing SFARP control over those risks. Rail transport operators must apply for a variation to their accreditation when they propose to make a change to the railway operations they undertake, which would include any significant change made in adopting a new national standard. The Safety Regulator has a legal obligation to accredit change ONLY if it is demonstrated to provide SFARP control of safety risks. In the absence of a sound, well-evidenced, risk-based argument that the proposed change provides SFARP risk control, the Regulator is left with established/best practice (for example, judged against respected overseas standards) as the only benchmark by which a proposed change can be gauged. In the absence of good, risk-based arguments, standards set at anything other than “best practice” levels are thus likely to fail the test of SFARP applied during the accreditation process.

It is well recognised that the support of Safety Regulators will be essential if national standards are to become more widely adopted in Australia. The National Transport Commission (NTC) issued a National Policy Statement on the Recognition of Industry Developed Standards for Rail Safety [9] which flagged the importance of this issue. In that paper, as in the 2009 review of RISSB by the Commonwealth Government [10], the emphasis in providing Regulators and others with confidence in industry-developed standards was placed on a good standards development process, rigorously followed. This was the thinking that led to the introduction of the Development Advisory Board, on which one of the three members is a Safety Regulator, into the RISSB standards development process.

What is clear to me from this review is that following the current process in developing standards is a necessary but not a sufficient criterion for assuring that those standards will satisfy all stakeholders (including, but not limited to, Safety Regulators). It is also necessary to be able to justify that standards are being set at the right level – sufficient to maintain a satisfactory minimum level of safety, but without requiring every operator in every context to be at world best practice levels in order to be compliant. In other words, it is necessary to demonstrate that standards will control safety risk SFARP.

I have discussed this issue with RISSB, who argue that it is always up to the organisation which is accredited to operate trains or infrastructure to justify that they are controlling risk SFARP. I agree, but it does not make sense that every operator wishing to apply a national standard should have to start from scratch in doing this. Where RISSB currently has a VALIDATION stage in the standards process I would like to see there being developed a complementary JUSTIFICATION stage. This might actually change the process flow diagram for standards development very little – but would significantly change the terms of reference for the validation/justification process.

A justification stage in standards development would involve examination of

- The current arrangements
- The arrangement proposed by the new standard, and
- Other sensible alternative options worth considering,

and would justify that the proposed arrangement represented a SFARP safety risk control solution. I would expect such a justification routinely to involve an assessment of risks at “all Australia” level.

If the proposed standard would be expected to reduce safety risk lower than any available alternative then it would clearly meet the SFARP criterion without needing any further analysis. If there were an alternative that would reduce safety risk further then it would be up to RISSB to justify why the proposed standard represented SFARP risk control – i.e. why the benefits in terms of customer preference, practicability, affordability or whatever outweighed the disbenefit of being a less than optimal safety solution. This would not remove the need for each individual operator to review the standard(s) in light of their own particular hazards and risks and make their own justification that the standard(s) represented SFARP risk control, but it would make that process more straightforward and very much less onerous.

I agree with the Safety Regulators that the Australian industry knowledge of industry-wide safety risk is at an early stage of development. I have seen examples of very good use of individual organisation safety data to analyse risks. But to make real progress and to justify SFARP railway organisations need to share their safety data both a) to pool information on the rarer events where no one organisation can hope to accumulate statistically significant information, and b) to enable comparative analysis allowing the main drivers of risk to be identified, and different solutions for risk control to be compared.

I am used to a railway standards environment in the UK where RISSB’s counterpart (RSSB) is also the collator of all industry safety incident and occurrence reports, uses that information to develop a model of safety risk, and uses that model not only in justifying the level at which standards are set, but also in prioritising safety improvement issues generally and helping place standards and rule changes in context against other possible options for safety improvement. This evidence-based approach to safety and standards setting is widely admired outside the UK. The Australian rail industry, and RISSB in particular, appears by comparison to work in an “evidence vacuum” when it comes to safety risk. This is discussed further in Section 6.

Other substantial concerns were raised about RISSB products, regarding: a) “pick and mix” application of standards, b) competence of standards authors, and c) completeness of standards.

The “**pick and mix**” concern arises because operators are free to choose what they do and do not adopt from any individual standard or group of standards; standards are not mandated. Safety regulators have a particular concern that by selective adoption of standards elements, particularly in cases where standards include multiple different options corresponding to different practices in different parts of the country, it could be possible to increase safety risk. RISSB advises strongly that standards should be adopted as a whole rather than in any selective fashion, but the final

decision rests with the operator involved. There is a closely related issue here in that, given the very concise spreadsheet format of RISSB standards products, it will almost always be necessary for operators to develop longer text documents for local application – writing the RISSB standards into their own rules, standards and procedures. This will inevitably introduce the possibility of accidental misinterpretation as standards are adapted for local application.

The concern over **competence of standards authors** has arisen from one or two cases where the consultant engaged to assemble standards information and author the standard proved less expert in the key areas of concern (human factors and behaviour has been a particular area of concern) than was desirable. The consequence here is less one of arriving at a “bad” standard in safety terms, as the various stages in consultation, and in particular the re-accreditation process when a new standard is applied in practice, should weed out such cases. The more likely result is that a lot of time and effort is wasted and that the timescale for moving towards a high quality national standard is lengthened. RISSB is well aware of this concern and is redoubling its efforts to ensure the right people are engaged in standards drafting and validation, but I view it as an inevitable consequence of RISSB’s highly outsourced business model that there will be an occasional “glitch” of this nature. I note that as and when the RISSB management/Board become aware of an author’s inability to deliver they are prepared to sack the author and re-start the development process (and have done so on a number of occasions).

The concern over **completeness** of standards is a very simple one. Until the suite of standards is complete, there is no one “source manual” on “How to design and run a good, basic, Australian railway”. This means anyone specifying a new rail project, even if they decide to adopt all the national standards available, has to spend a lot of time scratching around to fill in the gaps. And Safety Regulators rightly point out that it is difficult to judge the safety implications of standards when examining them one at a time; visibility of the whole package is needed to form a complete and consistent view.

My own view regarding the quality of RISSB’s standards products is that, if their justification does not command the confidence of the Safety Regulators who will have to accredit the organisations adopting them, then the overall process of developing and justifying standards is not fit for purpose. I find it odd that the strong views expressed to me about RISSB’s standards products by the Regulators came as a surprise to RISSB, and indicative of a weakness somewhere in the reporting loop providing feedback to RISSB – perhaps unsurprising as RSPRG was wound up just under a year ago. The Safety Regulators were represented on the RSPRG which had to accept RISSB’s periodic progress reports in order to release government funds (but had only one seat on that much larger committee). There is a well-defined mechanism in the MOU whereby the RSPRG can advise RISSB of a need to improve the quality of its products or else funding will be withheld; this mechanism had not been invoked when RSPRG was wound up.

Whatever the weaknesses in feeding back government views to RISSB and the industry generally, I consider that justifying the appropriateness of the safety level implicit in new national standards is a major issue that needs to be addressed. How to address it is discussed further in Section 6.

As regards the other concerns people have raised about RISSB’s products:

- I do not regard **“pick and mix”** adoption of standards as a major issue, given that the accreditation process should pick up any such approach which does not control safety risk SFARP. Organisations will have to justify any departure from adoption of standards as a complete set. But I do think it important for RISSB to consider the way in which organisations will be adapting and applying their standards products so as to avoid inadvertent slips in translating RISSB products into documents for use in the workplace. There is a high value facilitation role I would like to see RISSB adopting, to help the industry effectively and efficiently adopt and put into practice national standards in a consistent and coherent way.
- Likewise, I do not regard **competence of standards authors** as a major issue. There have been one or two hiccups of which RISSB is aware and is taking pains to prevent from recurring. But occasional problems of this nature are to be expected with the RISSB business model – they will cause time and resource rather than safety problems in my view, and the downside of such issues needs to be considered in context against the other benefits of the RISSB business model.
- Finally I sympathise greatly with those struggling with **lack of completeness** of the national standards suite. I cannot see an obvious way of short-circuiting the standards development process without compromising quality, and it is clear that industry resources would be insufficient for a dramatic acceleration of the process, even if unlimited funds were thrown at RISSB. What I think would be most helpful and practicable here would be for RISSB and the industry to consider whether/how they could provide interim guidance on how to fill in the “blanks” in the standards suites, for example by indicating broad areas within which earlier “Railways of Australia” code products are still largely fit for purpose, or areas within which particular overseas standards (RISSB and AAR⁶ were the most commonly mentioned in discussions) might provide a good starting point for developing Australian specifications for particular applications.

4.3 Promotion and Implementation of Standards

As regards promotion of standards, RISSB has a small budget provided by its industry members. This is multiplied through a variety of conferences, training courses and other events which play an important part in engaging the industry more widely (i.e. extending beyond the RISSB and ARA membership) and promoting RISSB’s messages about the availability of and benefits of adopting new national standards. Government funding is at present ring-fenced for work on standards development and cannot be applied to this work.

