# RAIL INDUSTRY SAFETY AND STANDARDS BOARD – INDUSTRY'S PARTNER IN CO-REGULATION

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## 1. BACKGROUND

The Australian Rail Industry Safety and Standards Board (RISSB) is an independent not-for-profit standard-setting body whose primary purpose is to develop, maintain and support, by working hand in hand with the Australian and New Zealand rail industry, to provide the essential tools rail organisations need e.g., good practice Standards, Guidelines and Rules. RISSB is the only accredited Standards development organisation for the rail industry in Australia and has a catalogue of more than 200 publications, all of which help industry improve safety, reduce costs and increase productivity and efficiency. RISSB publications are also being applied in New Zealand. During a period of unprecedented growth, RISSB has established itself as an industry leader in co-ordinating industry, promoting interoperability and harmonisation, and championing safety by being industry's partner in co-regulation.

### 1.1. STATE BASED STANDARDS

With the advent of federation (1900) all states took direct responsibly for their railway networks. The exception being the coal networks of Newcastle along with the sugar cane industry and smaller operators across Australia. Each state had its own branch system that was headed by the Commissioner of Railways who was appointed by the State Government. The railways were divided into branches, such as the rolling stock branch that was typically headed by a Chief Mechanical Engineer (CME). All matters regarding rolling stock were under CME control, including standards. This branch would design and construct most of its rolling stock and in turn would mandate all the standards to work to. This approach was consistent through all branches with many different rules and procedures being produced. To this day many rail organisations have a manager and or department responsible for standards.

### 1.2. THE MOVE TO A NATIONAL APPROACH

During the Second World War troops and supplies were mainly transported across the continent by rail. The issues of transhipment highlighted the inefficiency of the Australian rail networks during this time of great national need. After the war the push for rail standardisation across Australia started. Whilst it was preferable to standardise the rail gauge, it was recognised that there were significant issues with regard to the rolling stock interface when travelling between states. Conflicts resulted from operationally related matters like rolling stock numbering and classification, to more critical things like vehicle size. Wagons that were used on the Nullarbor were too wide for use on some lines in New South Wales.

Since federation, commissioners from all states would meet annually to share knowledge and make recommendations as to what would be considered best practice. One significant outcome from the commissioner's conferences was the publication of manuals containing standards and recommended practices adopted from these conferences. The 1972 and 1986 manuals were issued under the authority of the Commissioners of the Australian and New Zealand Railways. The last manual,

issued under the authority of the Railways of Australia (ROA) Committee, was the ROA Manual of September 1992. It was divided into twenty-four sections starting with civil practices through to the many facets of rolling stock. The state railways would adopt this manual as standard or reference text when considering engineering issues.[i]

## 1.3. NATIONALLY HARMONISED LAW

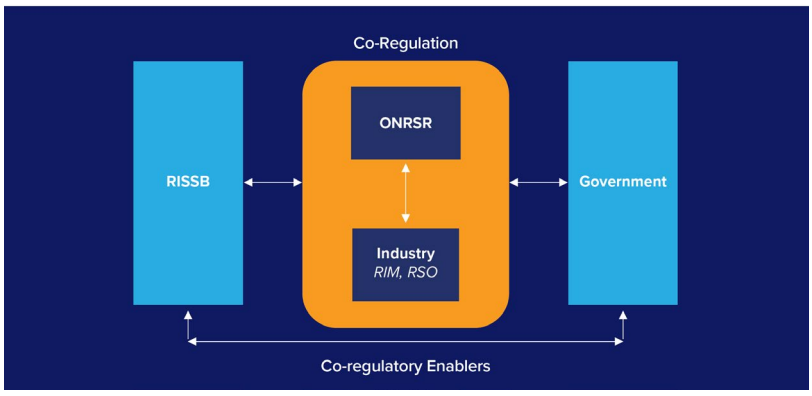
The *Rail Safety National Law* was passed through the South Australian Parliament on 1 May 2012 replacing 46 pieces of State, Territory and Commonwealth legislation. This was the first time in the history of Australian railways there was a single common legislative framework for safety management of the railways. As discussed earlier each State and Territory Governments would enact its own requirements.