RISSB has done a good job with extremely limited resources in promoting standards, but a common theme in my discussions with both industry and government stakeholders was that much more needs to be done to promote and “sell” the benefits of standards to industry more widely. I agree with this view – it is necessary but not sufficient for harmonisation to deliver a suite of national standards products. It is also necessary for those standards to be bought into at all levels in the supply chain from the top (the train operators and in particular infrastructure network operators) to the bottom, and to become embedded in the way rail systems are specified,

⁶ Association of American Railroads

procured, designed and operated. This will be a long, slow business which in my view might be significantly accelerated with greater investment in promotion, as well as in development, of standards.

Government has a major role to play in this area too, as discussed in Section 6. The advent of the national rail safety regulator should provide RISSB and the industry with an opportunity to reinvigorate the symbiotic link between national standards development and safety regulation, with standards that address the regulators' risk concerns being actively promoted by regulators using all the leverage they can to get them adopted.

As regards adoption and implementation, the MOU required RISSB to carry out a review of the implementation of standards by June 2011, and RISSB accordingly produced such a review [8]. This was carried out using an internet-based survey; 60 stakeholders were invited to respond, and 26 replied of whom only 15 went beyond the first question and provided any potentially useful information. The questions invited respondents to indicate for each of a number of standards products whether they had fully implemented, had partially adopted or would like to adopt, did not intend to implement the standard, or considered it not relevant to their business. Of the limited responses received, just over 5% were in the "fully implemented" category and nearly 35% in the "partially implemented or would like to implement" categories. There was little useful information provided on reasons for these choices, and a good deal of conflicting response (e.g. the four freight train operators who responded each gave consistent responses on 5 standards, with each adopting a different answer – one "fully", one "partial", one "don't intend to adopt" and one "not relevant", with no explanation provided in any of these cases).

I consider this a very weak survey. The respondents self-selected, the take up was poor, and the relatively closed questions did not elicit useful qualitative information surrounding the choices made in the cases where people did respond⁷.

My own discussions with stakeholders revealed a mixed picture on implementation. On the one hand there were some positive indicators of harmonised approaches being applied, for example

1. The Australian Network Rules and Procedures (ANRP) project had developed rules on safe working which are being applied by all rail networks around Australia (with the exception of that owned by the Victorian Government). Revised versions of the ANRP are under development by rail infrastructure organisations for circulation in revised versions of their own network handbooks of rules and procedures.
2. In one small example, the adoption of the new national standard on cables by the Victoria Regional Rail Link project, RISSB provided me with an estimate that the state will save between \$1.2m and \$1.5m on initial procurement by avoiding the costly purchase of cables in small quantities to numerous different specifications, along with associated savings in installation and maintenance.

⁷ I note that RISSB has since my last visit to Australia completed a new survey of progress with adoption of national standards, which succeeded in gaining feedback from larger numbers of railway stakeholders and, consistent with my observations in this report, reveals better progress towards adoption of national standards than did the earlier survey. I have not included further comment on this survey as it was completed after I had concluded the information gathering process for this review.

3. Some infrastructure investments where the local norm is not standard gauge are being made “standard gauge ready” – for example in Western Australia Brookfield Rail has invested substantially in new narrow gauge track but the civil infrastructure around it is built to accommodate standard gauge; in Adelaide new investments in wide gauge passenger transport in the city are being designed with the possibility of future conversion to standard gauge in mind.
4. Railway consulting engineers I met spoke of their success in persuading inward investors in new railways in Australia to adopt and apply national standards. This to me is a good indicator, if it is universal practice, of the real possibility of achieving a far higher degree of harmonisation in the future than is possible within the confines of existing rail networks. There is of course the proviso (as mentioned in the previous section) that the suite of standards is not yet complete, so a lot of work is needed to fill in the gaps when assembling specifications for a whole rail project.

Among industry stakeholders there was a general willingness to embrace national standards – on the basis that they would not be excessively prescriptive, and would allow for tailoring to local circumstances. Industry stakeholders generally like standards that allow options to tailor the solution to the circumstances, and oppose excessive harmonisation for its own sake. I have a good deal of sympathy for this view – the best solution for a heavily used mixed freight/passenger railway section in the middle of Sydney may be very different from that for a single-track railway across the Nullarbor plain. I would not, though, want to see this being used as a general justification for perpetuating diverse arrangements which might in the long term cost railway users and taxpayers a lot of money and compromise performance and safety.

On the other hand, there also appears to be a good deal of “business as usual”, with railways in different part of Australia continuing to “do their own thing”. Examples include

1. As mentioned earlier, trains crossing Australia using the inter-state standard gauge network require 5 or 6 sets of radio equipment; the safety problems of multiple driver interfaces can be overcome by adding modern interface technology, but this does not reduce the cost of installing and maintaining all the diverse systems.
2. At least three different versions of the new ElectroPneumatically Controlled (EPC) braking technology are being introduced in different parts of Australia.
3. Several different versions of automated train protection and control systems are being developed.
4. Rolling stock manufacturers told me that they see little evidence of standards harmonisation – the requirements for trains are dictated by the infrastructure managers whose contract requirements continue to demand a wide variety of different features and attributes depending on the route for which the trains are to be used.
5. At a more strategic level, the major cities plan their rail infrastructure completely independently – in New South Wales it seems likely that freight and passenger traffic will share much of the rail network (at least in the short to medium term), while in Victoria substantial investment is being made to enable local passenger traffic to be separated from freight and interstate traffic.

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To some extent diversity of approaches in a country as large and varied as Australia is to be welcomed – it would be a mistake to try and take harmonisation too far. But it seems clear that without some significant intervention, the benefits of harmonisation will be a great deal less than they could be, and it is going to take a very long time for those benefits to be realised. Means of addressing these issues, and increasing and accelerating realisation of those benefits, are discussed in Section 6.

5. Funding and Value for Money

I consider first the value for money represented by RISSB (5.1) and second the adequacy of current funding arrangements (5.2).

5.1 Value for Money

In comparison with Standards Australia, RISSB appears marginally more expensive. In 2010/11 Standards Australia reported [11] operating expenditure of about \$15.6m on standards development, and produced 152 standards – just over \$100,000 per standard. Over about 4.5 years since its inception in October 2007 RISSB has spent about \$3m per year on ACOP matters, has completed 67 standards and has another 65 in progress, of which 25 are near completion. On this basis RISSB's spend per completed standard is \$150-200,000. RISSB's project cost records indicate an average cost of just under \$130,000 per standard for the last 18 standards produced.

However, I do not consider this a fair comparison. Standards Australia, like other national standards organisations, provides a lightweight infrastructure and secretariat to facilitate the work of standards committees. It does not provide resources for many of the tasks which RISSB carries out, in particular the provision of a project manager devoting a substantial proportion of their time to an individual standard, the engagement of a lead author with appropriate expertise, or the additional steps of consultation and validation embedded in the RISSB process. The RISSB model provides significantly greater momentum and resource on a per standard basis, which is in my view entirely appropriate in view of the intent to develop a complete national standards suite in a timely way.

RISSB might better be compared with specialist standards development organisations such as the Association of American Railroads in the USA, Transport Canada, or RSSB in the UK. These organisations employ substantial in-house teams typically 10x or more the size of RISSB. In comparison with these organisations RISSB's cost per standards product is very low. This is achieved via the RISSB business model with a very compact core staff, supported by contracted-in resources for the more time-intensive roles of lead authorship and validation of standards.

Another comparison made by several industry stakeholders was between the membership fees they pay for RISSB and the fees they pay to Safety Regulators for accreditation. The latter are larger than the former; RISSB membership is discretionary whereas accreditation is not.

My view is that RISSB provides good value for money, though its business model has some risks to timeliness and product quality inherent in the small core staff and reliance on contract personnel (though these in turn mitigate financial risk to the organisation). There is a very important proviso here, though, as discussed above (4.2): the justification of standards does not currently command the confidence of the Safety Regulators who have to accredit the organisations adopting them. In my view this means that the overall process of developing and justifying standards cannot be regarded as fit for purpose. In moving forward I would want to see this important issue addressed, with perhaps some associated modest modification of the RISSB business model (through additional staffing) which would have the added benefit of mitigating part of the risk associated with reliance on a very small core of employed staff.

There is a separate issue to do with the cost of purchasing the standards products themselves. Organisations which are not members of ARA have to purchase RISSB standards via SAI Global Ltd, the privatised distributor and seller of Australian standards (now privatised – formerly part of Standards Australia). Under the terms of SAI Global’s privatisation, all SA products, and all standards products developed under accreditation by SA, must be distributed and sold via SAI Global. The prices of standards issued via SAI Global are set at levels considerably higher than RISSB would like – typically several \$100’s for a substantial new standard.

This may seem a relatively small point, but may significantly hamper standards promotion beyond the RISSB/ARA membership. This is not something RISSB can resolve on its own, but is something I would hope might be tackled by RISSB and its industry and government stakeholders working together. RISSB spends a large amount of time and effort invoicing and chasing up payment of a large number of small invoices on a regular basis – a significant distraction from its main purpose. If the costs of accreditation are large in relation to the costs of RISSB membership, I cannot help wondering if a model more similar to that operated in the UK (where effectively membership of RISSB is a condition of accreditation) might help reduce administration, broaden RISSB’s subscribing membership, and help strengthen cross-industry commitment to harmonisation..

5.2 Funding Arrangements

There was widespread agreement from both industry and government stakeholders that the current funding model for RISSB, with approximately equal financial contributions from government and industry, and substantial “in kind” contributions from industry in particular, represented a fair and sensible way in which to fund the development of standards in the Australian co-regulatory regime. It would make sense in my view to apply the same principle to RISSB work in general in support of harmonisation for mutual government/industry benefit.

I find it difficult to disagree with stakeholders who argue that RISSB needs to do more:

- To accelerate completion of the suite of national standards
- To address emerging technologies with greater scope for future harmonisation
- To address harmonisation of operations and of components, where whole systems are in the “too difficult” category, and
- To provide better evidence-based justification for the level at which standards are set, and
- To promote and facilitate standards adoption and implementation.

In addition to all these proposals, RISSB’s earlier standards products are now approaching the time when they are scheduled to be reviewed and updated.

Current levels of funding are not sufficient for what needs to be done. With present levels of funding RISSB may be able to keep moving at about its present pace, but the major obstacles in the way of harmonised practices being implemented will not be overcome. In section 6.3 I consider the benefits of harmonisation in relation to the costs of RISSB and argue that a significant increase in funding should be considered – alongside some changes in function and terms of reference – in order to achieve better outcomes and value.

6. Discussion

I discuss first the MOU itself, the purpose of standards and the governance of the standards development process (6.1), then standards development itself (6.2) and finally the broader issues of harmonisation and value for money (6.3). I focus throughout on what needs to be done rather than on how it should be done as I think this is best left to those involved to work out.

6.1 The MOU and Purpose of Standards

The lack of clarity in the MOU as to the purpose of standards, the lack of government focus on those outcomes, and lack of appreciation of the limitations of RISSB's powers seem to me to underlie the dissatisfaction of some government stakeholders with RISSB and its products, and a good deal of frustration by RISSB in dealing with Government. The key outcomes of concern for government, relating to safety at national level and the total cost of Australian railways to the public purse, are not measured in any meaningful way. The committee (RPSRG) to which RISSB reports was wound up in mid-2011 and had not at the time of writing this report been reformed. The MOU makes RISSB responsible for things it cannot control (achieving consensus on standards by fixed dates; implementation of harmonised standards).

The MOU needs to be rewritten with a stronger focus on its purpose and with less attempt to micro-manage standards development. In my view it should make clear

- a) that the purpose of standards is to advance both safety and affordability of railways, and that the outcomes sought are measurable improvements in safety and affordability
- b) that attainment of those outcomes requires both development of national standards and adoption of those standards at all levels through the rail industry, and
- c) that both standards development and the standards development program should reflect the outcomes sought – that is, that standards should be justified based on providing the right balance between safety and affordability, and that development AND promotion/facilitation of implementation work should be prioritised based on its future benefits in safety and affordability terms.

Rewriting the MOU is relatively straightforward. What is equally necessary, though, and may prove more difficult, is to provide a strong government customer for RISSB who acts as a champion for the benefits that standards should deliver. The new National Rail Safety Regulator will provide a natural champion for safety at national level, but it is crucial in my view that government should also be championing the “value for money” aspect of standards as well as safety. Without some influential person or group at a senior level in government, working closely with government funders and safety regulators as well as with industry, I think it likely that the extent of harmonisation will be much less and the time taken to achieve it much longer than would be optimal. (See also 6.3 below.)

The RISSB Board decided at its March 2012 meeting to invite government to nominate a representative on the Board. This may provide one way of improving government/RISSB

interaction, but does not remove the need for clarity on both sides as to the outcomes sought from standards development and harmonisation.

6.2 Standards Development

I address first the issues of timeliness and prioritisation of standards development, and second the fitness for purpose of standards and their justification.

The MOU should not in my view lay out detailed targets for standards products to be developed by particular dates. Rather, it should require RISSB and the industry to focus on the outcomes sought and devise a work programme to deliver the best results. Some significant work may be involved in working out what that programme would be (particularly in light of the lack of relevant background information on safety and the lack of collated work on costs of railway equipment and operations and genuine scope for their reduction through standards change). That programme should also give consideration to what can be done in the short term, before the planned national suite of standards has been completed, to give guidance to rail projects around Australia as to the best strategies and standards to be used in specifying rail projects.

When RISSB and the industry commit to a project to develop a standard they should have both

- a) a clear view as to how, where and when that standard is going to be implemented, and
- b) a good appreciation of the (rough) scale of benefits the standard will deliver.

RISSB has made a first move in this direction by assembling a comprehensive safety hazard register so that standards projects can be positioned within the matrix of hazards that they will help address. What I am suggesting is that this should have a companion “Where have we got real scope to improve performance/affordability?” register, and that RISSB projects should be quantified, in rough and ready terms, in terms of both safety and performance/affordability benefits. RISSB should have a duty to prioritise its work programme (covering both development and support to implementation of standards) so as to deliver maximum benefit. Industry and government both have a strong interest in such prioritisation; I would expect governments to carry out their own work in support of establishing their own priorities (based on safety, economic and other improvements) to feed into the RISSB process.

The RISSB business model is in my view a good one in that has enabled rapid progress to be made and a strong level of industry engagement to be achieved with modest resources and with low financial risk. But the model, which relies on a very small core of staff and substantial engagement of contractors/consultants for key roles in standards development and validation, carries some inherent risks to timeliness and quality of the standards produced. I think RISSB is well aware of these risks and that the benefits of the current business model will continue to outweigh them, particularly if my recommendations regarding justification are adopted.

The biggest issue for standards in my view is in demonstrating that they will provide SFARP safety risk control. Without new or revised standards being demonstrated to provide such safety risk control, Safety Regulators can only accept them if they provide for “Best Practice” safety levels. It will always be up to the individual operator to demonstrate SFARP at the point of application of a standard, but much more can and should be done during the standards

development process to ensure that operators collectively have a good, well-evidenced national position from which to work in preparing their own justification. I envisage three key requirements needing to be met in order for SFARP justification to be built into the standards process:

1. Clarification of what “SFARP” means and how it is to be interpreted
2. Evolution of the “validation” process in the current standards development process into a “justification” process, and
3. Tools and evidence to support such justification.

The first of these is a significant issue. I heard various stories from industry stakeholders about inconsistent application of the SFARP principle in different states during the accreditation process. In one case changes to signalling principles were accepted by one State Regulator, but were then rejected as not controlling safety SFARP by another. The introduction of a single National Rail Safety Regulator should provide an excellent opportunity for developing and promulgating a consistent definition of “SFARP” and guidance on its interpretation. This seems to me an important role for Government in the co-regulatory way of working – while I agree with the current state-based Safety Regulators that the Australian rail industry is weak in its knowledge and application of comparative safety risk information across industry, I would also have to agree with the industry that there is limited guidance from Government on how the policy of SFARP which is enshrined in law is to be applied.

I have discussed what would be involved in a “safety justification” process in Section 4.2 above. The key to such justification is good quality assessment of the safety risk implications of different standards choices, in combination with justification (which may involve a wide variety of factors such as stakeholder preferences, practicability and other aspects of railway performance in addition to assessment of costs and safety benefits) of which choice provides for SFARP safety risk control.

Underpinning such risk assessment is a need for data and evidence. Virtually everybody I spoke to in Australia, in both industry and Government, agreed that there would be great benefit in industry sharing safety incident data, and in using that information to facilitate safety performance improvement and risk assessment. The expensive and difficult part of doing this is for each individual railway organisation to record incident details in a consistent way and to establish a mechanism for reporting them externally. This is already in place in Australia, where every accredited rail operator reports incidents to their state Safety Regulator. The incidents to be notified are specified in an Occurrence Notification Standard 1 [12] and the classification to be applied in reporting them in Occurrence Classification Guideline 1 [13].