Rail regulation in Australia operates under a co-regulatory model. This model, fully supported by the rail industry, engenders innovation and drives the future of the railway in a safe manner, under the oversight of the national regulator – the Office of the National Rail Safety Regulator (ONRSR).

The diagram below illustrates how the co-regulatory model works. In a co-regulatory model:

- Government sets policy and the Rail Safety Nation Law (RSNL) defines the roles and duties of those within co-regulation. Both operators and infrastructure managers (collectively termed Rail Transport Operators – RTOs) and ONRSR are duty holders under the RSNL.
- Industry has the responsibility for ensuring operations are safe, so far as is reasonably practicable (SFAIRP).
- The Regulator monitors the industry to ensure rail is safe, basing its activities around the RSNL.
- RISSB supports the co-regulatory regime by providing good-practice standards, guidance, and advice which supports safety SFAIRP and industry productivity.

*Figure 1 – Co-regulatory Model*




## 1.4. INDUSTRY BODIES COMING TOGETHER

The Infrastructure and Transport Ministers Meeting (the meeting where every federal, state and territory government transport minister come together) consider emerging issues in transport and infrastructure, support an internationally competitive transport and infrastructure industry, pursue nationally consistent policy and regulatory frameworks.

They recognise key national bodies which support, advise and implement national transport reform. These national bodies, listed below, play a key part of driving reforms to increase productivity and safety.

- The **National Transport Commission** leads national transport reform for road, rail and intermodal transport
- The **Office of the National Rail Safety Regulator** encourages and enforces safe railway operations and promotes and improves national rail safety
- The **Australian Centre for Rail Innovation** undertakes research and strategic analysis to solve issues raised by the rail industry or other entities
- The **Rail Industry Safety and Standards Board** develops Australia's Standards, Codes of Practice, Guidelines and Rules for the rail sector to enable harmonisation and interoperability
- The **Australian Transport Safety Bureau** is the national safety investigator for aviation, marine and rail modes of transport

## 2. PURPOSE

RISSB is moving the rail industry from an inconsistent, ineffective, individualised system to one where there is technical and operational consistency driving a safer and more efficient industry.

Prior to RISSB's inception:

- Rail Transport Operators (RTO) were forced to bear development costs, safety and operational risks that arose from bringing Standards development in-house.
- The rail industry was fragmented with many autonomous operators and a divergence in systems and operational practices which led to technical and operational separation across jurisdictions
- There was a proliferation of local Standards of varying quality which jeopardised safety and lead to inefficiency
- Many systems of safeworking evolved influenced by overseas operators

### 2.1. STANDARDS, CODES OF PRACTICE, GUIDELINES AND RULES

RISSB drives national harmonisation and interoperability by working hand in hand with industry to develop Standards, Codes of Practice, Guidelines and Rules. RISSB has a catalogue of more than 200 publications covering all aspects of rail. These publications improve safety, offer safety assurance, reduce costs and increase productivity and efficiency. RISSB Standards are classified as Australian Standards® and are able to be used in New Zealand.

Industry is involved by proposing, helping select and providing expertise in developing Standards, Codes of Practice, Guidelines and Rules. In this partnership with industry and other stakeholder groups, RISSB balances input from both a technical and business perspective, actively encouraging input from all organisations and all levels within those organisations. RISSB is developing Standards for both the heavy rail and burgeoning light rail industry in Australia and New Zealand. All RISSB members have complete access to all publications.

## 2.2. SAFETY DATA AND RISK ANALYSIS MODELS

RISSB collects and analyses incident data for the rail industry. RISSB has developed the Australian Rail Risk Model (ARRM), an objective, quantitative tool that provides rail organisations with a deep, robust and comprehensive picture of safety risk. RISSB has also worked with governments to take over management of the Australian Level Crossing Assessment Model (ALCAM) providing rich data for the analysis of level crossing risks.

ARRM and ALCAM provide industry with tools that can drive safety reform. Industry involvement in ARRM continues to grow with the addition of more organisations and more users within organisations each year. Every RISSB member has complete access to the risk analysis models.