The State Regulators each have a database of reported incidents and occurrences which they use in analysing comparative safety performance and identification of trends. The Regulators publish bulletins from time to time identifying topical issues, and have a forum (the Rail Safety Regulators’ Panel) for exchanging information face to face as well as via sharing of reports. The volume of incident data, and the effort devoted to its analysis, varies considerably from state to state. When the new National Rail Safety Regulator is formed early in 2013, a new and single regulators national rail safety data base will be commissioned. The intent is that all Industry

category 1 and 2 incidents will be fed into this database, the regulator will ‘cleanse’ this data and overlay regulatory issues, and the ‘cleansed data will be provided to the Australian Transport Safety Bureau (ATSB) for use as it sees fit.

Industry does not have access to the Regulators’ safety incident databases, nor will it when the regulators national rail safety database is commissioned. As a consequence no operator has any visibility (other than through a one to one agreement to exchange information) of other operators’ incident experience and nor will it in the future. One complaint I heard from several industry stakeholders was that they “provide the data to the Safety Regulator and get nothing back.”

In comparison with the effort required to establish the current very good industry safety risk capability and evidence base in the UK (see text box), the effort required to establish something

Safety Data Sharing – the UK Experience

In comparison with the situation in the UK, the Australian rail safety data situation appears “stood on its head”. In the UK, operators report incidents and occurrences to RSSB, which analyses and feeds back comparative safety performance information to its members, and use that information to populate and validate a safety risk model. Among other things, this safety risk model is used in risk assessment during the standards process to compare the expected safety outcomes of different options. As RSSB has become more and more concerned with the application of safety data in risk management, so the classification scheme for recording and reporting incidents has evolved, along with the QA approach used to ensure consistency and value of the information recorded on each incident.

This arrangement in the UK is relatively recent. Until the time of the Clapham accident in 1988, the monolithic main line operator British Rail completed safety incident reports, sent them to the national safety regulator, and did not keep a copy. The rail industry was regarded as a pariah in risk terms by other safety critical industries – they had no idea of the levels of safety risk to which customers or staff were exposed, or of how these varied across the system, and there was no evidence from which to assess the likely safety benefits of different options for improving safety. These issues were all addressed in the wake of the Clapham accident and were then built into safety arrangements applicable to all rail operators at the time of railway privatisation during the 1990’s. The rail industry is now regarded as a leader in safety performance reporting and risk assessment, and other safety critical industries are turning to it for advice on good practice.

similar in Australia would be small. The difficult and expensive part is in establishing recording and reporting arrangements in individual companies – but in Australia these are already established. Based on my discussions with rail and infrastructure operators I would estimate that well in excess of 100 full-time equivalent staff years are spent around Australia in recording and reporting safety incident information to Safety Regulators.

I would expect that, building on the UK model, a small centrally located team of 5-6 professionals would be sufficient to set up and manage a central industry shared safety incident database, which would provide the evidence needed to support the risk assessment which Safety Regulators (rightly in my view) find lacking in the justifications presented to them for adoption of new national standards.

I therefore feel strongly that industry should take steps to share its safety data, should use that data to develop improved safety risk assessment capability (i.e. models, data and people skills), and should use that capability in a national-level justification process as part of RISSB's standards development process. I can see no better place to locate such a capability than in RISSB – there is a great deal of synergy between building knowledge of safety risk and developing standards, and RISSB has already done a good job in building its credibility and relationships with industry. For very modest additional costs, the benefits of the large industry investment in safety data could be transformed.

While I believe virtually all Government and most industry stakeholders would support this idea, I am aware of two objections that may be raised by some industry parties:

1. Industry will not agree to share safety data because of its commercial sensitivity, and
2. The national rail safety regulator is going to produce a national safety incident database anyway, so we should get access to that rather than inventing a second such database.

Subject to reasonable precautions being taken to safeguard information security, I do not think the first argument carries much weight – some operators mentioned that “other operators won't share”, but none told me that they wouldn't share themselves. There may be an occasional “We're doing better than the others” boast, but the idea that operators might seize on their peers' incidents and publicise them to advance their own commercial or political ends is not borne out by experience in the UK or (now that similar reporting requirements have been established Europe-wide) anywhere else in Europe. Safety data is an area where it is easy to see that everyone benefits from sharing information, that openness in reporting is a very desirable quality in an operator, and that anyone trumpeting about their relative merits today is lining themselves up for a fall as and when they suffer a bad experience. Undoubtedly there will be concerns raised about voluntary industry sharing of safety data, but I am confident they can readily be addressed.

The second objection is in principle a good one; it does not seem sensible to develop two national incident databases if one would do. However, I think it extremely unlikely that a national database developed from information reported by Safety Regulators would meet industry's needs. A safety regulator or independent investigator is going to be carrying out high-level analysis to identify trends in serious incidents and outcomes. What industry needs is more detailed information, designed around the needs of the party who is going to manage the risk. Both rail operators and Safety Regulators told me that there is wide variability in reporting, particularly of less serious incidents and occurrences. I have no doubt that if the Australian industry started to use a national database developed solely from information reported to the Regulator, it would experience similar issues to those experienced when RSSB in the UK began receiving and using industry safety data – inconsistency in reporting, and mismatches between what is reported and what the industry wants to know to be able to assess and manage safety risk better.

I support the “Industry shares safety data” model strongly, not only because I have seen it take the UK rail industry very quickly from risk pariah to risk leader status among safety-critical industries, but also because it seems entirely appropriate that in terms of knowledge about safety risk, the industry (who have to manage it) know most, the Safety Regulator knows a good amount, and Government policy and funding people have a high-level but less detailed

appreciation of the main points. I have little sympathy for industry moans that “the Safety Regulators should give us back some value added from the incident data we report” – it should be industry, not Regulators, who are most proactive in learning from each others’ safety data and driving improvement.

I would therefore advocate the Australian rail industry taking this matter into its own hands and establishing an industry-wide safety database. If the industry waits for government to develop a central database via ATSB and the National Rail Safety Regulator they will first have to overcome the problem that this information is reported in strict confidence (industry might be willing to share it but under current law the Safety Regulators cannot do so), and will then find that the information is not in a form, at a level, and classified in a way that will meet their needs. I can imagine a possible compromise solution along the lines of a “let’s wait and try the national regulator’s database first” approach. In my view this would simply waste time and resources. If the industry does the job properly then I would expect ATSB and the National Regulator in time (as has happened in the UK) to choose to rely more on industry safety data and to reduce their own resources devoted to data collation and analysis.

6.3 Harmonisation and Value for Money

My starting point in discussing harmonisation is that, while there are some benefits in building industry networks and knowledge to those participating in standards development, the primary benefits sought from standards do not materialise until the standards have been adopted and implemented. It is the implementation not just the production of national standards that will deliver the major benefits discussed in Section 2.

It is clear from my discussions during this review that there is a large gap between “production of a new standard” and “the new standard becoming embedded in railway organisations”. I think it is quite right that the MOU should give RISSB responsibility for promoting standards and indeed would go further and say that it should be part of RISSB’s role to facilitate rail organisations’ implementation of standards, not just to promote them. The current ratio of about 10:1 spend on standards development vs standards promotion (see Figure 1 and Section 2.2 above) becomes more like 20 or 25:1 if “in kind” resources are added into the picture, and seems strongly under-weighted towards standards promotion (under which heading I include all aspects of facilitating and assisting with standards adoption and application).

In the highly unharmonised Australian railway environment, I would expect the roles of promotion and facilitation of standards implementation to receive comparable attention and resources to the role of standards development. I would like to see realisation of the benefits of harmonisation given a higher profile in RISSB’s role and business planning, for example by

- a) Estimating benefits available as a primary basis for prioritising standards for development
- b) Incorporating into RISSB’s work a marketing/promotional workstream on “getting the standard adopted and implemented” linked to each standards development project
- c) More resources being provided by both industry and Government to support an expanded RISSB role in promotion and facilitation of implementation of standards.

While I consider it important to expand RISSB's role in promoting and facilitating the adoption of standards, other parties have more power to influence industry adoption of national standards. I have discussed the possible "levers" by which more rapid and more extensive harmonisation could be progressed. The main potential levers appear to be:

- a) RISSB promotion and facilitation of adoption and implementation
- b) Government support for industry in meeting the cost of change to comply with new standards
- c) Funders refusing to finance over-costly, non-standard projects
- d) Regulators making accreditation difficult for non-standard projects and system changes
- e) Court decisions in the wake of accidents that non-standard approaches represent a failure in duty of care by rail operators, leading to severe penalties for those involved
- f) Infrastructure managers making access conditional on compliance with standards, and
- g) Regulation to make standards compliance mandatory.

Of these, **RISSB promotion** is the weakest in that RISSB has no power to compel anybody to comply with standards. Indeed RISSB actively does not want any such power – their business model is based on industry engagement, participation and consensus, and if standards were to become mandatory RISSB has a very real concern that industry support for the whole process would collapse.

Meeting the cost of changes in standards and rules is a major issue in moving forward harmonisation. In many cases it may have to be accepted that the scale of investment that would be needed is so great in comparison with the future benefits of harmonisation that it will never happen. The obstacle for existing operators of having drastically to change their assets, equipments and practices can be a massive one. On the other hand, if there is a clear vision that this is, long term, the right thing to do then new investments and upgrades/refurbishments of existing systems can be made so as to migrate towards more harmonised railways at relatively modest cost. When railways were privatised in the UK, Government gave train and infrastructure managers an undertaking that they (Government) would underwrite the majority of the costs of changes required to meet regulatory or standards changes (standards compliance is mandatory on the main line network in Britain). This stifled innovation – why would any rational private railway operator invest in change if, by waiting to be told to do it by somebody else, Government would bear the cost? And it has been a significant factor in escalating the cost of railways to Government. Meeting the cost of migration towards harmonised standards is a, if not the, major obstacle to harmonisation, but blank cheques from Government are not a viable solution.

On the other hand, Government potentially has a powerful lever it can use as the **funder of railway investment**. Government not only finances investment by the government-owned rail operators, but also in many cases provides supporting investment to private sector schemes on private sector networks. It would seem entirely reasonable to me for Government to use this leverage to oblige applicants for funding to adopt national standards as the basis for their proposals, or to justify why some alternative represented better value.

As was identified by the National Transport Commission [9], **Safety Regulators** also have powerful mechanisms available to them to promote uptake of national standards. No new, extended or significantly changed railway can operate in Australia without accreditation by a Safety Regulator (by the National Rail Safety Regulator from 2013). If the RISSB standards suite were complete, and if the Safety Regulators had confidence in it, then some simple and powerful levers towards harmonisation could be brought into play. The new National Safety Regulator could simply write to every accredited operator asking them to justify why they were not applying national standards and to explain their plans for migrating towards them – and advising them that any new projects or changes would have to justify departure from national standards. Some modest regulatory changes might be required to enable such behaviour in relation to existing systems, but for new railways and major upgrades/refurbishments this would provide a virtually instant mechanism for enforcing harmonisation except where there was a good reason for being different. The problem is that the standards suite is not complete, and that Safety Regulators do not have confidence in it as discussed in the previous section.

RISSB often mentions the importance of **compliance with national standards in court** in the wake of an accident. It is generally the case for other national standards developed by Standards Australia that courts would use those standards as a benchmark for judging whether the parties responsible for accidents had adequately discharged their duty of care. I am less sure that this would be a significant driver in railways, because every railway is accredited by a Safety Regulator. If a Safety Regulator grants accreditation based on a flawed new standard, then they would by implication share responsibility for accidents attributable to non-standard approaches to safety risk control. As time progresses and increasing numbers of rail operators adopt national standards, though, I am sure RISSB is correct that it will become increasingly difficult to justify, retrospectively, non-standard arrangements which have become out of step with established practice among other operators. I can see this providing a long-term driver towards harmonisation, but not as providing strong leverage in the short or medium term. And this point links with the previous one in that an operator can derive substantial comfort if an independent Safety Regulator has accredited them on the basis of their non-standard approach.

In the current Australian railway system, there is no doubt that it is **infrastructure managers** who have the strongest and most direct control over standards adopted by operators. Rules and standards to be followed are absolute conditions of access to any network – infrastructure managers **do** mandate standards and enforce compliance. This is positive in that the number of parties with whom RISSB, Government and others have to deal is relatively small, and it seems to me that particular effort is warranted to focus on the infrastructure managers as a group in order to develop shorter and longer-term strategies for migration towards a more harmonised future. This would seem particularly useful to me in that it should expose early and at a high level those differences which are so substantial and so important in different circumstances that it would not be sensible to try and harmonise them. It would be a great facilitator to harmonisation if there could be up-front agreement about areas NOT to pursue it as a priority.

Finally there is of course the possibility that Australia could go down the route adopted in many other countries of changing the law so as to mandate compliance with standards. Perhaps the most relevant recent example where this has been done is in Europe, where Technical Specifications for Interoperability (TSIs), and requirements for reporting of all safety incidents

and occurrences in standardised format, have been mandated under European law. The TSIs establish a “Class A” standard in every case, which is the harmonised goal towards which all railways should strive. But, in addition to arrangements enabling particular railways to seek exemptions from TSIs, Member States can register a “Class B” national standard which they can then maintain in perpetuity. What they cannot do is carry on innovating and evolving the Class B technology – if they want to migrate or change then it must be towards Class A.

This approach has the major advantage of simplicity, though requires a “gatekeeper” to keep track of the exemptions and Class A/B definitions and registrations. With my limited experience of Federal Government in Australia I find it difficult to imagine any such approach being adopted on the continent. But if anyone had told me in 1990 that the UK railways would be global leaders in safety risk knowledge and assessment, or that harmonised rail technical standards and safety incident reporting would be mandated by law across the whole of the European Union within 20 years, I would never have believed it.

If Government is to continue investing \$ billions annually in rail, taxpayers will continue paying \$100's of millions annually more than necessary for railways if they continue to run as a mass of highly autonomous and individual cottage industries. Government holds the strongest levers available to promote more extensive and more rapid harmonisation (where it is appropriate). The creation of the new National Rail Safety Regulator represents a major opportunity for influencing operators to adopt more harmonised standards (assuming that those standards can be justified to and supported by that Regulator).

In parallel with providing RISSB with modified terms of reference and more resources to promote and facilitate adoption of standards I would therefore like to see Government, in its existing roles as Safety Regulator and funder of railways, develop more proactive policies and practices to promote harmonisation at all levels – from greater consistency of broad strategies and planning principles at the highest level down to harmonisation of technical and operational standards and practices. In this area I think much could be done using existing Government roles before going down the route of mandating standards by legislation – but I leave it to those involved to consider how best to achieve what I would like to see, which is

“Government and regulatory policies which actively promote (appropriate) harmonisation, and discourage fragmented planning and design of rail systems”.

If influence via Regulatory and funder results is too difficult or proves ineffective, legislation (the European approach) deserves serious consideration.

7. Conclusions and Recommendations

My conclusions are as follows:

1. The MOU between RISSB and the State and Commonwealth Governments lacks focus on the safety and economic outcomes sought from harmonisation while being over-specific on the detail of RISSB standards development and timescales.
2. Absolute focus on harmonisation for its own sake is inappropriate in a country as large and diverse as Australia. But there is significant scope for mitigation of risks to safe interoperability of trains across state boundaries and for simplification and improvement of operators' safety management systems through greater harmonisation. The economic benefits of greater harmonisation could be particularly great; of order several % to a few 10's of % of the \$10B scale annual expenditure on railways across Australia.
3. The primary benefits of harmonisation, in terms of national rail safety performance and taxpayer spending on railways across Australia, are not collated and published at present. No-one in Government currently has a clear remit to maximise those benefits, to ensure that such information is developed, or to act as an informed Government customer for RISSB.
4. RISSB has not delivered ACOP products against the timetable laid out in the MOU. The primary reasons for this are the time taken to develop and secure consensus on standards (which is outside RISSB's control) and the loss of 60% of RISSB's standards project managers in 2010-11. Loss of key staff is an inherent risk in RISSB's business model which uses a very small core of employed staff. Overall RISSB has performed well to establish its business processes, engage the rail industry and deliver the ACOP products that it has within its first years of operation, and that it would be inappropriate to judge RISSB's performance purely against the timetable laid out in the MOU.
5. RISSB established a sensible initial process for setting priorities for standards development, based on developing consensus among the industry organisations represented on Standards Committees, moderated by the RISSB General Manager. This process at present, like the MOU, lacks a direct focus on maximising the benefits available from particular products. Important directions to be considered in future development of standards include accelerated completion of the standards suite (along with pro-tem guidance on what to do until the suite is complete), and emerging technologies with major potential for future harmonisation if standards can be agreed in a timely way.
6. RISSB has done a good job in engaging the rail industry on specific standards projects, in assembling the diverse mass of existing standards and approaches in use in Australia, in collating those existing approaches under common headings, identifying areas of commonality and difference, and where possible securing consensus as to the best single approach to become the basis of national standards moving forward. In order to obtain consensus, some standards have incorporated multiple alternative solutions, generally reflecting different existing practices in different states/railway organisations.
7. Rail operators generally like the non-prescriptive nature of national standards, the freedom provided (in a regime where these standards are not mandated) to choose when and how to adopt them, and the provision of alternative solutions corresponding to different railway designs and operational models.