## 2.3. TRAINING AND ADVICE

RISSB training programs offer consistent education to the rail industry based upon unsurpassed technical, theoretical and practical knowledge critical to rail safety. Programs are focused on RISSB products and can be industry wide or tailored for a specific rail transport operator. RISSB offers a number of relevant courses including:

- Rail Safety Investigation
- Derailment Investigation and Analysis

Future RISSB courses will be centred on key industry issues and will include e-learning modules and innovative training programs such as the Fundamentals of Rail and the National Track Safety Induction course. This course has been developed by the rail industry for those rail workers seeking the nationally accredited competency – Safely Accessing the Rail Corridor.

## 2.4. EVENTS AND PROGRAMS

RISSB offers a range of events and programs to industry addressing the future challenges of the rail industry and supporting the development of rail professionals, including young professionals.

RISSB's events and programs include two conferences (Rail Safety and Technology and Innovation), a range of forums and the Horizons Program (young technical professionals). These provide an opportunity for members to share and gain knowledge and expand their professional network.

## 2.5. INDUSTRY CO-ORDINATION

RISSB co-ordinates a significant number of meetings of key industry groups including the Safety Managers Group, Signals Passed At Danger Group, Fatigue Risk Management Group, Human Factors Managers Group and the National Track Worker Safety Forum. RISSB members are actively involved in developing the agenda for these meetings and driving change in industry. These meeting facilitate the sharing of ideas and good practice and allow the rail transport operators to network in a confidential manner.

RISSB's co-ordination and facilitation ensures industry is sharing best practice, learning from each other, driving innovation and reducing procurement and other costs. RISSB co-ordinated industry meetings bring together industry, ONRSR, ATSB and other key industry stakeholders to resolve issues and develop agreed ways forward.

RISSB has established itself as the industry leader in promoting interoperability and harmonisation of the Australian rail industry, and championing safety across industry to promote productivity and efficiency.

RISSB:

- Co-ordinates industry to reach a common position so that the needs of its members and the rail industry are represented to ONRSR and Government.
- Encourages cross-industry sharing of data and understanding of rail hazards (through the Australian Rail Risk Model and Australian Standards®)
- Helps minimise safety management systems costs as RISSB Standards development and maintenance outlays are shared across industry.
- Develops more than 20 products each year (200 plus products in a growing catalogue).

During a period of unprecedented growth in rail, RISSB is there targeting key industry risks and demonstrating leadership in rail safety. Together in a co-regulatory way, a stronger, more productive and safer rail industry for everyone is enabled.

## 3. METHODS – DELIVERING HARMONISATION

In the co-regulatory model, operators can choose the right standards for today and the future and ensures that the future is tailored for Australian Rail. The converse – a prescriptive regulatory approach – is one where the regulator dictates standards and requirements, and operators must react to their directions or face sanctions.

RISSB is independent, trusted and experienced and has a key role in bringing the rail industry together in a collaborative environment, to develop national industry Standards, Rules, Codes of Practice and Guidelines (products), with a key underlying aim of driving harmonisation, interoperability and efficiency. Through RISSB, industry simplifies safety management systems through using consistent operational Standards that reduce uncertainty and confusions, enhance safety, increase industry's cost efficiency and use of common equipment Standards that reduce material supply and parts inventory costs.

RISSB co-ordinates industry to reach a common position so that industry is speaking with one voice and co-regulation is maintained. This united voice for industry is powerful and, working with Government and ONRSR, the industry will be safer, more productive and cost effective. The more fragmented the one voice becomes the less able industry is to influence and determine its own destiny.

Without RISSB, RTOs would be forced to bear all the development costs and safety and operational risks that would arise from bringing Standards development costs in house. The rail industry would become a large number of highly autonomous operators embracing divergence and a relation of rules which would inevitably lead to technical and operational separation across jurisdictions. There will be a proliferation of local standards of varying quality which could jeopardise safety and will not achieve harmonisation or interoperability. This will hinder the removal of inefficiencies and costly non-standardisation which impacts on the competitiveness of rail, particularly in the freight sector.

The rail industry is currently regulated under a principles-style of regulation which, with RISSB, caters for flexibility, innovation, future-proofing and cost management. The

accreditation which RISSB holds from Standards Australia highlights the leadership role that RISSB has. RISSB is the only organisation accredited to develop national Standards for the rail industry.