8. Government stakeholders, and Safety Regulators in particular, regard standards providing a range of alternative solutions as being of minimal or even negative value. However, any risk introduced by inappropriate “mixing and matching” of standards should be mitigated through the accreditation process. Collation of existing approaches, analysing them under common headings and identifying similarities and differences is an important and highly valuable part of the standards process in its Australian context. This said, there would clearly be greater value in standards that managed to secure consensus around a minimum number of different solution strategies – the benefits of harmonisation will not be achieved by perpetuating diverse practices and re-badging them as “compliant with national standards”.
9. Safety Regulators have a strong and unanimously shared concern about the absence of well-evidenced, risk based justification that the national standards will control safety risk SFARP. Several other industry stakeholders share their concern about safety standards being set at the right level, and at the search for consensus leading to a “lowest common denominator” level of safety. As the Regulators note, the Australian rail industry currently lacks the benefit of shared risk information across operators, and has correspondingly weak capability in using comparative risk assessment to justify the level at which safety standards are set. The support of Safety Regulators for national standards is an important prerequisite for their widespread adoption and implementation; this issue is at present a major obstacle to the wider adoption and implementation of standards.
10. While it will always be up to individual operators to justify that standards represent SFARP risk control, it does not make sense for each operator to have to start this process from scratch. Action is needed to build industry knowledge of safety risk and to apply it in justifying the level at which safety standards are set at national level to provide a better foundation for operators’ local justification of the standards they seek to implement. The costs of such action will be small in comparison with the resources already devoted to the recording, investigation and reporting of safety incidents and occurrences.
11. RISSB’s 2011 survey of the uptake and implementation of standards products was poor. While there are some positive signs of increasing co-operation among railways and examples of real harmonisation happening, there is also a great deal of “business as usual” with individual railways and states progressing railway developments to very different specifications. Without substantial action to increase RISSB’s role in promoting and facilitating the adoption and implementation of standards, along with clearer Government policies providing incentives for harmonised approaches and disincentives for fragmented ones, harmonisation will progress much more slowly and much less far than it ideally should.
12. RISSB’s business model is low cost, involves low financial risk and has delivered good value for money in comparison with alternative transport-focused standards development models. The low staffing levels, reliance on bought-in specialist services and collocation with ARA bring with them various risks to timeliness and quality of standards products and to stakeholder perceptions of RISSB’s independence. RISSB is well aware of these risks and of the need to manage them going forward.
13. The establishment of a national transport regulator for rail safety in Australia (due to commence in January 2013) should provide an important first step whereby the States and Territories work more collaboratively in operating railways across Australia, but will not address the economic (and other non-safety) harmonisation issues discussed in this report.

A good overall measure of RISSB's performance is that everyone consulted during this review, including the harshest critics of its standards products, considers that RISSB has achieved a great deal more than its predecessors in terms of bringing industry together and creating an environment in which practices are shared openly and harmonised standards can and do develop. The strong general view is thus that moving forward should be about building on what RISSB has established and addressing the issues identified above, rather than starting again with something different.

My recommendations are:

1. The MOU should be rewritten with a strong focus on the benefits (safety and economic) sought from harmonisation, making clear
 - a) that the purpose of standards and of RISSB is to advance both safety and affordability of railways, and that the outcomes sought are measurable improvements in both
 - b) that RISSB should view development of national standards and promotion and facilitation of adoption of those standards at all levels through the rail industry as equal priorities, and
 - c) that the standards development process, the planning of RISSB's programme, and the balance of work devoted to standards development as opposed to promoting and facilitating the adoption of standards, should all directly reflect the outcomes sought.
2. The Governments should identify a senior level person or group to provide clear leadership towards more harmonised railways in Australia. Their remit should include
 - a) providing clear governance and direction for RISSB from its government customers
 - b) commissioning work (with industry where appropriate) to clarify the national benefits of railway harmonisation and help set government priorities for RISSB, and
 - c) developing incentives for States, Territories and the rail industry to harmonise where appropriate and to discourage unnecessary fragmentation.

In this latter regard the governments may wish to focus initially on using their regulatory and funding roles in railways to greater effect, but should not rule out legislation if other forms of influence prove too unwieldy or ineffective.

3. RISSB should
 - a) plan its work priorities in relation to the benefits available nationally from progress towards harmonisation (whether via standards development or implementation)
 - b) include a clear outline of the pathway towards adoption and implementation alongside each standards development project, and
 - c) provide guidance as soon as possible across the whole of the envisaged future national

standards suite on the best available starting point for specifying new railways until such time as that national standards suite has been completed.

4. The Australian rail industry needs to act collectively and urgently to improve its cross-industry safety risk knowledge and to apply that knowledge in justifying that standards are being set so as to control safety risk SFARP. This will require
 - a) establishment of a shared national database of industry safety incidents and occurrences
 - b) development of risk assessment tools and capability, building on that database (along the lines of the Safety Risk Model developed by RSSB in the UK), and
 - c) modifying/extending the validation part of the standards development process to include explicit justification that a standard represents SFARP safety risk control at national level.

There would be strong synergy in progressing this information sharing and capability building through RISSB.

My recommendations taken together imply a significant expansion of RISSB's work, with more being done to address priorities not currently high on the workplan, to build shared safety risk knowledge and assessment capability (and use it in justifying that standards control safety risk SFARP), and to extend RISSB's work supporting industry adoption and implementation of standards. In relation to the benefits sought from harmonisation RISSB is cheap, but its value added is sub-optimal. Adoption of my recommendations might require a short term increase of perhaps 50-100% in RISSB's annual budget, but should deliver a many-fold increase in value for money.

Tony Taig
TTAC Ltd
18 June 2011

8. References

- [1] Report on the Rail Industry Safety and Standards Board, Letter from K Taylor (RISSB) to Dr N Pelham (Transport NSW and Chair, Rail Safety Policy and Regulation Group), 10 June 2011.
- [2] RISSB 2010 Business Plan, RISSB, August 2010.
- [3] RSSB Strategic Business Plan 2010-2014, RSSB London, April 2009 (available at <http://rspb.co.uk/SiteCollectionDocuments/pdf/whoweare/StrategicBusinessPlan2009-2014.pdf>).
- [4] Australian Rail Safety Occurrence Data, 1 July 2010 to 30 June 2011, Australian Transport Safety Bureau report RR-2011-14, 2011.
- [5] Annual Report 2010-11, New South Wales Independent Transport Safety Regulator, November 2011.
- [6] Statistics @ a glance, Transport Safety Victoria, December 2011.
- [7] Rail Safety Regulator's Report, Queensland Government Department of Transport and Main Roads, July to September 2011, October 2011.
- [8] Adoption of RISSB Products, RISSB Board Paper, March 2011.
- [9] National Policy Statement on the Recognition of Industry Developed Standards for Rail Safety, National Transport Commission, June 2008.
- [10] Review of the Rail Industry Safety and Standards Board, Australian Government Department of Infrastructure, Transport, Regional Development and Local Government (in collaboration with the Rail Safety Regulators Panel and Accreditation Board for Standards Development Organisations), February 2009.
- [11] Annual Review 2011, Standards Australia.
- [12] Guideline for the Reporting of Notifiable Occurrences, Occurrence Notification – Standard One (ON-S1), Rail Safety Regulators' Panel, June 2008.
- [13] Guideline for the Top Event Classification of Notifiable Occurrences, Occurrence Classification – Guideline One (OC-G1), Rail Safety Regulators' Panel, June 2008.

Appendix 1: Review Brief

The Consultancy Services will:

- a. Assess whether Rail Industry Safety and Standards Board (RISSB) is meeting the milestones specified in its business plan and annual work plans in a timely manner;
- b. Assess the quality of the RISSB Code products;
- c. Assess whether the RISSB Code products represent value for money;
- d. Compare the performance of RISSB and Standards Australia as standards development organisations;
- e. Evaluate ongoing funding arrangements;
- f. Prepare a draft report on the review by 30 March 2012;
- g. Prepare a final report on the review by 15 June 2012; and
- h. The project must be completed by 30 June 2012.

[end of Appendix 1]

Appendix 2: Parties Consulted

Individual	Position/Job Title	Organisation
Kevin Band ⁶	Managing Director	Risk & Safety Consultancy Group Pty Ltd
Allan Barden	Assistant National Secretary	Rail, Tram & Bus Union
Phil Barker ¹	Director (Rail Safety Regulation)	Queensland Government Department of Transport and Main Roads
Colin Blair	CEO	Standards Australia
Vic Bliss	General Manager Safety Risk and Compliance	Brookfield Rail (WestNet Rail)
Jennie Breen ⁷	Director, Rail Strategy	Commonwealth Dept of Infrastructure & Transport
Dale Budd ⁴	Chairman	RISSB Development Advisory Board
Julie Bullas	Project Director	National Rail Safety Regulator Project
Rob Burrows ^{1,4}	Director, Office of Rail Safety (ORS)	WA Department of Transport (Previous Chair of Rail Safety Regulatory Panel and RSPRG member)
Mike Carter ³	Executive General Manager	QR National
Glenn Clifford ^T	Strategic Sourcing Manager, Rail	Bradken Pty
Dale Coleman ²	Managing Director	TTG Transportation Technology
Lindsay Day ²	Principal Consultant	Interfleet Technologies
Julian Del Beato	Rail Manager	National Transport Commission
Nic Doncaster ¹	Compliance and Audit Manager	Government of South Australia, Office of the Rail Regulator
Warren Doubleday ⁴	Rail Safety Officer	Association of Tourist and Heritage Rail Australia (ATHRA)
Tony Drake ³	Chairman	RISSB
Bert Easthope	CEO	Genesee & Wyoming Australia Pty Ltd
David Edwards ^{2,6}	Executive Director	ATRS
Lisa Fanciulli ^T	A/Director, Strategic Transport Policy	WA Department of Transport
Greg Ford ^T	Group General Manager - Safety	QUEENSLAND RAIL
John Furness	Manager, Standards	Australian Rail Track Corporation
David George ⁴	CEO	CRC for Rail Innovation
Phil Giltinan ⁴	Project Manager	Transport Certification Australia
Maxine Gray	A/Manager, Rail Services	SA Department of Transport, Energy and Infrastructure

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David Greig	Executive Director	ACIL Tasman Economics Policy Strategy
Bruce Griffiths	Rail Supplier Advocate	Commonwealth Department of Industry, Innovation, Science, Research and Tertiary Education
Keith Hannan ^T	Product Development & Engineering Manager	Bradken Pty
Sid Hay ^T	General Manager	Pilbara Iron, Railways Division (Rio Tinto)
Barry Hedley ^T	Executive Director	Hedley Consulting
Derek Heneker	Policy & Legislation Coordinator	National Rail Safety Regulator Project (former member of RSPRG)
John Hin ⁴	Senior Adviser Policy / Senior Lawyer, Economic Analysis & Reform Projects	Regulation, Govt & Law Division, Victoria Dept of Transport
Colin Holmes ⁴	A/Director, Accreditation Audit and Compliance	Independent Transport Safety Regulator (NSW) (Chair, Rail Safety Regulatory Panel)
Lindsay Holt ²	Group General Manager Safety	Laing O'Rourke (Infrastructure)
Anson Jack	Director, Policy, Research & Risk	Rail Safety & Standards Board (UK)
Graham Jackson ²	General Manager Safety and Quality	TCA NSW
Wayne James ⁵	Chief Operating Officer	Australian Rail Track Corporation
Roger Jowett ^T	National Transport Policy Adviser	Rail Tram Bus Union
Chris Keast	Director Pacific National Rail	Pacific National
Hannah Kelly ³	Principal Adviser, Rail Safety Regulation Branch	Queensland Department of Transport and Main Roads
Clare Kitcher ²	Group General Manager Safety and Environment / Chief Risk Officer	Railcorp (also RSPRG Industry Rep)
Chris Kosh	General Manager	SCT Logistics
Alex Kwok		Downer Rail
Paul Larsen	Chief Executive Officer	Brookfield Rail
Richard Longman ⁷	Assistant Director, Rail Regulatory Reform	Commonwealth Dept of Infrastructure & Transport, Surface Transport Regulation
Stuart Lyndon ³	Manager, Inter-Governmental Relations	Queensland Department of Transport and Main Roads
Graham Maine ⁴	Standards Manager	Engineering & Asset Management, Victoria Dept of Transport
Sue McCarrey ^T	Deputy DG, Policy, Planning and Investment	WA Department of Transport

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Ian McCullough ^T	Group General Manager	RailCorp
Chris McKeown ⁴	Director, Rail Safety	Transport Safety Victoria
Brian McNaught	National Rail Compliance and Accreditation Manager	SCT Logistics
Simon Meiers	Director Safety Improvement Services	Independent Transport Safety Regulator (NSW)
Barry Moore		Department of Transport Victoria
Trevor Moore	Signalling Standards Engineer	Australian Rail Track Corporation
D Jenny Morris ⁷	Senior Technical Specialist	Department of Transport Victoria
Meena Naidu	Chief Officer Policy	National Transport Commission
Len Neist ^{2,4}	Chief Executive Officer	Independent Transport Safety Regulator (ITSR) (In capacity as member of the Development Advisory Board - DAB)
Kevin Newhouse ^T	Manager	Australian Building Codes Board
Bryan Nye	Chief Executive Officer	Australasian Railway Association
Phillip O'Connell ⁶	General Manager Safety	Kiwi Rail
Alan Osborne ⁴	Director, Transport Safety	Department of Transport Victoria
Natalie Pelham ^{2,7}	Director, Transport Policy & Reform	Transport for NSW (and last Chair of RSPRG)
Adrian Ponton	Registrar, Tourist and Heritage Railways	Department of Transport Victoria
Melissa Radke ³	Principal Adviser (Policy)	Queensland Department of Transport and Main Roads, Rail Safety Governance
Noel Ramsey	Chief Operating Officer (also RISSB Director)	SCT Logistics
Dimi Rigas ^{2,7}	A/Manager, National Policy & Coordination	Transport for NSW, Transport Policy & Reform
Alan Ross ⁴	National Rail Safety Manager	Rail Australia (John Holland Group)
Steve Rykers	Project Manager, Rolling Stock Standards	RISSB
Andrew Sharp	Director, Standards	Rail Safety & Standards Board (UK)
Phil Sochon	Director Government Relations	Australasian Railway Association
Paul Sullivan	Chief Officer Strategy	National Transport Commission
Gary Talbot	National Organiser	Rail, Tram & Bus Union
Kevin Taylor ^{2,4,6}	General Manager	RISSB
Jon Taylor ^T	Head of Standards Policy	Rail Safety & Standards Board (UK)

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Graeme Templer	Executive Manager Sustainability	Australian Rail Track Corporation
Dr Todd Bentley	Manager, Risk and Safety Improvement Programs	V/Line
Amit Trevedi ³	Senior Business Manager (Risk and Data)	Queensland Department of Transport and Main Roads, Rail Safety Governance
Mike van den Worp	Executive GM, Technical Services	Australian Rail Track Corporation
Carolyn Walsh ²	Commissioner	ATSB
Greg Whelan	Plant and Inventory Manager	Australian Rail Track Corporation
Simon Whitehead ⁴	GM, Technical Services	Engineering & Asset Management, Victoria Dept of Transport
Phil Wilkinson	Design Safety Manager	Downer Rail
Mark Williams	Director, Sustainable Transport Policy and Planning, Policy and Planning Division	Department for Planning, Transport and Infrastructure SA (former member, RSPRG)
Ross Williamson ³	Principal Adviser, Rail Safety Regulation Branch	Queensland Department of Transport and Main Roads
Laurie Wilson	Manager Infrastructure & Engineering	RISSB
Joyce Wilson ^{2,7}	Senior Policy Analyst, National Intergovernmental Coordination	Transport for NSW, Policy & Regulation
Sandra Wilson-Ryke ⁶	General Manager Risk and Safety	Australian Rail Track Corporation

Notes:

1. Participated in joint meeting with Rail Safety Regulators following meeting of the Rail Safety Regulators Panel, Perth, 1/12/2011.
 2. Participated in workshop discussion in Sydney, 19/3/2012.
 3. Participated in workshop discussion in Brisbane, 20/3/2012.
 4. Participated in workshop discussion in Melbourne, 21/3/2012
 5. Participated in workshop discussion in Adelaide, 22/3/2012.
 6. Participated in industry feedback/discussion of preliminary review findings, Sydney, 28/3/2012.
 7. Participated in Government feedback/discussion of preliminary review findings, Sydney, 29/3/2012.
- T Telephone discussion/conference.

[end of Appendix 2]

Appendix 3: Current RISSB-Governments MOU

MEMORANDUM OF UNDERSTANDING between THE AUSTRALIAN TRANSPORT COUNCIL and THE RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Preamble

The Australian Transport Council (ATC) is the Ministerial forum for Commonwealth, State and Territory consultation and advice for governments on the coordination and integration of all transport and road policy issues at a national level.

The Rail Industry Safety and Standards Board (RISSB) was formed by the Australasian Railway Association (ARA) to improve operational efficiency, safety and interoperability for rail owners, operators and suppliers (the Rail Industry) through the development, publication and maintenance of national standards, codes of practice, rules, and guidelines.

The standards, codes, rules and guidelines published by RISSB form the Australian Code of Practice (the Code). Together with associated documents, the Code complements the safety management systems that are recognised by rail safety regulators in the accreditation of rail operators and provide guidance to achieve uniformity and national consistency in rail operations.

The RISSB 'Standards' development process is accredited by Standards Australia. RISSB also uses this process to develop its codes and rules. A slightly modified process is used to develop RISSB guidelines and other guidance material.

An independent Development Advisory Board, chaired by an independent person with two senior representatives from governments, ensures that the Code is developed in accordance with RISSB's accredited standards development process.