RISSB's products:

- are vital in a time of unprecedented growth in rail, ensuring safety is paramount and good practice is applied
- developed in collaboration with industry and subject matter experts, under the rigours of Standards Australia processes to ensure high quality products
- improve safety and productivity
- encourage innovation
- reduce uncertainty and confusion through application of a consistent Standard
- reduce procurement and other costs
- assist RTOs in demonstrating they are managing risks to safety, SFAIRP
- protect society more broadly through ensuring parts, processes and services are fit for purpose
- are supported through training programs, industry co-ordination and facilitation and the provision of advice to industry

Since its inception, RISSB has produced over 200 products, a number growing by around 20 each year.

RISSB enables RTOs to eliminate or reduce standard development costs, reduce reputational risks, and improve performance and safety. RISSB is moving the rail industry from an inconsistent, ineffective, individualised system to one where there is technical and operational consistency driving a safer and more efficient industry.

RISSB is a resource for the rail industry in terms of risk knowledge and benchmarking. Through the Australian Rail Risk Model (ARRM), the rail industry now has access to improved cross-industry safety risk knowledge. Through this shared national database of industry safety incidents and occurrences, RISSB can demonstrate that it is developing products that target key industry risks, and organisations can demonstrate through the adoption of standards they are focused on key risks to their own organisation.
RISSB's role in a period of growth in the industry is critical to maximise safety whilst ensuring costs are reduced. RISSB works with industry as its partner in co-regulation.

### 3.1. STANDARDS DEVELOPMENT

In working to develop and deliver a suite of products and services which benefit the wider rail community, the first step in developing the work plan for the coming year is the priority planning process – the invitation to industry stakeholders to help determine which products and services will have the biggest positive impact on the rail industry, and which should receive RISSB development priority.

Ideas for new products, services, and training programs are put forward through a formal call for submissions process that is open to anyone with an interest in the rail industry.
As well as the new publications RISSB develops each year, RISSB's Annual Work plan also includes a number of publications undergoing 'Aged Review'. This Aged Review process is a vital part of RISSB process as it helps ensure all of the products continue to meet the needs of the Australian rail industry.

The Standing Committees, comprising of 10-12 industry experts drawn from across the membership base, help RISSB with the establishment of the development groups. These Standing Committees report to the RISSB Board via the chief executive officer and as such has significant gravitas. These committees will establish a Development Group (DG) for each standard, code of practice, guideline or rule to be reviewed or developed and oversight their work.

Prior to a RISSB product being forwarded to the Standing Committee (SC), and RISSB Board for endorsement and approval, the DG must be satisfied and signoff that the content of the associated document is technically correct and satisfies 'good practice' requirements. On the basis that the Product represents the collective content of the DG, it is the preferred position that all active DG members accept content of the document and vote affirmatively. Where a unanimous affirmative vote cannot be achieved, DG signoff may still occur and the document be advanced to SC using the consensus voting model.

If a Product is advanced using the consensus voting model:

- All negative votes are required to be accompanied by technical reasons. Where a DG member has cast a negative vote, the committee is obliged to consider the reasons and attempt to find a solution that is acceptable.
- Only when consensus has been achieved can the document proceed to the RISSB Standing Committee for product endorsement.
- If the DG deems that consensus has not been achieved, the Chairman of the SC in conjunction with the RISSB CEO and GM will determine a way forward before the matter is considered by the DG again.

A nominating organisation whose objection is not resolved is given the option to withdraw the name of that nominating organisation from the published Product.

Once the DG has agreed the content of a product, it is referred to the appropriate RISSB SC for endorsement. The product is accompanied by an approval certificate containing the signatures of all DG members.

On receipt of the product the SC will assure itself that the product development process has been correctly followed and that the resulting product is worthy of promotion to the RISSB Board for publication approval. The Standing Committee review will include:

- the developed product adequately addresses purpose and scope
- that the development process used followed RISSB approved process for Proposal, Development, Review & Comment, and Approval, and
- that DG signoff has been obtained.

### 3.2. NATIONAL TRANSPORT COMMISSION (NTC) – NATIONAL RAIL ACTION PLAN (NRAP)[ii]

The plan is an agreed set of actions that are being undertaken by the Commonwealth, state and territory governments and key members of the rail industry. The plan aims to implement changes to improve delivery of rail infrastructure and improve the safety and productivity of rail operations. An additional focus will be to create opportunities for manufacturers of rail equipment to supply rolling stock and components.