Funding of up to \$1.5 million (GST exclusive) per annum in aggregate is provided to RISSB by the Commonwealth, New South Wales, Victorian, Queensland, Western Australia, South Australian, Tasmanian and Northern Territory governments (the Governments), represented through the ATC, for the development of the Code. The Rail Industry provides matching cash funding. The value of the Rail Industry's significant 'in kind' contributions is estimated by RISSB to be equal that of the combined cash contribution by both the Governments and the Rail Industry.

This document sets out the arrangements that apply to the provision of funding contributions by the Governments to RISSB and RISSB's obligations to ATC.

1. Purpose of the Memorandum Of Understanding (MOU)

- 1.1. The MOU provides a basis for a cooperative Government and Rail Industry framework to progress rail operational and safety reform. Its objective is to specify agreed actions to achieve uniformity and consistency in the management of rail operations across Australia through the Code.
- 1.2. This MOU replaces the MOU between ATC and RISSB (formerly the Code Management Company) dated 20 February 2007.

2. Parties to the MOU

- 2.1. The MOU is made between RISSB and the Governments, represented by the ATC (the Parties). This MOU is not intended to impose legal obligations on the Parties.

3. Commitments

- 3.1. The ATC will pursue and support as a priority (including, through the Governments and the National Transport Commission) a nationally consistent approach to rail safety accreditation and regulation.
- 3.2. RISSB will develop, own and manage the Code.
- 3.3. RISSB and the ATC, including the Safety Standing Sub-Committee (Safety Sub-Committee) and working groups of the Safety Sub-Committee will work cooperatively to achieve the purpose of the MOU.

- 3.4. The Parties agree that:

3.4.1. The Governments will support RISSB and the Rail Industry initiatives aimed at expanding the Code to cover issues relating to rail safety and improving efficiency through uniformity of operations. RISSB as the owner of the Code will have prime responsibility for the review, continuous development and for the promotion and implementation of the Code.

3.4.2. RISSB will seek from the Rail Safety Policy and Regulation Group (Rail Safety Group, a working group of the Safety Sub-Committee) endorsement of the Code deliverables (standards, codes and rules) contained in the RISSB Business Plan and detailed in the supporting Workplan annually (see Schedules A and B). Specifically, the RISSB Business Plan provides for the delivery of the following products in FY 2009-2010:

2009-10

- 12 new rolling stock standards;
- 2 infrastructure standards;
- the heritage locomotive boiler code of practice;
- the accessible rail code of practice;
- the rail safety worker definition code of practice;
- the emergency management guideline;
- the revised DIRN codes of practice; and
- the Freight loading manual.

3.4.3. RISSB's Business Plan also provides an indication of its development tasks from FY 2010 – 2011 to FY 2012-2013. These tasks will be reviewed annually and are subject to RISSB Board approval after input from RISSB's various stakeholders (including Governments as per the terms of this MOU). RISSB's indicative future work program is:

2010-11

- 12 new rolling stock standards;
- 2 infrastructure standards;
- 1 communications standard;
- 2 codes of practice;
- 1 guideline; and
- the Stage 2 rulebook.

2011-12

- 12 rolling stock standards;
- 2 infrastructure standards;
- 1 code of practice; and
- 1 guideline.

2012-13

- 12 rolling stock standards;
- 3 infrastructure standards; and
- 2 codes of practice.

- 3.4.4. RISSB will seek Rail Safety Group's endorsement of RISSB's annual workplan and any significant changes to the Code deliverables;
- 3.4.5. Significant changes to the Code should be carried out after consultation with Governments, initially through the Rail Safety Group, and the Rail Industry;
- 3.4.6. RISSB will provide the Rail Safety Group with a bi-annual report on its activities, particularly on progress against the agreed targets and with the Code deliverables in the endorsed Business Plan and Workplan;
- 3.4.7. Rail Safety Group will report to the ATC through the Standing Committee on Transport and the Safety Sub-Committee (or its successor) on progress with the development of the Code and RISSB's performance;
- 3.4.8. RISSB, in consultation with the Governments, will encourage the access to and the take up of the provisions of the Code across all rail operational environments in Australia; and
- 3.4.9. RISSB will develop and maintain the RISSB website and provide access to the Code to the ARA and RISSB funding members and the respective transport departments of the Governments on a fair and equitable basis.
- 3.5. Where RISSB fails to perform in accordance with its endorsed Business Plan and Workplan (including meeting its targets as set out in 3.4.2 and forward program as approved by the RISSB Board and as endorsed by the Rail Safety Group as per 3.4.4) to the satisfaction of the Rail Safety Group in terms of quality, timeliness and value for money, Rail Safety Group will notify RISSB in writing. RISSB will rectify the outstanding matter to the satisfaction of the Rail Safety Group (in consultation with the Safety Sub-Committee) within three months of the notification.
- 3.6. Failure to perform against the MOU requirements, after this period, may result in non-payment of the Governments' contributions until such time as requirements have been met to the satisfaction of the Rail Safety Group (in consultation with the Safety Sub-Committee).

4. Funding Support

- 4.1. The ATC agrees on behalf of the Commonwealth, the States and the Northern Territory that:
- 4.1.1. RISSB shall receive funding support from the Governments of up to \$1.5 million (exclusive of GST) per annum for the period 2009-10 to 2012-13, this is subject to matching cash contribution from the Rail Industry; and

4.1.2. The share of Government annual contributions to RISSB funding is as follows:

Commonwealth	\$405,000
New South Wales	\$405,000
Victoria	\$300,000
Queensland	\$187,000
Western Australia	\$97,000
South Australia	\$75,000
Tasmania	\$20,500
Northern Territory	\$10,500
Total (excluding GST)	\$1,500,000
GST	\$150,000
Total (including GST)	\$1,650,000

5. Payments

5.1. The Governments undertake to provide annual funds to RISSB in two installments in arrears, subject to RISSB providing a report to the Rail Safety Group and its report being endorsed by the Rail Safety Group twice a year (November and May). The report should include performance against:

- 5.1.1. Delivery of the Code: RISSB will report progress against its annual Business Plan and its Workplan and the Code deliverables;
- 5.1.2. Engagement with the Governments and the Rail Industry on the development of the Code;
- 5.1.3. Any issues or potential standard development process issues raised by the Development Advisory Board or the RISSB Board;
- 5.1.4. Accredited processes;
- 5.1.5. Budget by work category; and
- 5.1.6. Rail Industry contributions in cash and in kind.

5.2. The Governments shall pay within 30 days of receipt of an invoice. Payments shall be inclusive of GST.

6. Annual Reporting

6.1. RISSB must provide to the Rail Safety Group, for endorsement by the Safety Sub-Committee, an audited financial report within 3 months after the end of the financial year, which includes a statement that:

- 6.1.1. The financial information is based on proper accounts and records;
- 6.1.2. The financial information is in agreement with the accounts and records;
- 6.1.3. Matching Rail Industry direct financial contributions have been secured; and
- 6.1.4. The amount of funding spent by RISSB during the report year against the endorsed deliverables, including salaries and office expenses associated with the delivery of services under this MOU.

7. Review

- 7.1. RISSB will undertake a survey by 30 June 2011, to measure the use of RISSB products by the Rail Industry and other indicators, agreed with the Rail Safety Group, on achieving uniformity and consistency in the management of rail operations across Australia.
- 7.2. The Rail Safety Group will undertake a review of RISSB's performance in the development, implementation and management of the Code by 30 June 2012 and include an evaluation of ongoing funding arrangements. The review should include consultation with key stakeholders including the Governments, the Rail Industry, RISSB and Standards Australia.
- 7.3. The arrangements for the review will be determined by the Rail Safety Group, subject to the approval of the Safety Sub-Committee. The Rail Safety Group will advise RISSB of the arrangements prior to the review.

8. Amendments

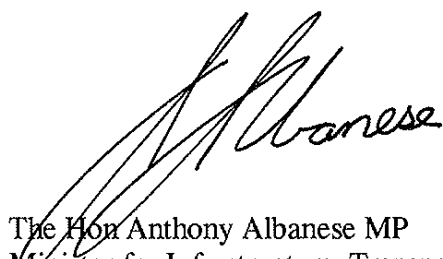
- 8.1. This MOU may be amended or renewed with the agreement in writing by both Parties.

9. Commencement, Duration and Termination

- 9.1. This MOU shall operate from the date of its execution and covers the period of funding: financial years 2009-10 to 2012-13 inclusive.
- 9.2. Either of the Parties may seek to terminate this MOU with at least 30 days written notice specifying the reasons for termination. However, neither of the Parties will issue a written notice to terminate until there has been consultation between the Parties concerning reasons for termination.

Signed on.....24 MAY.....2010

by:



The Hon Anthony Albanese MP
Minister for Infrastructure, Transport,
Regional Development and Local
Government

For the Australian Transport Council



Mr Bryan Nye
Chief Executive Officer
Australasian Railway Association

For the Rail Industry Safety and Standards
Board

[end of Appendix 3]