The National Rail Action Plan (NRAP) set out 17 initial actions for governments and industry to lift the productivity and safety of rail. This has led to an ongoing program of work in three priority areas: addressing skills and labour shortages; harmonising

standards and rules; and advancing interoperability of freight and passenger travel. Current progress with delivering the actions is set out later in this document.


*Figure 2 - National Rail Action Plan Focus Areas*

**Identifying critical skill needs and options to meet these needs** – to identify the critical skills needed by industry and options to address these needs across the rail construction, operation and manufacturing sectors.

**Improving network and infrastructure harmonisation and interoperability** – by capitalising on the opportunity created by infrastructure spending and advances in technology to improve the consistency of rules for using and building transport and infrastructure and the ability to communicate across the rail network. This work will focus on the development of common rules for railway operations, common standards for rail infrastructure and for rolling stock, and to improve the interoperability of train control and communications systems.

## 4. RESULTS

The National Rail Action Plan (NRAP) set out 17 initial actions for governments and industry to lift the productivity and safety of rail. Those actions which RISSB supports are detailed below.

### 4.1. SKILLS AND LABOUR GOALS AND ACTIONS

The NRAP has a goal for the rail industry attracts and retains high-quality, diverse staff. RISSB supports this through it's work supporting and bringing industry together at the Horizons program and the harmonisation of national rail safety competencies, such as the National Track Safety Induction.

### 4.2. HARMONISATION GOALS AND ACTIONS

The NRAP goal for industry to establish a higher level of standardisation and harmonisation of infrastructure standards has been led by RISSB who surveyed rail operators to audit existing infrastructure standards and identify opportunities that provide the best value thus providing a prioritised plan for standards.

The NRAP goal for industry to establish a higher level of standardisation and harmonisation of rollingstock components has completed the following actions:

- The National Rail Action Plan's harmonisation group helped steer the development of a three-year standards plan to enable greater harmonisation of rail infrastructure and components. This was approved by Ministers in May 2021. RISSB was funded to develop a suite of national standards in line with the plan.
- Egress; energy storage; and heating, ventilation and air conditioning standards have been completed. Emissions and train horn use codes of practice have also been completed.
- Updated standards for glazing and bogies have been released.

With ongoing actions underway:

- RISSB is delivering the three-year harmonisation plan. Priorities have been recast to meet needs of upcoming procurement and deliver the best value.
- Crashworthiness standards are being finalised.
- The NTC is progressing an economic analysis of certain rollingstock components that would help build scale and jobs in local manufacturing.

### 4.3. INTEROPERABILITY GOALS AND ACTIONS

The NRAP goal for industry to establish improved harmonisation of rail operating rules and work standards has completed the following actions:

- RISSB finalised and published the National Rules Framework in February 2020.
- RISSB surveyed rail operators about differences in rail operating rules. The result of this action was prioritisation of ten rules that would be relatively easy to harmonise and deliver high value.

With the following action underway:

- RISSB is currently leading work to rewrite the Australian Network Rules and Procedures. Two of the ten rules prioritised have been rewritten.

## 5. SUMMARY

RISSB is industry's partner in co-regulation, supporting both the industry members and delivering upon the governments agenda to promote interoperability and harmonisation of the Australian rail industry, and championing safety across industry to promote productivity and efficiency.

RISSB:

- Co-ordinates industry to reach a common position so that the needs of its members and the rail industry are represented to ONRSR and Government.
- Encourages cross-industry sharing of data and understanding of rail hazards (through the Australian Rail Risk Model and Australian Standards®)
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During a period of unprecedented growth in rail, RISSB is there targeting key industry risks and demonstrating leadership in rail safety. Together in a co-regulatory way, a stronger, more productive and safer rail industry for everyone is enabled.

**Keywords**: Co-Regulation; Safety; Standards; Government; Harmonisation; Interoperability

## References

[i] Australian standards for the rail industry, Alan Gardner, RISSB, 2010 et al

[ii] National Rail Action Plan, National Transport Commission www.ntc.gov.au